

Bird Observer

VOLUME 36, NUMBER 6

DECEMBER 2008



HOT BIRDS



On October 26, 2008, Rick Heil found a **Varied Thrush** (left) at Eastern Point in Gloucester and took this great portrait.

Blair Nikula picked out and photographed this **Black-tailed Gull** (right) from among at least nine species of gulls at Herring Cove, Provincetown, on November 1, 2008.



On November 11, 2008, Rick Heil took this photograph of one of the several **Cave Swallows** (left) engaged in their annual fall invasion of Massachusetts. This bird was at Sandy Point on Plum Island.

Brian Parker found this female **Mountain Bluebird** (right) at Fort Hill in Eastham on November 23, 2008, and Mark Faherty was there with his camera on the 24th.



CONTENTS

FALL HAWKWATCHING ON PINNACLE ROCK: A SURPRISINGLY PRODUCTIVE SITE IN SUBURBAN BOSTON	<i>Craig Jackson</i>	325
COASTAL BREEDING BIRD MONITORING IN THE BOSTON HARBOR ISLANDS	<i>Carol Lynn Trocki</i>	330
COMMON EIDER DIE-OFFS ON CAPE COD: AN ONGOING INVESTIGATION	<i>Sarah Courchesne, D.V.M., and Julie C. Ellis, Ph.D.</i>	346
FORAGING WINTER FLOCKS OF BIRDS IN A FOREST IN FOXBORO, MASSACHUSETTS	<i>William E. Davis, Jr.</i>	350
FIRST MASSACHUSETTS NESTING RECORD FOR MERLIN (<i>FALCO COLUMBARIUS</i>)	<i>Matt Pelikan, Allan R. Keith, Lanny McDowell, and Susan B. Whiting</i>	355
ABOUT BOOKS		
<i>Querencia!</i>	<i>Mark Lynch</i>	361
BIRD SIGHTINGS		
July/August 2008		371
ABOUT THE COVER: European Starling	<i>William E. Davis, Jr.</i>	386
ABOUT THE COVER ARTIST: Barry Van Dusen		387
AT A GLANCE	<i>Wayne R. Petersen</i>	389



MUTUAL RESPECT BY RICHARD JOHNSON

For online indices and more, visit the *Bird Observer* website at
<<http://massbird.org/birdobserver/>>.



Bird Observer

A bimonthly journal — to enhance understanding, observation, and enjoyment of birds
VOL. 36, NO. 6 DECEMBER 2008

Editorial Staff

Editor	Paul Fitzgerald
Managing Editor	Mary Todd Glaser
Production Editor	David M. Larson
Bird Sightings Editor	Marjorie W. Rines
Compilers	Seth Kellogg
	Robert H. Stymeist
	Jeremiah R. Trimble
	Fay Vale
Copy Editors	Harriet Hoffman
	Susan L. Carlson
At a Glance	Wayne R. Petersen
Book Reviews	Mark Lynch
Cover Art	William E. Davis, Jr.
Where to Go Birding	Jim Berry
Maps	Dorothy Graaskamp
Associate Staff	
Judy Marino	Carolyn B. Marsh
Brooke Stevens	Trudy Tynan

Corporate Officers

President	H. Christian Floyd
Treasurer	Sandon C. Shepard
Clerk	John A. Shetterly
Assistant Clerk	Fay Vale

Board of Directors

Dorothy R. Arvidson	Susan L. Carlson
Paul Fitzgerald	Harriet E. Hoffman
Renée LaFontaine	David M. Larson
Judy Marino	Carolyn B. Marsh
John B. Marsh	Wayne R. Petersen
Marjorie W. Rines	Robert H. Stymeist

Subscriptions

John B. Marsh

Advertisements

Robert H. Stymeist

Mailing

Renée LaFontaine

SUBSCRIPTIONS: \$21 for 6 issues, \$40 for two years (U.S. addresses). Inquire about foreign subscriptions. Single copies \$4.00, see <<http://massbird.org/birdobserver/subscribe.htm>>.

CHANGES OF ADDRESS and subscription inquiries should be sent to: Bird Observer Subscriptions, P.O. Box 236, Arlington, MA 02476-0003, or e-mail to John Marsh at <jmarsh@jocama.com>.

ADVERTISING: full page, \$100; half page, \$55; quarter page, \$35. Send camera-ready copy to Bird Observer Advertising, P.O. Box 236, Arlington, MA 02476-0003.

MATERIAL FOR PUBLICATION: BIRD OBSERVER welcomes submissions of original articles, photographs, art work, field notes, and field studies. Scientific articles will be peer-reviewed. Please send submissions to the Editor by e-mail: Paul Fitzgerald <paulf-1@comcast.net>. Please **DO NOT** embed graphics in word processing documents. Include author's or artist's name, address, and telephone number and information from which a brief biography can be prepared.

POSTMASTER: Send address changes to BIRD OBSERVER, P.O. Box 236, Arlington, MA 02476-0003. **PERIODICALS CLASS POSTAGE PAID AT BOSTON, MA.**

BIRD OBSERVER (USPS 369-850) is published bimonthly, COPYRIGHT © 2008 by Bird Observer of Eastern Massachusetts, Inc., 462 Trapelo Road, Belmont, MA 02478, a nonprofit, tax-exempt corporation under section 501 (c)(3) of the Internal Revenue Code. Gifts to Bird Observer will be greatly appreciated and are tax deductible. ISSN: 0893-463

Fall Hawkwatching on Pinnacle Rock: A Surprisingly Productive Site in Suburban Boston

Craig Jackson

Author's note: In keeping with a recent issue of Bird Observer (June 2008), the following article emphasizes the value and possibilities of local birdwatching, in particular the observation of migrating hawks.



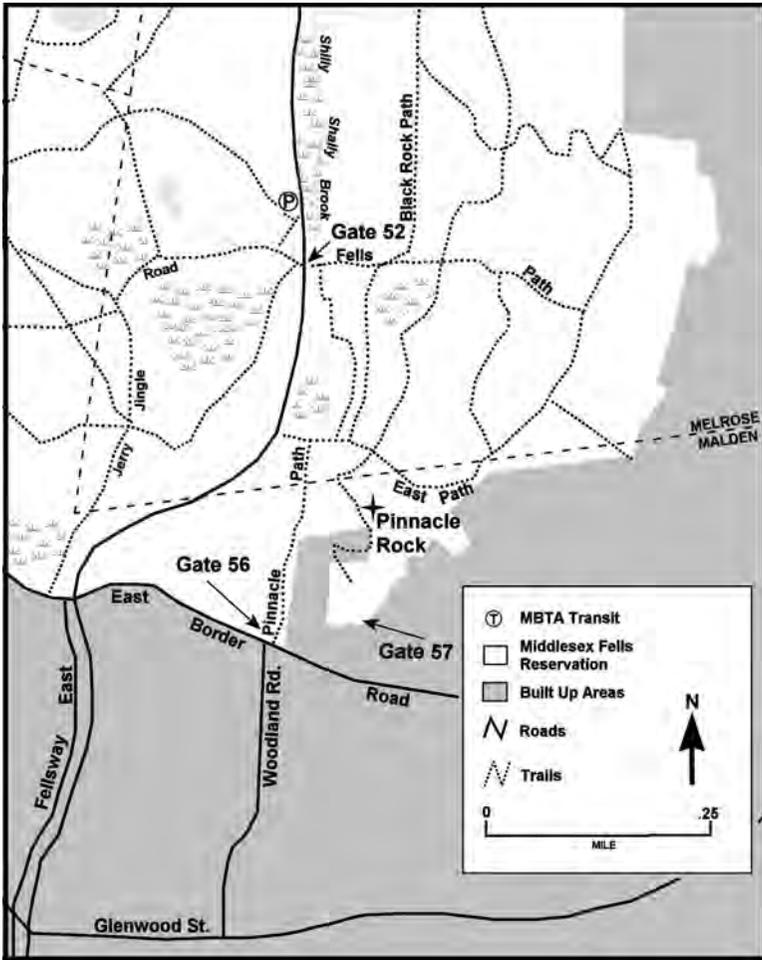
For some birdwatchers the onset of fall means watching hawks migrate south. Most hawkwatchers go west, traveling miles to well-known sites (generally mountains), with the hopes of seeing huge numbers of hawks migrating together, with emphasis given to the month of September when Broad-winged Hawks migrate through forming “kettles” as they go. These flights can be quite impressive, since some of these kettles may have hundred of birds within them. However, I (and a few others) will instead head for a local hill in Middlesex Fells Reservation.

Since 1998 when I was first shown this site by Dave Brown, I have been regularly hawkwatching on Pinnacle Rock, a low promontory at the Southeast corner of Middlesex Fells Reservation. The Rock, as I call it, is located in Malden, and from it on a clear day one can easily see Nahant to the east, the Blue Hills to the south, and Lynn Woods to the northeast. Since the Rock is not particularly higher than surrounding hills and ridges and is only 250 feet above sea level, one would think it would not be a particularly good site for hawkwatching.

However, Dave Brown discovered that migrating hawks could be seen very well from this promontory with its 360-degree view. Since it is essentially a coastal hawkwatching site, the hawks seen are primarily accipiters and falcons, and like other coastal sites, strong westerly winds are generally required for significant movement.

More importantly, hawks moving south along the coast seem to veer toward the southwest over this part of the Fells, presumably to avoid Boston. These birds generally are flying low and use the lift off the Rock to gain height. Dave also discovered that if the winds are strong from the northwest, the number of birds seen here increases dramatically, as birds pushed toward the coast adjust their flight to compensate for this push. Even more impressive, in these strong winds hawks often fly very close to the Rock, with “headers” sometimes almost causing hawkwatchers to duck!

Since Pinnacle Rock rarely gets kettles of Broadwings (my largest kettle was twenty-five birds), the numbers of birds are relatively low compared with those of other hawkwatching sites. However, as stated above, the birds often pass close by and low, providing to observers what few other hawkwatch sites give — dynamite, dead-on looks at Sharp-shinned and (recently) Cooper’s Hawks, American Kestrels, and



MAP BY DOROTHY GRAASKAMP

other falcons. Indeed, when the wind is strong from the northwest, hawkwatchers sometimes almost feel they have to duck as the hawks flash by at eye-level. A relatively high number of Merlins also pass by at close range, and at times Ospreys seem to follow each other in streams across the sky. Peregrine Falcons are seen with regularity, and both Bald and Golden eagles, although rare, have also been seen from this site. Golden Eagles are much rarer, with only three different birds being seen in over ten years of observation. In contrast, Bald Eagles, though still rare, are seen more often, with as many as three being seen in one year (2007). See Table 1 for the total numbers of raptors seen from 1997–2007.

Once you have experienced a large flight here, you too will be hooked. However, since weather and wind conditions here are such a huge factor, many who have come in the past have been disappointed. It is for that reason that I hesitate to schedule hawkwatching trips on Pinnacle Rock in advance.

Table 1
Pinnacle Rock --Raptors/Year
2007-1997

Species	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997
Turkey Vulture	18	2			33	6	13	6	16	3	1
Osprey	31	9	7	6	53	16	15	45	49	46	13
Bald Eagle	3					1	1			1	2
Northern Harrier	15	2		1	16	5	8	8	23	11	7
Sharp-shinned Hawk	189	7	30	40	155	166	196	79	320	171	62
Cooper's Hawk	24	4	7	2	13	5	8	8	20	12	2
Goshawk					1(imm)				1	1	
Red-shouldered Hawk	2				1(adult)		3	1			4
Broad-winged Hawk	13	5	4	1	10	52		13	22	60	6
Red-tailed Hawk	26	20	10		41	3	18	5	35	8	6
Golden Eagle					1(imm)				1		
American Kestrel	34	4	8	11	27	37	12	25	79	51	23
Merlin	9	2	1			7	6	11	7	9	1
Peregrine Falcon	3	2	1	1	6	2	4				4
Unidentified Accipiter	7	1			7	7	11	3	26	7	4
Unidentified Buteo	1	1			3	2		4	1	4	5
Unidentified Falcon	6	2			1	2	2	1	4	1	
Unidentified Eagle											
Unidentified Raptor	20	5	8	1	23	14	6	14	43	17	14
Total # of hours	107.3	26.8	53	34	95	48	68	66	86	47	23
Total #of raptors	401	66	74	83	391	325	301	223	647	402	158
Raptors/hour	3.74	2.5	1.8	1.8	4.1	6.8	4.4	3.4	7.5	8.5	6.9

Over the years I have had at least three days with more than 100 hawks, and at least three others with 90+ birds, including a 97-bird day this past fall of 2008 (see Table 2). Although most of these big days were in October, the greatest number of hawks seen was 189 on September 28, 2002. It was no surprise that over half (98) of those birds were Sharp-shinned Hawks. What was surprising was that thirty-nine Broad-winged Hawks were seen.

Even more interesting have been some of the behavioral observations made of passing raptors. Some of the antagonistic encounters were especially memorable. Once I observed a Peregrine repeatedly taking dives on a flock of Chimney Swifts, seemingly more as play than actual hunting. Another time I watched as two immature Merlins sparred with each other not more than twenty feet away and just below me. Several passing eagles, including a Golden Eagle seen on October 18, 2008, have clearly annoyed resident Red-tailed Hawks and drawn repeated attacks. However, my most unusual sighting was probably an immature Bald Eagle powering its way past the Rock, on a frigid, windy October day with snow flurries coming down!

While hawks are the main event on Pinnacle Rock, other birds and creatures may be seen here as well. Perhaps the most interesting bird seen from this site was a Pileated Woodpecker seen on September 28, 2002. A close second would be a Clay-colored Sparrow seen feeding with Chipping Sparrows on September 21, 2008. Different warblers may often be seen in the nearby trees, and flocks of traveling birds (including Pine Siskins on November 1, 2008) often pass by the Rock. Common Nighthawks and Great Blue Herons are regularly seen flying over the Rock, and this year (2008) I observed my first two Common Ravens.

Table 2
Best/Noteworthy Days -- Pinnacle Rock
1997-2008

Species	10/2/98	10/11/99	10/7/01	9/28/02	10/13/03	10/4/08
Turkey Vulture		4			15	3
Osprey	12	10	5	4	18	19
Bald Eagle						
Northern Harrier	2	3	3	1	4	1
Sharp-shinned Hawk	26	94	72	98	93	36
Cooper's Hawk	4	4	2	4	4	14
Goshawk						
Red-shouldered Hawk						
Broad-winged Hawk	30			39	1	2
Red-tailed Hawk		1				
Golden Eagle						
American Kestrel	8	17	5	26	7	6
Merlin	1		2	3		
Peregrine Falcon			1		1	
Unidentified Accipiter	1	15	4	3	1	9
Unidentified Buteo				2		
Unidentified Falcon						
Unidentified Raptor	5	7	3	9	16	7
Total # of hours	3	8	11	8.75	8.8	9
Total #of raptors	89	155	97	189	160	97
Raptors/hour	29.7	19.4	8.8	21.6	18.2	10.8
Raptors/hour x BW/TV	19.7	18.9	8.8	17.1	16.6	10.2

Although I rarely do any birding on the paths in the vicinity of the Rock in fall, others have on occasion found some of them to be good for warblers. Given the diversity of habitat in the area, it is possible that some early morning birding in the area prior to hawkwatching on the Rock might be productive. (See map on page 326.)

Other migrants can also be seen from the Rock. I often note large numbers of Canada Geese and Double-crested Cormorants moving south; on October 12, 2008, over 1000 Double-crested Cormorants passed by in a little over three hours. For several years I have also been counting migrating monarch butterflies, and this year (2008) began counting dragonflies as well, noting at least three different types — green darners, meadowhawks, and black saddlebags — whereas I had previously noticed only the green darners. An even more interesting insect I've seen is a parasitic wasp that each of the last two years (2007, 2008) has buried a paralyzed caterpillar in the dirt almost at my feet, and then entered the hole to lay its eggs.

Finding Pinnacle Rock can present a problem. Although there is a map of the site on [Hawkcount.org](http://www.hawkcount.org) <<http://www.hawkcount.org>> that will get you in the right vicinity,

the trail signs for the Rock are not very helpful and may lead you astray. There are two entrance gates that can be used to find Pinnacle Rock, Gates 52 and 56 (see map).

To get to Gate 52, first find the first parking lot on Fellsway East in Melrose, just north of East Border Road. The map at the parking lot will indicate the Rock; it's in the extreme southeast corner of the Fells Reservation. Cross the road, and head south toward East Border Road. Shortly on your left will be Gate 52. Follow the Rock Circuit Trail (white blazes). It will lead you right onto the Rock. When you get there, the only hill to the south will have an old metal tower with either radio antennae or airport beacons. Some of them were round disks, but as of this writing only one remains.

To get to Gate 56, park on Woodland right off East Border Road. The gate will be directly opposite Woodland on East Border Road. (On the map this is labeled Pinnacle Path.) Walk up the path to the crest of the hill. The radio tower will be on your right. Go over the crest and down the other side. On your right you will see the Rock. At the bottom of the hill on your right you will see a fallen tree trunk lying in the trunk of another tree. Head up this hill, and you will see a path to the top of the Rock. It is possible to walk to this entrance from the Orange Line (Oak Grove Station), although it is a bit of a hike.

As previously stated, Tables 1 and 2 accompanying this article will give you an idea of the potential of this site for fall hawkwatching. To examine these numbers in greater detail, including the 2008 counts, and to see a monthly/daily breakdown of the counts, go to the website, Hawkcount <<http://www.hawkcount.org>>, and click on Pinnacle Rock.

These numbers show the potential of Pinnacle Rock to more fully document the southward migration of raptors through the Greater Boston flight corridor. However, one of the major limiting factors of Pinnacle Rock's numbers is that my hawkwatching is limited to weekends and holidays, and I am often the only observer. If you are interested in helping to better document hawk migration locally in the Boston area, I urge you to contact me (crleja@yahoo.com) and join us on Pinnacle Rock in the fall. 

***Craig Jackson** is presently a Board Member of the Eastern Massachusetts Hawk Watch (EMHW). He saw his first migrating Broad-winged Hawks from Goat Peak Tower on Mt. Tom on a BBC trip in the late 1970s, and has been hooked on hawkwatching ever since. Shortly after that trip, Paul Roberts founded EMHW, and Craig became a charter member. He has logged many hundreds (thousands?) of hours hawkwatching over the years. Although Craig still likes to go to Mt. Watatic in Central Massachusetts in the fall to see the thousands of Broadwings that sometimes kettle over the mountain, his real passion has been to observe hawks migrating through local areas, first from Castle Rock in Breakheart Reservation in Saugus, and more recently from Pinnacle Rock in Middlesex Fells Reservation. Craig was introduced to this site by Dave Brown and over the past half-dozen years has kept records of it, which have been published in the journal of the Northeast Hawk Watch Association (NEHW) and for the last five years recorded at Hawkcount.org. If it's a fall weekend day in late September or October and the winds are strong from the northwest, there is almost a 100 percent chance you will find Craig on Pinnacle Rock watching the skies and counting hawks.*

Coastal Breeding Bird Monitoring in the Boston Harbor Islands

Carol Lynn Trocki

The Boston Harbor Island National Park Area

The Boston Harbor Islands National Park Area (BOHA) includes thirty-four islands and peninsulas situated within the Greater Boston shoreline (Figure 1). Congress established BOHA as a unit of the National Park System in 1996 (Public Law 104-333). The park has a threefold purpose of (1) preserving and protecting a drumlin island system within Boston Harbor, along with its associated natural, cultural, and historic resources, (2) telling the islands' individual stories and enhancing public understanding and appreciation of the island system as a whole, and (3) providing public access, where appropriate, to the islands and surrounding waters for education, enjoyment, and scientific and scholarly research for this and future generations (BOHA Draft Management Plan 2000).

The Boston Harbor Islands are part of the only drumlin field in the United States that intersects a coastline. Located at 42° N latitude, in the Northeastern Coastal Zone level III ecoregion (United States Environmental Protection Agency 2002), the islands

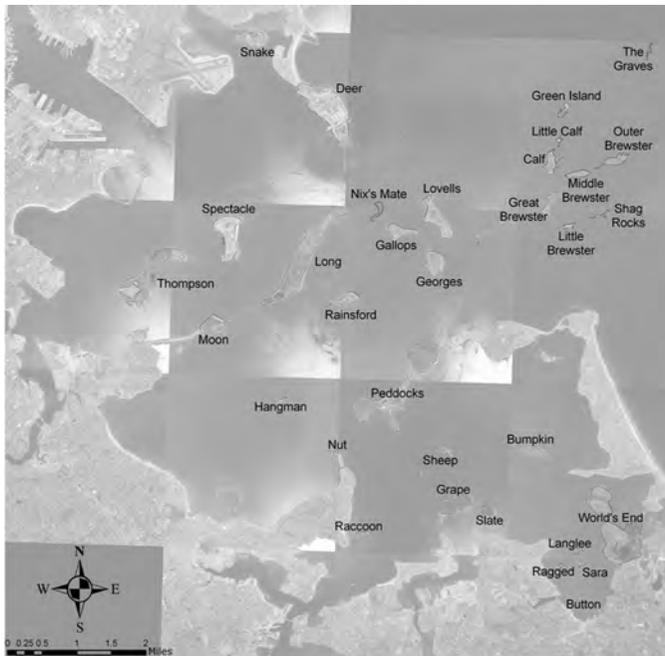


Figure 1. Map of Boston Harbor Island National Park Area (from Brian R. Mitchell, NPS Inventory and Monitoring Program, Northeast Temperate Network).

have a humid maritime climate characterized by a moderate annual range of temperatures and definite summer and winter seasons. The park encompasses a total of 600 terrestrial hectares, with islands and peninsulas ranging in size from 0.1 to 104.5 terrestrial hectares (Roman et al. 2005). In addition, the park includes approximately 55 kilometers of shoreline and 641 hectares of intertidal habitat (Roman et al. 2005). BOHA is a unique unit of the national park system in that it is managed by a thirteen-member partnership which includes the National Park Service and other public and private stakeholders (Table 1). The NPS owns no land in the park.

The islands vary in their geologic and ecologic composition, in addition to their degree of influence from human use over time. Available habitats include open water, rocky shores, tidal flats, beaches, dunes, cliffs, ledges, maritime shrub and deciduous forest communities, salt marshes, freshwater marshes, and a few examples of human-maintained fields and grasslands. The flora and fauna of the islands reflect their long history of human use and alteration; forty-four percent of the plant species documented in the park are classified as exotic (Elliman 2005).

<p>Table 1. Members of the Boston Harbor Islands Partnership</p> <ul style="list-style-type: none"> National Park Service US Coast Guard Massachusetts Department of Conservation and Recreation (2 seats) Massachusetts Water Resources Authority Massachusetts Port Authority City of Boston, Environment Department Boston Redevelopment Authority Thompson Island Outward Bound Education Center The Trustees of Reservations Island Alliance Boston Harbor Islands Advisory Council (2 seats)

Waterbirds in the Boston Harbor Islands

In 2002, the Boston Harbor Islands were designated as a Massachusetts Important Bird Area (IBA) because they provide habitat for a significant number of colonial-nesting waterbirds, including Common Terns (*Sterna hirundo*) and Least Terns (*Sterna antillarum*), which are both listed as species of special concern in the State of Massachusetts (Massachusetts Natural Heritage and Endangered Species Program 2007). The Boston Harbor Islands also provide habitat for breeding American Oystercatchers (*Haematopus palliatus*), a species of high continental conservation concern with a high level of regional responsibility (Dettmers and Rosenberg 2000), and several species of wading birds including Black-crowned Night-Heron (*Nycticorax nycticorax*) and Snowy Egret (*Egretta thula*), which are, respectively, species of moderate and high continental conservation concern (Kushlan et al. 2002). In addition, cormorants, gulls, Common Eider (*Somateria mollissima*), and several other wading and shorebird species regularly nest on the islands.

Although not part of a consistent monitoring effort, periodic records of breeding waterbirds exist for the islands (see Andrews 1990, Hatch 1984, Blodget and Livingston 1996, Parsons et al. 2001). In 2001-2003, Paton et al. (2005) conducted an inventory of waterbirds and landbirds breeding in the Boston Harbor Islands National Park Area (BOHA), which in part established the need for a long-term coastal breeding bird protocol in the park.

When compared with previous studies, the Paton et al. (2005) waterbird inventory suggested that:

- Least Terns have a small but relatively stable population (<100 pairs), usually on Rainsford or Lovell's Islands (Hatch 2001, Nove 2001).
- Common Terns have declined from a peak of 100 pairs in 1993 (Hatch 2001) to approximately a dozen pairs on Snake Island in 2003.
- American Oystercatchers have increased from only several pairs in the early 1990s (Veit and Petersen 1993; Nove 2001) to approximately 16 pairs on 14 islands in 2003.
- Wading birds have experienced a significant, ten-fold decline on Sarah Island, where the population dropped from 725 nests in 1994 (Parsons et al. 2001) to 80 nests in 2003. The wading bird population on Middle Brewster Island has varied from 124 nests in 1984-5 (Andrews 1990), to 207 nests in 1994 (Blodget and Livingston 1996), to only 14 pairs present in 2003. Wading birds are no longer present on Spectacle, Peddocks, or Gallops as they were historically (Nove 2001).
- Common Eiders have a small, but established colony of approximately 70 nests on islands in the Outer Harbor, primarily Calf Island.
- Herring Gulls (*Larus argentatus*) have declined in BOHA (Andrews 1990), as they have regionally (Rome and Ellis 2004), which may be due in part to the restoration of Spectacle Island, a former land fill and gull nesting site.
- Great Black-backed Gulls (*Larus marinus*) have maintained a stable population in BOHA (Andrews 1990), though regional data suggests they may be increasing (Rome and Ellis 2004).
- Double-crested Cormorants (*Phalacrocorax auritus*) have redistributed themselves among the islands of the Outer Harbor, but have maintained fairly stable numbers since the 1980s (Andrews 1990, Hatch 1984).

Coastal Breeding Bird Monitoring in BOHA

In order to accurately measure population trends over time, it is necessary to establish a consistent and comprehensive long-term monitoring protocol for coastal breeding birds. Additional waterbird surveys conducted in BOHA in 2005 and 2006 used similar techniques to the inventory work and provided generally similar results (Trocki et al. 2007). In 2007, comprehensive waterbird surveys were again conducted in BOHA as part of the development of a long-term monitoring protocol for coastal breeding birds in the park. This effort was continued in 2008 and a final monitoring protocol will soon be released.

The objectives of the protocol are to:

- 1) Determine annual changes and long-term trends in relative abundance of high priority coastal breeding bird species (Least Terns, Common Terns, and American Oystercatchers)
- 2) Conduct an annual surveillance program within the park to identify future use by threatened or endangered coastal breeding bird species, such as Piping Plover (*Charadrius melodus*) or Roseate Tern (*Sterna dougallii*)

- 3) Determine long-term trends in species composition and relative abundance of priority coastal breeding bird species (cormorants, gulls, wading birds, eider, sandpipers, and Willets (*Catoptrophorus semipalmatus*))
- 4) Improve our understanding of breeding waterbird – habitat relationships and the effects of habitat changes and management actions (such as invasive plant control or predator control) on waterbird species composition and abundance.

In both 2007 and 2008, volunteers assisted in conducting waterbird surveys in the park. It is the intent of the Northeast Temperate Inventory and Monitoring Network and the Park to use volunteers to implement this protocol in the future, both to enhance community involvement with park islands and to provide a cost-effective implementation method for long-term monitoring.

BOHA Coastal Breeding Bird Monitoring in 2008

The survey methods used for this protocol focus on obtaining information on the relative abundance of coastal breeding species by estimating or directly counting all nests, incubating adults, or territorial nesting pairs, and were selected based on their ability to meet the following criteria:

- accurately detect changes in species richness, relative abundance of nesting pairs, and nesting location for each focal species.
- create minimal disturbance to nesting colonies and/or nesting pairs.
- be implemented by trained volunteers.
- be cost effective.

Long term monitoring surveys will be conducted annually for high priority species (terns and oystercatchers), while a complete survey, that includes all focal species, will be conducted on a three-year rotation (Table 2). Surveillance surveys for new species and new colony sites will be ongoing, in conjunction with all coastal breeding bird monitoring efforts.

The focal species for this protocol are all highly visible and most nest in colonies, which makes them relatively easy to locate. Though coastal waterbirds nest in a variety of habitats, the specific requirements of each individual species are well understood and fairly predictable. Most colonial-nesting species also exhibit a high degree of site fidelity, so colony locations are likely to remain similar from year to year. However, a regular surveillance program has been incorporated into annual monitoring efforts to ensure that all nesting species are detected and that shifts in colony locations are not inadvertently recorded as losses. This comprehensive approach to sampling will also allow for the detection of new colony sites or nesting by new species (such as Piping Plovers or Roseate Terns).

Common Eiders

Common Eiders (COEI) were surveyed with complete, ground-based nest counts on Calf (May 14 and 15), Great Brewster (May 15), Outer Brewster (May 29), and Middle Brewster (May 30) Islands. It was not possible to safely land on Little Calf or Green Islands. Common Eiders nest semi-colonially in BOHA and have generally

Table 2. 3-year survey rotation schedule, based on annual effort and park priorities.

Survey Tasks	2008			2009			2010		
	May 15- 31	June 1- 15	June 15- Jul 31	May 15- 31	June 1- 15	June 15- Jul 31	May 1- 31	June 1- 31	June 15- Jul 31
tern colonies		X	X		X	X		X	X
large shorebirds	X	X	X	X	X	X	X	X	X
small shorebirds /surveillance							X	X	X
cormorants and gulls	X								
Common Eider	X		X						
wading birds				X	X				

been found nesting under overhanging vegetation, primarily staghorn sumac (*Rhus typhina*). During surveys, five to six observers spread out in a line (approximately three to four miles apart) and proceeded through vegetation, flushing incubating females and locating nests. Ground-based nest counts were targeted for the peak incubation period, but access to the Outer Islands depends on weather conditions and tidal cycle.

A total of 200 Common Eider nests were detected on Outer Harbor Islands (Table 2 and Figure 2); however not all islands were searched with the same degree of effort. A thorough search was conducted on only the eastern half of Outer Brewster, due to weather and tide constraints which limited access. Common Eiders may also nest on Little Calf and Green Island, which were not searched due to safety considerations.

In previous years, the highest concentration of nesting eiders occurred on the northern end of Calf Island (Paton et al. 2005). To better quantify a measure of error in nest counting, a sub-sample of nests was counted using a mark-and-recapture technique in 2008. On May 14 the area of Calf Island north of the landing beach was thoroughly searched by six trained observers, and seventy-six nests were located. For each eider nest that was located, nest contents and location (GPS coordinates) were recorded. In addition, each nest was unobtrusively marked with a numbered popsicle stick. On May 15, the same area of Calf Island was again thoroughly searched by six trained observers, and sixty nests were detected, forty-three of which had been previously marked. The contents and location (GPS coordinates) of each new nest was recorded, and marked nests (those previously located on May 14) were recorded by number. These results indicate a detection rate of 74 percent.

Table 3. Total number of COEI nests detected during complete ground-based surveys

Island	COEI
Calf	111
Great Brewster	4
Middle Brewster	28
Outer Brewster	57
Grand Total	200

Overall, there were a similar number of eider nests detected in 2008 (N=200) as in 2007 (N=196), though fewer nests were found on Middle, Outer, and Great Brewster, and increased efforts on Calf Island resulted in an increase in the number of nests detected there. The detection rate of 74 percent, although this is lower than expected, provides us with an important basis for evaluating the effectiveness of our search methods. Based on this experiment, we can estimate a total of 103 on the north end of Calf. If this same detection rate is applied to the entire Outer Island population, we estimate a total of 270 nests. However, this assumes that the likelihood of detecting nests and search effort was equal on all islands.

Of the nests detected on Calf Island on May 14 (N=76), contents ranged from 0 to 7 eggs, with the majority holding 3 (20%), 4 (30%), or 5 (32%) eggs. Four of the nests observed (5%) on May 14 had been recently predated. During investigations on May 15, an additional five depredated nests were observed; most were located near previously depredated nests.

Although it was disturbing to see so many depredated nests, it is not clear whether our survey efforts may have contributed to this problem or if there are just naturally very high daily rates of depredation from gulls (especially before the sumac leaves out). In addition, we noticed that we flushed many fewer female eiders when we revisited the colony on the northern end of Calf Island on May 15, which made it much more difficult to locate nests. Our May 15 visit was approximately two hours later in the morning on an ebbing tide, and many of the nests we did locate were



Figure 2. Common Eider nest locations during 2008 monitoring

carefully covered over with down, suggesting that a greater number of females may have been off the nest already at the time of our second visit. According to the literature, incubating female eiders generally do not feed during incubation (Goudie et al. 2000), so this explanation requires further investigation.

Beginning approximately two to three weeks following peak incubation, Common Eider chicks can be observed rafting in crèches (Figure 3) offshore near nesting islands. The number of female Common Eider and chicks on the water were counted by surveyors circling the islands by boat at approximately 5 km per hour from a distance of approximately 10-45 m offshore (or as close as the boat captain felt safe boat operation was feasible; see Figure 4). Boat-based counts were conducted in the Outer Islands on May 29, May 30, June 13, July 1, and July 15; results are given in Table 4.

Table 4. Total number of adult females Common Eiders and chicks detected during boat-based surveys in the Outer Harbor

Survey Date	Adult Female COEI Tending Chicks	COEI Chicks	Range of Crèche Size	Average Crèche Size (± 1 SD)	Total Number of Female COEI Observed
29 May	104	225	3 - 85	25 \pm 28.8	n/a
30 May	87	279	4 - 120	27.9 \pm 37.6	n/a
13 June	151	122	1 - 54	17.4 \pm 19.5	n/a
1 July	34	59	2 - 16	4.5 \pm 3.7	151
15 July	19	49	1 - 17	4.9 \pm 4.6	101

More effort was invested in counting females and chicks on the water in 2008 than in previous years. During a late-season count in 2007, over 200 female eiders were still in the Outer Island, but only nineteen chicks were observed (Trocki and Paton 2007). Repeated counts in 2008 allowed us to better describe changes in the



Figure 3. Two female Common Eiders with chicks in the Outer Harbor. Photograph by Carol Lynn Trock, Boston Harbor Islands, 2008.

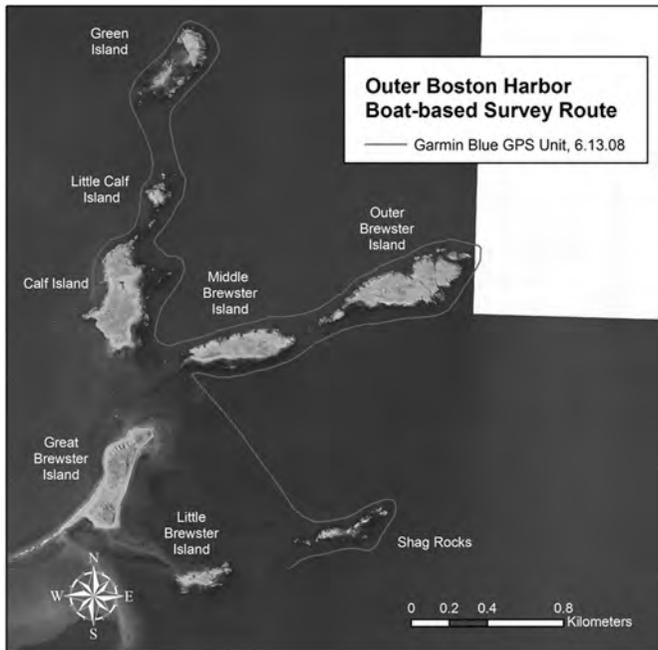


Figure 4. Sample GPS track from boat-based surveys for Common Eider chicks during the 2008 monitoring season.

number of chicks observed over the course of June and early July. The number of chicks we observed declined from a high count of 279 on May 30 to a low of forty-nine on July 15. This suggests a high degree of juvenile mortality, which is not uncommon for this species. Common Eider experience high annual adult survival rates (over 80% in several studies), but generally experience a highly variable degree of reproductive success in any given year and years of near disaster are not uncommon (Goudie et al. 2000). In a stable population, low survival of young is compensated by the comparatively long average life span.

Cormorants and Gulls

The majority of gulls and cormorants nesting in the Boston Harbor Islands occur in the Outer Harbor (Paton et al. 2005). Boat-based surveys of nesting Double-crested Cormorants (DCCO), Herring Gulls (HERG), and Great Black-backed Gulls (GBBG) were conducted on Calf, Little Calf, Green, Middle Brewster, Outer Brewster Islands and Shag Rocks on May 29 and 30. Visible active nests, as evidenced by the presence of an incubating adult or visible chicks, were counted by surveyors circling the island by boat at approximately 5 km per hour from a distance of approximately 10-45 m offshore (or as close as the boat captain felt safe boat operation was feasible).

Boat-based surveys of nesting cormorants and gulls on the Outer Islands produced highly variable results (Table 5). Estimates differed markedly among observers but also varied greatly among days, presumably due to changes in the number of individuals attending the colony at any given time, since the weather

conditions were similar on both occasions. The overall number of each species detected on islands in the Outer Harbor is given in Table 6.

Table 5. Inter-observer variation in numbers of nesting cormorant and gull pairs surveyed from boats on the Outer Islands

	29 May 2008						30 May 2008						
	CLT	RS	CJ	Average	STDEV	CV	CLT	CJ	RS	RK	Average	STDEV	CV
Calf Island													
DCCO	86	96	74	85	11	13	111	71	87	122	98	23	24
GBBG	16	17	16	16	1	4	14	12	19	10	14	4	28
HERG	115	41	59	72	39	54	74	60	40	42	54	16	30
Little Calf Island													
DCCO	227	205	248	227	22	9	131	186	203	226	187	40	22
GBBG	6	4	5	5	1	20	6	6	8	6	7	1	15
HERG	7	5	7	6	1	18	13	7	7	10	9	3	31
Green Island													
DCCO	92	85	84	87	4	5	79	98	88	96	90	9	10
GBBG	19	14	4	12	8	62	16	11	15	15	14	2	16
HERG	16	14	28	19	8	39	29	29	13	18	22	8	36
Middle Brewster Island													
DCCO	574	310	509	464	138	30	380	399	396	440	404	26	6
GBBG	7	4	4	5	2	35	17	0	5	6	7	7	102
HERG	76	55	68	66	11	16	68	60	46	40	54	13	24
Outer Brewster Island													
DCCO	89	77	76	81	7	9	71	70	72	73	72	1	2
GBBG	19	10	9	13	6	43	12	9	14	9	11	2	22
HERG	138	54	68	87	45	52	75	94	59	56	71	17	25
Shag Rocks													
DCCO	164	112	146	141	26	19	161	125	115	116	129	22	17
GBBG	3	0	1	1	2	115	3	0	0	1	1	1	141

CLT= Carol Trocki, RS = Robert Stymeist, CJ = Carl Johnson , RK = Robert Kelly.

Table 6. Overall mean number of nesting cormorant and gull pairs detected on islands in the Outer Harbor during boat-based surveys. Note: these figures reflect all surveys by all observers.

	Outer Island, 2008		
	Average	STDEV	CV
DCCO	1024	126	12
GBBG	53	13	25
HERG	227	68	30

Overall mean Coefficients of Variation (CV; SD/Mean X 100) for the three primary species we monitored were: DCCO = 12, GBBG = 25 and HERG = 30, thus there is more variation in counts of nesting gulls than cormorants. In addition, it is important to point out that boat-based surveys only estimate nesting activity that is visible from the water and may drastically underestimate the total number of nests.

Boat-based surveys for nesting gulls and cormorants were also conducted on Langlee, Ragged, and Sarah Islands on May 23 and on Gallops, Georges, and Lovells on May 19. The absence of nesting gulls on other harbor islands was confirmed during American Oystercatcher surveys throughout the harbor on various dates in 2008.

During boat-based surveys on May 19, six Great Black-backed Gulls and sixteen Herring Gulls were observed incubating or attending nests on Gallops Island. Boat-based surveys of nesting cormorants and gulls were also conducted on Sarah Island on May 23 (Table 6). Two trips around Sarah Island were conducted in immediate succession to allow all observers an opportunity to participate (i.e. switch roles observing and recording). It is evident from the two individuals who conducted two successive counts that a high degree of variation exists even for an individual observer (Table 7).

A complete ground-based count of nesting gulls was conducted on Great Brewster Island on May 15 because rocks and shallow waters around Great Brewster Island make it difficult to circle the island in a boat. Complete ground-based counts of nesting gulls and cormorants were also conducted on Sheep Island on May 23.

Ground-based surveys are expected to produce more precise estimates but require considerably more time and effort. Ground-based surveys were conducted on Great Brewster Island on May 15, and 163 Herring Gull nests and fifteen Great black-backed Gull nests were detected. Most nests held three eggs, indicating the peak of incubation.

Table 7. Inter-observer variation in numbers of nesting cormorant and gull pairs surveyed on Sarah Island on 23 May 2008

	CLT1	SC1	CLT2	SC2	PS	RK	AK	RS	Average	STDEV	CV
DCCO	62	~	59	64	38	19	55	64	52	17	33
GBBG	17	13	17	9	8	20	14	18	15	4	30
HERG	114	87	130	86	97	91	98	98	100	15	15

CLT= Carol Trocki, SC = Sheila Colwell, PS = Polly Stevens, RS = Robert Stymeist, RK = Robert Kelly, AK = Adam Kozlowski.

On May 23, during a complete ground-based survey of Sheep Island, five Double-crested Cormorant nests, twenty-four Great Black-backed Gull nests, and 223 Herring Gull nests were detected. One additional gull nest observed on Sheep was not identifiable to species.

On June 5, during a complete ground-based survey of Rainsford Island, an estimated forty-four Herring Gulls were observed nesting on the cliff face on the east end of the island. During a boat-based survey of Hangman conducted on July 1 we observed thirteen Great Black-backed Gull broods, one incubating Greater Black-backed Gull and one incubating Herring Gull.

Boat-based surveys of incubating cormorants and gulls are safe and efficient to conduct, but produce variable results. Most of the observers participating in boat-based gull and cormorant surveys in 2008 were also involved in monitoring in 2007, which seemed to reduce variability somewhat. The confidence expressed by participating volunteers was noticeably higher this year. In addition, we were able to conduct boat-based surveys in the outer islands on two consecutive days in late May that were both clear and calm. Unfortunately, weather conditions did not allow for repeated weekly counts this season. We will continue to explore the possibility of obtaining digital photography during boat-based surveys to allow for additional post-survey analysis. In the future, I suggest that all islands with nesting cormorants and gulls be surveyed once per week for three consecutive weeks during the peak of incubation (mid May to early June), if at all possible, to reduce interannual variation in results.

While we expect that ground-based gull and cormorant surveys produce more reliable results, they require tremendous time and effort to conduct and pose unacceptable safety risks to volunteers in some locations. Since the species targeted by these methods are all abundant in the region and their populations do not appear to be experiencing either great growth or decline in the park, I still believe that boat-based surveys are adequate to track changes in the relative abundance and spatial distribution of Double-crested Cormorants, Herring Gulls, and Great Black-backed Gulls in the Boston Harbor Islands.

American Oystercatchers and Willets

American Oystercatcher surveys of all islands were conducted simultaneously with cormorant and gull, Common eider, or tern surveys throughout the breeding season in 2008. Boat-based surveys were used to estimate the number of nesting pairs of adult American Oystercatchers (AMOY) on each island where complete ground-based surveys were not conducted. When American Oystercatcher nests were detected during ground-based surveys for other species, location (GPS coordinates) and nest contents were recorded. A complete nest search of all islands was not undertaken due to the effort and disturbance involved in finding individual oystercatcher nests.

A combination of boat-based and ground-based surveys detected a total of seventeen American Oystercatcher pairs on ten islands in BOHA (Table 8, Figure 5). On Great Brewster and Middle Brewster Islands, actual nest locations were documented. No nesting American Oystercatchers were detected during boat-based

surveys of Little Calf, Green, Outer Brewster, Georges, Lovells, Sarah, Langlee, Ragged, Grape, Slate, Bumpkin, or Hangman, although feeding American Oystercatchers were observed on Sarah and Lovells.

Follow-up surveys on Calf Island and first-hand reports from volunteers on Spectacle and Thompson Islands indicate that nests there were unsuccessful. One American Oystercatcher chick was observed with an adult on the east end of

Table 8. Territorial pairs of American Oystercatchers that were presumed to be nesting

Island	AMOY
Calf	1
Gallops	1
Great Brewster*	2
Middle Brewster*	1
Peddocks	1
Rainsford	2
Sheep	2
Snake	5
Spectacle	1
Thompson	1
Grand Total	17

*Nest locations were documented on these islands.



Figure 5. Location of American Oystercatcher pairs detected during 2007 surveys.

Rainsford on June 5 but was not seen again. Two adults with three chicks were observed on the west end of Rainsford on July 1 and again on July 15. Three chicks were also observed with adults on Snake Island on July 15.

Boat-based surveys were successful in detecting territorial pairs; however, ground-based surveys of beach strand habitat undoubtedly provide more reliable results by reducing the chance of missing pairs. A combination of annual boat-based surveys and periodic walking surveys that cover all islands on a three-year rotation may be the best balance of effort. Regular surveillance of all islands should be undertaken. Many nest locations appear to be used repeatedly, which should increase search efficiency for known nesting locations in the future.

In 2008, two field surveys were added during the month of July. These late-season surveys allowed us to confirm the presence of American Oystercatcher chicks on Rainsford and Snake Islands. Although we were not able to systematically track all individual nests, we did gather follow-up information incidentally whenever possible, and it appears that nest success may be quite low. Additional banding research that is being proposed for the park in 2009 will provide valuable information for improved management of this species.

Willetts (WILL) are conspicuously vocal when breeding and have only been detected nesting on Snake Island in BOHA (Paton et al. 2005). We estimated a total of three nesting pairs of Willetts on Snake Island during a visit on June 13, but no nests were located. Regular surveillance of all islands will be undertaken on a three-year rotation and should be sufficient to detect new Willet territories elsewhere in the park.

Terns

In recent years terns have nested on Lovells, Rainsford, and Snake Islands in BOHA (Paton et al. 2005), but no terns were observed nesting in BOHA in 2008. These three islands were visited periodically throughout the breeding season to observe any evidence of tern colony formation; Rainsford and Lovells were specifically surveyed on May 19, June 5, July 1, and July 15, and Snake Island was visited on June 13 and July 15. In addition, various volunteers, rangers, and park staff made regular reports harbor-wide throughout the season.

A Least Tern colony on Lovells Island was destroyed in June of 2007 (Trocki and Paton 2007), and Common Tern nesting effort on Snake Island has generally been limited in recent years (Paton et al. 2005). We strongly recommend that island managers continue to post informational signage and employ all other reasonable efforts to reduce human disturbance at previously known colony sights on Rainsford, Lovells, and Snake Islands so that appropriate habitat remains available for future use.

Although outside park boundaries, Common Terns (COTE) are also known to nest on a platform near Spinnaker Island in Hingham Bay (Hull). Though not specifically nesting in the park, these terns undoubtedly rely on BOHA for foraging habitat. Nesting was confirmed on the Spinnaker platform, and 250 Common Terns were estimated to be nesting there on June 13.

Wading Birds

Wading birds have previously been documented in five mixed-species wading bird colonies in BOHA on Calf, Middle Brewster, Outer Brewster, Sheep, and Sarah Islands (Paton et al. 2005). During surveys for gulls, cormorants, eiders, terns, and

oystercatchers in 2008, any indication of nesting wading birds was recorded, though wading birds were not a primary focus for survey efforts in 2008.

When the information was readily available during the course of other work, colony size, species composition, and individual nests were recorded. Four wading bird colonies were observed, and incidental observations indicate that numbers may have been somewhat reduced from previous years. Approximately thirty Black-crowned Night Herons were flushed from the colony site on Calf Island during eider surveys there in mid May; active Black-crowned Night Heron (BCNH) nests were observed. Four Great Egrets and one BCNH were flushed from the colony site on Sheep Island, and Great Egrets, Snowy Egrets, and Black-crowned Night Herons were observed on Sarah Island on May 23. A feeding Yellow-crowned Night Heron (*Nyctinassa violacea*) was observed feeding near Ragged Island and could possibly have also been nesting on Sarah Island. Thirty-three Black-crowned Night Herons, two Snowy Egrets, and two Glossy Ibis (*Plegadis falconellus*) were flushed from the colony site on the east side of Outer Brewster during eider surveys on May 30 (the west side of Outer Brewster was not visited due to time and tide constraints). No active wading bird activity was observed on Middle Brewster Island in 2008.

A complete count of wading bird nests will be conducted in 2009.

Spotted Sandpipers

Spotted Sandpipers (*Actitis macularia*) have been previously documented nesting on nine islands in the park (Paton et al. 2005). Comprehensive surveys for nesting Spotted Sandpipers (SPSA) were not undertaken in 2008. However, while conducting boat and ground-based surveys for other species, Spotted Sandpipers were observed on Calf, Little Calf, Green, Middle Brewster, Great Brewster, Outer Brewster, and Rainsford Islands. A search for Spotted Sandpiper nests was undertaken on Rainsford during ground-based surveys on June 5 and July 15. On both occasions, eleven adult Spotted Sandpipers were flushed from nesting habitat, but no nests were found.

A complete ground-based survey of potential Spotted Sandpiper nesting habitat will be conducted in 2010, though it is anticipated that the asynchronous nesting cycle and secretive nature of this species may make survey efforts problematic.

Volunteer Training, Recruitment, and Coordination

Volunteers interested in participating in this project were recruited by park staff and asked to attend a training session lead by cooperating researchers. The training session, held on Spectacle Island on May 7, focused on species identification and survey techniques.

Park staff coordinated volunteers to participate in field surveys according to a schedule provided by the cooperating researcher in advance of the field season. Weather make-up days were assigned in advance to allow for some flexibility if weather prevented surveys. Park staff facilitated volunteer communication and took the lead role in coordinating volunteer participation. The cooperating/contracting researcher trained and supervised participating volunteers while in the field.

A total of eleven volunteers and four National Park Service staff members participated in waterbird surveys in BOHA in 2008. Six of the eleven were returning volunteers who had been involved in monitoring in 2007 and so were familiar with survey techniques. In addition, several of the new volunteers that were recruited had extensive waterbird monitoring experience, which made training easy. Although volunteers varied in their levels of experience, all demonstrated an eagerness to participate and willingness to learn. Volunteer scheduling and coordination was well orchestrated by park staff.

In the future, I would like to continue this improvement with a targeted effort to better develop the network of communication between park staff, monitoring staff, volunteers, island managers, and other interested individuals, especially during the field season when shared information can help inform strategic allocation of effort.

You can learn more about coastal breeding bird monitoring in BOHA at <http://www.nps.gov/boha/naturescience/birds.htm>, or contact Carol Lynn Trocki at cltrocki@verizon.net. 

Literature Cited

- Andrews, R. (Compiler). 1990. *Coastal waterbird Colonies: Maine to Virginia 1984-85*. US Fish and Wildlife Service, Newton Corner, MA.
- Blodget, B. G., and J. E. Livingston. 1996. Coastal colony-nesting Waterbirds: the Massachusetts Status Report 1994-1995. *Massachusetts Wildlife* 4:10-20.
- Dettmers, R. and K. V. Rosenberg. 2000. *Partners in Flight Landbird Conservation Plan: Physiographic Area 9: Southern New England. Version 1.0*. Cornell Lab of Ornithology, Ithaca, NY.
- Elliman, T. 2005. Vascular flora and plant communities of the Boston Harbor Islands. *Northeastern Naturalist* 12 (Special Issue 3): 49-74.
- Goudie, R. Ian, Gregory J. Robertson and Austin Reed. 2000. Common Eider (*Somateria mollissima*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online <http://bna.birds.cornell.edu/bna/species/546>.
- Hatch, J. J. 1984. Rapid increase of Double-crested Cormorants nesting in southern New England. *American Birds* 1984: 984-88.
- Hatch, J. J. 2001. Tern nesting in Boston Harbor: the importance of artificial sites. *Bird Observer* 29: 187-93.
- Kushlan, J. A., M. J. Steinkamp, K. C. Parsons, J. Kapp, M. Acosta Cruz, M. Coulter, I. Davidson, L. Dickson, N. Edelson, R. Elliot, R. M. Erwin, S. Hatch, S. Kress, R. Milko, S. Miller, K. Mills, R. Paul, R. Phillips, J. E. Saliva, B. Sydeman, J. Trapp, J. Wheeler, and K. Wohl. 2002. *Waterbird Conservation for the Americas: The North American Waterbird Conservation Plan, Version 1*. Washington, D.C.: Waterbird Conservation for the Americas.
- Nove, J. 2001. Birding the Boston Harbor Islands. *Bird Observer* 29: 173-86.
- Parsons, K. C., S. R. Schmidt, and A. C. Matz. 2001. Regional patterns of wading bird productivity in Northeastern US estuaries. *Waterbirds* 24: 323-30.
- Paton, P. W. C., R. J. Harris, and C. L. Trocki. 2005. Distribution and abundance of breeding birds in Boston Harbor. *Northeastern Naturalist* 12: 145-68.

- Roman, C. T., B. Jacobson, and J. Wiggin. 2005. Introduction to special issue, Boston Harbor Islands National Park Area: Natural Resources Overview. *Northeastern Naturalist* 12 (Special Issue 3): 3-12.
- Rome, M. S. and J. C. Ellis. 2004. Foraging ecology and interactions between Herring Gulls and Great Black-backed Gulls in New England. *Waterbirds* 27: 200-10.
- Trocki, C. L. and P. W. C. Paton. 2007. Boston Harbor Islands Coastal Breeding Bird Monitoring: 2007 Field Season Summary. *Natural Resources Report NPS/NER/NRR-2007/16*. Boston, MA: National Park Service.
- Trocki, C. L. N. W. Talancy, P. W. C. Paton. August 2007. *An Inventory of Amphibians, Reptiles, Nonvolant Mammals, and Select Bird Species on Islands in Boston Harbor. Technical Report NPS/NER/NRTR-2007/094*. Boston, MA: National Park Service.
- Veit, R. R., and W. R. Petersen. 1993. *Birds of Massachusetts*. Lincoln, MA: Massachusetts Audubon Society.

Carol Lynn Trocki is a conservation biologist and educator who completed her master's degree studying wading bird foraging ecology at the University of Rhode Island in 2003. Carol is currently a part-time Research Associate in the URI Department of Natural Resources Science, where she works in cooperation with the National Park Service's Inventory & Monitoring Program and teaches an undergraduate course in wildlife management. Carol also conducts a volunteer coastal breeding bird monitoring program for the Boston Harbor Islands National Park Area each spring and is involved in an innovative new research project, through URI's Department of Natural Resource Economics, that brings together farmers and community members to protect grassland nesting birds on local farms. Carol continues to work with local land conservation groups to help them prioritize their land acquisition efforts, document conservation values, and plan for the long-term stewardship of their protected properties. Carol currently serves on the Conservation Commission and the Water Resources Protection Committee for the Town of Jamestown, is board president of the Rose Island Lighthouse Foundation, and is an active member of the Conanicut Grange Farm Viability Committee.

Carol thanks the incredible volunteers — Katie Banks, Andrew Bernick, Susanna Corona, Adam Kozlowski, Peter Gawne, Carl Johnson, Bob Kelley, Colin Millar, Allie Oakley, Peter Paton, Arthur Pearson, Wayne Petersen, Jack Renfrew, Polly Stevens, Bob Stymeist, and Heather Warchalowski — who have helped on this project — they make the work fun! She also thanks park staff Valerie Wilcox, Marc Albert, and Sheila Colwell for their support and help with data collection, and Mary Raczko for her tremendous efforts recruiting and coordinating volunteers. Finally, she greatly appreciates Russ Bowles and his capable and professional staff at UMASS Boston Marine Operations for providing transportation on the water. This project was supported and funded by the Northeast Temperate Network Inventory & Monitoring Program. Thanks to Brian Mitchell, Adam Kozlowski, and Theresa Morre for their helpful input and assistance.

Common Eider Die-offs on Cape Cod: an Ongoing Investigation

Sarah Courchesne, D.V.M., and Julie C. Ellis, Ph.D.

It has become a recurring and familiar sight on the beaches of Cape Cod and the islands: often in spring and again in fall, hundreds of dead and dying Common Eiders are found strewn along the sand. These die-offs have been recorded for at least two decades, with some longtime Cape residents reporting that they have occurred since the 1950s. 2007 seemed an unusually severe year, although lack of accurate tallies has hampered a true assessment of mortality. Regardless of the numbers involved, no



Figure 1. Eider carcasses litter the beach at Jeremy Point in Wellfleet in October, 2006. Hundreds of birds are estimated to have died. Photograph by Julie Ellis.

cause for the deaths had ever been previously determined. Since 2006, researchers at the Seabird Ecological Assessment Network (SEANET) headed by Dr. Julie Ellis, at Tufts University's Cummings School of Veterinary Medicine, have attempted to do just that. However, these die-off events have proved more complex than anyone initially expected. Numerous theories have been put forth, but to understand all the forces at play, it is critical to understand the life history of Common Eiders.

The Common Eider (*Somateria mollissima*) is the world's largest seaduck and is bound to the marine environment during all phases of its life. The eider's preferred prey is the blue mussel (*Mytilus edulis*), though they will feed on a wide range of other bivalves, crabs, sea urchins, and other echinoderms and occasionally small fish. Our familiar southern, or American, race of common eiders (*S. mollissima dresseri*) breeds in the Gulf of Maine from May to July. After breeding, the males depart the colony and aggregate around offshore islands. The males undergo a molt at these offshore sites, losing all their primary feathers at once, resulting in a month-long period of flightlessness. Once the molt is complete, the males migrate to their wintering grounds where they rejoin the females, who migrate to molting sites only after the young have fledged in August and September (Goudie et al. 2000). The number of wintering birds off New England typically peaks by early December. The southern race of Common Eiders winters from the Bay of Fundy as far south as Virginia, and rarely, Florida. But the single largest aggregation occurs off the coast of Cape Cod and in Nantucket Sound. Hundreds of thousands of the birds can sometimes be seen from land during the winter months, but actual numbers are difficult to pin down due to great variability in dispersal patterns (Veit and Petersen 1993). Spring migration back to northern breeding colonies occurs in March and April.

SEANET investigators investigated the 2006 October-November die-off by performing autopsies on fourteen specimens. Almost all the birds were male, which reflected the overall population of affected birds that were found on Jeremy Point in Wellfleet. At autopsy, the major findings were that more than the half the birds were emaciated or thin and eighty percent were infested with intestinal worms called acanthocephalans (*Profillicollis botulus*). Some of the birds showed signs of sepsis, which results when bacteria or bacterial toxins enter the bloodstream. The investigators attributed the deaths to the acanthocephalan infestation, postulating that the worms had led to sepsis. Acanthocephalan worms are particularly aggressive in their attachment to the intestinal lining, and it was therefore suggested that the worms had introduced intestinal bacteria into the blood by tunneling so deeply into the bowel wall. The worms derive nutrients from the host, and the investigators believed that the large numbers of worms seen could have deprived the host of sufficient nutrients to cause emaciation. The eiders were thought to have acquired the infections by feeding on prey other than blue mussels. Acanthocephalans are carried by the green crab (*Carcinus maenas*) and the Asian shore crab (*Hemigrapsus sanguineus*), both introduced species in New England. It was postulated that the eiders, not normally exposed to acanthocephalan worms, suffered unusual losses when they began feeding on the non-native crabs (Christensen and Stegeman, unpublished data). Indeed, acanthocephalan infestations have historically been blamed for mass mortalities of eiders in Europe (reviewed in Thompson 1985).

However, the link between acanthocephalans found at autopsy and actual mortality has subsequently been challenged. Assessments of background parasitism in presumably healthy birds indicate that they carry worm burdens similar to birds lost to mortality events (Thieltges et al, 2006). When autopsies of an October 2007 die-off at Jeremy Point again revealed heavy parasitism by acanthocephalans and very few other findings, the question regarding the true significance of acanthocephalans, even in large numbers, arose in the minds of subsequent SEANET investigators who sought to acquire presumably healthy birds for comparison. That opportunity came through a unique partnership between SEANET and Ducks Unlimited.



Figure 2. An adult male eider found dead during the October 2007 die-off in Wellfleet. This plumage is typical of affected birds, and they have been erroneously reported as juveniles, but internal anatomy confirms their adult status. Photograph by Sarah Courchesne.



Figure 3. The opened small intestine of a common eider. Acanthocephalan worms embedded in the intestinal wall are evident throughout. Each mark on the ruler represents 1 cm. Photograph by Sarah Courchesne.

Jack Renfrew, co-chair of the Boston chapter of Ducks Unlimited, donated eiders he shot in Wellfleet in November, 2007 to the SEANET investigation, submitting eight whole carcasses for autopsy. All of the shot birds were infested with acanthocephalans, some with even heavier worm burdens than the die-off birds. This finding suggests that the worms are not the primary cause of mortality, but rather a contributing factor in birds weakened or sick from another cause. An evaluation of the eider's natural history was undertaken to search for potential contributing factors. Both the sex and age profiles and the timing of the die-offs were looked at. The most severe and predictable die-offs occur in October or November and affect adult males almost exclusively (Courchesne, unpublished data). This timing indicates that these males have just completed their molt and subsequent migration south. At autopsy, even birds that were not emaciated were found to have

atrophied pectoral muscles, an indicator of recent flightlessness. Molting in seaducks is arguably the single most stressful time in their lifecycle (Guillemette et al, 2007). Even captive common eiders in zoos will suffer considerable mortality if not given extra supportive care during the molting period (H. Murphy, pers. comm.). It was therefore postulated that many of these die-offs may be affecting birds already weakened and stressed, and therefore more susceptible to additional pathogens.

The question remained: what are the additional stressors or pathogens that ultimately killed these birds? Are the acanthocephalans, though well tolerated by healthy birds, enough to push a weakened bird over the edge? Is there an additional factor we have not yet recognized? Tissues submitted to the National Wildlife Health Center (NWHC) in Madison, WI, from birds affected during the October 2007 die-off revealed the presence of an unidentified virus, but little evidence that the virus had caused any substantial disease. Tissue samples from the presumably healthy, hunted birds were also submitted to NWHC in an attempt to assess the extent of the virus among healthy birds. These results are not yet available, and so the true significance of the virus remains unknown. Numerous other questions persist as well: less frequent die-offs in May and June affect mainly females at a time when females should already be at breeding sites and not along the coast of Cape Cod. Are these females too weak to make the spring migration north? Or is this population part of the small breeding

colonies in Boston Harbor? Die-offs of females have not been as extensively studied as those of males and will be a future focus of SEANET research. Additionally, while the sight of a beach littered with eider carcasses is troubling, we do not know what proportion of the overwintering population these die-offs represent. It is possible that these events are analogous to the background mortality that affects any wild population, but made noticeable in this case because of the massive numbers of eiders clustered off Cape Cod. Finally, the appearance of these birds on the bay side of the Cape at Jeremy Point rather than on the ocean side, where the vast numbers of birds aggregate, raises more questions: are these birds simply borne by the currents to Wellfleet? Are sick or weakened birds more likely to move into the more sheltered waters of the Bay, or are equal numbers of birds dying on the ocean side, but being lost to recovery out at sea? All of these questions need to be addressed in future investigations of eider die-offs in Massachusetts, and SEANET will continue to actively pursue both the diagnostic questions presented, as well as the broader, wide-ranging questions of distribution, population structure, and overall health in this iconic duck of New England's winter seas. 

References:

- Goudie, R. I., G. J. Robertson, and A. Reed. 2000. Common Eider (*Somateria mollissima*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the *Birds of North America Online*: <<http://bna.birds.cornell.edu/bna/species/546/articles/introduction>>.
- Guillemette, M., D. Pelletier, J. M. Grandbois, and P. J. Butler. 2007. Flightlessness and the energetic cost of wing molt in a large sea duck. *Ecology* 88: 2936-45.
- Thieltges, D. W., B. Hessel, and H. Baekgaard. 2006. Endoparasites in common eiders (*Somateria mollissima*) from birds killed by an oil spill in the northern Wadden Sea. *Journal of Sea Research* 55: 301-08.
- Thompson, A. B. 1985. *Profillicollis botulus* (Acanthocephala) abundance in the Eider Duck (*Somateria mollissima*) on the Ythan estuary, Aberdeenshire. *Parasitology* 91: 563-75.
- Veit, R. R., and W. R. Petersen. 1993. *Birds of Massachusetts*. Lincoln, MA: Massachusetts Audubon Society.

Sarah Courchesne is project coordinator and veterinarian for the Seabird Ecological Assessment Network (SEANET) at Tufts University's Cummings School of Veterinary Medicine in North Grafton. Julie C. Ellis directs the Seabird Ecological Assessment Network (SEANET) at the Cummings School of Veterinary Medicine, Tufts University. They thank Dr. Michael Moore and Andrea Bogomolni of Wood's Hole Oceanographic Institution for collecting eiders and providing field support, Susannah Corona of the New England Aquarium for putting them in contact with hunters from Ducks Unlimited, Dr. Bob Cook of the National Park Service on Cape Cod for granting them access to Great Island in Wellfleet, and the staff of the National Wildlife Health Center in Madison, Wisconsin, for diagnostic support.

Foraging Winter Flocks of Birds in a Forest in Foxboro, Massachusetts

William E. Davis, Jr.

In winter, mixed-species and single-species foraging flocks are commonly encountered in forests and woodlands in New England. What controls the size and composition of the flocks? Why do birds join flocks rather than forage alone? It is generally accepted that flocking when foraging may result in increased foraging efficiency and/or decreased risk of predation (LaGory et al. 1984). In the north, winter is a time of stress for birds; because of food scarcity and harsh conditions, they face the competing risks of starvation and predation. Vigilance for predators is done at the expense of foraging time—a bird can't search for food and predators at the same time. In flocks, birds can share vigilance duties and thus spend a greater proportion of their time foraging. A predator is more likely to be spotted by many eyes than by a single bird (Goldman 1980). Many eyes can also better find patchily distributed food.

Experimental results suggest that both antipredation and foraging efficiency are factors in mixed-species foraging flocks, but that territory maintenance may be a major factor in single-species flocks (Székely et al. 1989). Other studies suggest that foraging efficiency, by itself or combined with predator protection, is responsible for mixed-species foraging flocks (Berner and Grubb 1985, Grubb 1987). Flock size may be controlled by several factors. As flock size increases, depletion of resources becomes more probable (Goldman 1980), and larger flocks may draw predators as is the case at winter bird feeders. Some species may flock in family or clan units, a practice that limits the size of some single-species flocks. For example, studies with color-banded birds have indicated that Tufted Titmice have winter territories and move about in clan or family groups (Condee 1970). Studies in Massachusetts of winter Black-capped Chickadees indicate that they move about in stable, discrete flocks averaging 6.6 birds (Smith 1976). In this article I will report on the flocking behavior of winter birds in a forest near my home in Foxboro, Massachusetts.

From the winter of 1976–1977 through the winter of 2001–2002 (twenty-six years) I made a census of birds on a twenty-nine acre plot in a forested parcel of Foxboro Town Conservation Land. The plot consisted of maple, pine, and oak second-growth forest. During the twenty-six winters I made 338 census runs in the plot for a total of 392 hours of observation. The census was part of the Winter Bird Population Study initiated by the National Audubon Society in 1948. During the twenty-six years that I participated in the census, it was coordinated and published by the National Audubon Society's *American Birds* from 1978–1984 (e.g., Davis 1978) and by the Association of Field Ornithologists and their *Journal of Field Ornithology* from 1990–1996 (e.g., Davis 1996). As I became interested in the pattern of bird distribution in the census plot, I recorded my census observations on a map of the area, a procedure that enabled me to plot the distribution of the birds observed. The birds were not uniformly distributed throughout the plot but in most cases foraged in single-species or mixed-species foraging flocks (Tables 1 and 2). I operationally defined a flock as at least two birds foraging and moving together (LaGory et al. 1984).

Table 1. Numbers of each species in single or mixed species flocks, numbers seen individually. Total flocks n = 480. Bird species common names from Sibley (2000).

	number of flocks	% of total flocks	total # in flocks	number of singles	percent singles of total #	% of total mixed species flocks (n=209) that contain this species
Black-capped Chickadee	296	62	1033	51	5	83
Tufted Titmouse	120	25	248	28	10	47
White-breasted Nuthatch	92	19	147	37	20	39
Downy Woodpecker	67	14	86	32	27	28
Golden-crowned Kinglet	61	13	107	17	16	23
Blue Jay	57	12	126	53	30	11
Brown Creeper	50	10	56	14	20	22
Dark-eyed Junco	32	7	169	6	3	21
Common Crow	20	4	61	29	32	
Ruffed Grouse	12	2	25	37	60	
American Robin	8	2	42	3	45	
Red-breasted Nuthatch	7	1	10	3	13	
Purple Finch	4	1	13	3	16	
Northern Cardinal	4	1	7	7	50	
American Goldfinch	3	1	4	0	0	
Cedar Waxwing	2	< 0.5	33	0	0	
Northern Mockingbird	2	< 0.5	2	4	67	
Hermit Thrush	2	< 0.5	2	5	71	
Evening Grosbeak	2	< 0.5	6	0	0	
Carolina Wren	2	< 0.5	4	2	33	
Mourning Dove	1	< 0.5	3	0	0	
Hairy Woodpecker	1	< 0.5	1	19	95	
Winter Wren	1	< 0.5	1	1	50	
Field Sparrow	1	< 0.5	2	0	0	
Northern Goshawk	1	< 0.5	2	0	0	
Red-tailed Hawk	0		0	15	100	
Screech Owl	0		0	7	100	
Barred Owl	0		0	4	100	
Sharp-shinned Hawk	0		0	3	100	
Turkey Vulture	0		0	2	100	
Great-horned Owl	0		0	1	100	
Saw-whet Owl	0		0	1	100	
Northern Shrike	0		0	1	100	

I encountered a number of problems studying winter flocks, particularly when the birds were unmarked. In many cases it was difficult or impossible to determine whether birds foraging in the same place were actually part of a foraging flock or whether they were simply there by chance or because of a mutually desirable resource. A major test of whether birds constitute a foraging flock is whether they move as a group. In many cases, however, the birds were sedentary during the time I had available, so I had to guess if they were flock members. For example, in several instances where Ruffed Grouse were in the same area as a flock of chickadees, I did not include the grouse in the flock. Flocks are not always stable (Butts 1931). Individual birds, particularly territorial species or family units, may join a flock while the flock is in their territory, then drop out or join another flock. Another problem is

Table 2. Numbers of species and individuals per flock.

Number of species per flock	Number of flocks	Percent of total flocks	Number of individuals per flock	Number of flocks	Percent of total individuals in all flocks
1	271	56	2	316	27
2	110	23	3	92	12
3	58	12	4	69	12
4	24	5	5	42	9
5	14	3	6	26	7
6	3	1	7	22	6
			8	17	6
			9	16	6
			10	6	3
			11	6	3
			12	2	1
			13	6	3
			14	1	1
			15	1	1
			16	0	0
			17	0	0
			18	1	1
			19	0	0
			20	2	2
			21	0	0
			22	0	0
			23	1	1
			24	0	0
			25	0	0
			26	0	0
			27	2	2

uncertainty about flock size since it is possible to encounter the tail end of a flock and not see all the birds. Or you may hear and count birds of vocal species while missing the occasional silent bird. Despite these problems, some interesting patterns emerged from the data on the 480 flocks I observed.

In my observations the number of flocks diminished as the number of species increased (Table 2). Single species flocks constituted the majority of flocks (56%). The largest number of species per flock was six, 1% of total flocks (Table 2). In northern winters the number of species tends to be low as is the resource base. I suspect that the number of species per flock in my area was restricted not just by limited resources but by the numerous bird feeders in nearby backyards. Several studies have found that supplemental food causes mixed-species flock size to diminish, and more birds are seen in single-species flocks or as solitary individuals (Grubb 1987, Székely et al. 1989). In my census the predominance of single-species foraging flocks and the mixed-species flocks with low numbers of species were consistent with these studies.

The mixed-species flocks were dominated by a few core species, the expected species in a New England forest in winter (Wilson 1996). Black-capped Chickadees were present in 83% of mixed-species flocks, Tufted Titmice in 47%, White-breasted

Nuthatches in 39%. Downy Woodpeckers, Brown Creepers, and Golden-crowned Kinglets were also present in a substantial number of flocks. Golden-crowned Kinglets were an interesting case. Although they were present in only 21% of the mixed-species flocks, they were actually considerably more common most years. An ice storm in January 1976 apparently killed the entire local population. Although Golden-crowned Kinglets had been recorded in every census prior to 1976 (in December and early January), they were not recorded again until January 1983, an absence of five years. They recovered in subsequent years, and in the last full winter of the study, 2000–2001, they were present in nine of twelve mixed-species foraging flocks (75%).

The common species of these winter flocks have substantially different foraging methods; for example, they may use different tree species or parts of trees (Wilson 1970). Downy Woodpeckers are probers, while chickadees are primarily gleaners. Hence, they tend to partition the available resources. Species may also adjust their foraging behavior, presumably to minimize hostile interactions (Morse 1970). An experimental study demonstrated that Downy Woodpeckers use chickadees and titmice as sentinels (Sullivan 1984). Thus these woodpeckers may be gaining an antipredator advantage from participating in mixed species-flocks.

During my census, a number of species were found to be especially common in flocks. For example, juncos were seen in flocks 97% of the time, chickadees 95%, titmice 90%, kinglets 84%, and waxwings and Evening Grosbeaks 100% of the time, although sample sizes were small for the latter two species (Table 1). Conversely, several species were rarely found in flocks. For example, Hairy Woodpeckers were seen as single birds 95% of the time; Hermit Thrushes 71%, and Ruffed Grouse 60%. Hermit Thrushes and Ruffed Grouse, which differ substantially in foraging methods from core species, were present in low densities. These species probably find food in patches rather than follow a pattern of wide area searches. In winter, Hairy Woodpeckers have been reported as generally solitary or in loosely associated pairs (Jackson et al. 2002). These reports are consistent with my observations. Hawks and owls were found as singles 100% of the time with the exception of one Northern Goshawk sighting, where two birds, an adult and an immature bird, were seen together, an unusual winter occurrence. Raptors, mostly large, aggressive predators, gain little advantage for predator detection and in most situations do not require many eyes to obtain food.

In conclusion, the results of this twenty-six year study are consistent with other studies of flocking behavior in winter birds in northern latitudes. The absolute numbers of birds foraging in the forest is relatively small, presumably as the result of harsh conditions and limited food availability. For example, in twenty-eight of the 338 census runs (8.2%) no birds were observed at all, and the average number of the most common species, the chickadee, was 2.52 per hour. The presence of numerous bird feeders (the numbers varied through the twenty-six years of the study) immediately adjacent to the forest study plot probably substantially increased the numbers of birds present in the neighborhood — feeders do draw birds (Wilson 1996) — and the presence of this supplemental food may have affected the size and composition of both mixed-species and single-species flocks. How feeders affect the absolute numbers of birds in a forest is problematic. Feeders may draw birds away from the

forest, or they may actually attract an unnaturally large concentration of birds to the area. 

Literature Cited

- Berner, T. O., and T. C. Grubb, Jr. 1985. An Experimental Analysis of Mixed-species Flocking in Birds of Deciduous Woodland. *Ecology* 66: 1229–36.
- Butts, W. K. 1931. A Study of the Chickadee and White-breasted Nuthatch by Means of Marked Individuals. *Bird-Banding* 2: 1–26.
- Condee, R. W. 1970. The Winter Territories of Tufted Titmice. *Wilson Bulletin* 82: 177–83.
- Davis, W. E., Jr. 1978. Maple-Pine-Oak Second-growth Forest. Thirtieth Winter Bird Population Study. *American Birds* 32: 23.
- Davis, W. E., Jr. 1996. Maple-Pine-Oak Second-growth Forest. (Winter Bird-Population Study). Resident Bird Counts, *Journal of Field Ornithology Supplement* 67: 15–16.
- Goldman, P. 1980. Flocking as a Possible Predator Defense in Dark-eyed Juncos. *Wilson Bulletin* 92: 88–95.
- Grubb, T. C., Jr. 1987. Changes in the Flocking Behaviour of Wintering English Titmice with Time, Weather and Supplementary Food. *Animal Behaviour* 35: 794–806.
- Jackson, J. A., H. R. Ouellet, and B. J. S. Jackson. 2002. Hairy Woodpecker (*Picoides villosus*). In *The Birds of North America*, No. 702 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia.
- LaGory, K. E., M. K. LaGory, D. M. Meyers, and S. G. Herman. 1984. Niche Relationships in Wintering Mixed-species Flocks in Western Washington. *Wilson Bulletin* 96: 108–16.
- Morse, D. H. 1970. Ecological Aspects of Some Mixed-species Foraging Flocks of Birds. *Ecological Monographs* 40: 119–68.
- Sibley, D. A. 2000. *The Sibley Guide to Birds*. New York: Alfred A. Knopf.
- Smith, S. M. 1976. Ecological Aspects of Dominance Hierarchies in Black-capped Chickadees. *Auk* 93: 95–107.
- Sullivan, K. A. 1984. The Advantages of Social Foraging in Downy Woodpeckers. *Animal Behaviour* 32: 16–22.
- Székely, T., T. Szép, and T. Juhász. 1989. Mixed Species Flocking of Tits (*Parus* spp.): a Field Experiment. *Oecologia* 1989: 490–95.
- Wilson, H. 1996. The Impact of Bird Feeding on Wintering Birds. *Bird Observer* 24: 17–22.
- Wilson, M. F. 1970. Foraging Behavior of Some Winter Birds of Deciduous Woods. *Condor* 72: 169–74.

William E. Davis, Jr. (Ted) is Professor Emeritus at Boston University, where he taught biology and physical science for thirty-eight years. He is an ornithologist with research interests in foraging ecology and the history of ornithology, specializing in Australian birds. He is past president of the Nuttall Ornithological Club, the Association of Field Ornithologists, the Wilson Ornithological Society, and Bird Observer of Eastern Massachusetts, Inc. An artist as well, Ted is in charge of cover art for Bird Observer. He thanks John Kricher and Jim Berry for their helpful comments on the manuscript.

First Massachusetts Nesting Record for Merlin (*Falco columbarius*)

Matt Pelikan, Allan R. Keith, Lanny McDowell, and Susan B. Whiting

This article details what we believe to be the first documented nesting by Merlins (*Falco columbarius*) in Massachusetts. A pair of Merlins, nesting in Chappaquiddick, Edgartown, Dukes County, succeeded in fledging at least two and possibly three young during the summer of 2008.

The Merlin is a common fall migrant on Martha's Vineyard and nearby Chappaquiddick Island, a regular but less numerous transient in spring, and an irregular winter resident in small numbers (Whiting and Pesch 2007). The species is recorded most years on the Vineyard's Christmas Bird Count. Island records between late May and mid-August are sparse or nonexistent however, and Merlins have never been known to breed on the Vineyard nor, as far as we know, anywhere else in Massachusetts (Veit and Peterson 1993).

The nesting pair was first noticed and identified by Mary Adelstein and her niece Margaret Fowle in late June 2008, when they arrived at their seasonal home on Chappaquiddick. Adelstein and Fowle noted one male and one female bird vigorously defending a territory on an adjacent property, growing agitated, calling incessantly, and occasionally swooping at interlopers. The two properties and the area defended by the Merlins are dominated by fairly large pitch pines (*Pinus rigida*), with a sparse understory, on an east-facing slope that runs down to the western shoreline of Caleb's Pond.

By July 2, Adelstein was concerned the birds' breeding would be threatened when the arrival of the human owners of the property caused more frequent disturbance. She called one of the authors (Pelikan), providing a convincing description of a strongly territorial pair of Merlins and asking for suggestions on how to mitigate the impending bird/human conflicts. Pelikan could recommend little more than an appeal to the homeowners to spend as little time as possible within the birds' "defense perimeter." Aware that Merlins had never bred in the Bay State, he took the first ferry to Chappaquiddick the following morning and met with Adelstein at about 7:30 a.m. to visit the site.

As advertised, a female Merlin and a smaller, grayer adult male greeted Pelikan and Adelstein aggressively, circling them, calling relentlessly. Both birds were in sight simultaneously for part of the time; Pelikan managed a poor but identifiable photograph of the female. No nest was evident, and the observers retreated after about five minutes. Over the next few days, the other authors visited the site on several occasions, their visits eliciting the same aggressive display (Whiting 2008a). Sometimes only one bird was observed. McDowell was able to take good photographs of the female.

Adelstein reports that the birds continued their defensive behavior for another month, but evidently tolerated human disturbance well. Sometime in late July, following a particularly noisy day or two, at least four birds were present, with none being recognizable as the adult male. Moreover, some of the birds were exhibiting begging behavior and weak flight typical of recently fledged young (Fowle works in Peregrine Falcon conservation in Vermont and is familiar with these behaviors in young falcons).

On August 1, Whiting and McDowell observed a presumed Merlin fledgling that “hopped along the pine bough it was on, [rather than walking or sitting still] as the adult had done in July. When this brown plumaged bird flew, the flight was very fluttery, not the steady, strong flight of an adult Merlin” (Whiting 2008b). McDowell obtained good photographs of what may have been the same bird. The following day, raptor researchers Rob Bierregaard and Dick Jennings observed at least three birds, one of which begged for food (Whiting 2008b). Adelstein reports that the defensive behavior of the birds rapidly diminished around this time, and they began to disperse from the area around mid-August.

Wanting to keep disturbance of these birds to a minimum, the authors were unable to conclusively locate the nest used by the birds. However, Keith, Adelstein, and Fowle each independently noted an apparent old crow nest composed mainly of twigs, about twenty-five feet up in a pitch pine canopy, in the area most intensely defended by the birds. The nest is on the side of the property that is closest to the open shoreline of Caleb’s Pond. This nest offers the combination of “easy access with maximum concealment of the nest” that Sieg and Becker (1990) found Merlins in Montana to prefer. Warkentin and James (1988) found that conifers — always preferred by Merlins — were especially strongly selected by those nesting in urban areas and consequently subject to greater human disturbance. The nest observed on Chappaquiddick, if it was in fact the one used by the Merlins, would represent a typical nest site choice.

Our difficulty pinpointing an active nest suggests that even as this species grows more likely to tolerate or even exploit areas of human settlement, it retains a healthy cautiousness and desire for concealment. However, even without observations of the birds at the nest, we feel that the presence of more than two birds and our observation of begging behavior clearly demonstrates that successful nesting occurred.

Juvenal and adult female plumages are notoriously difficult to distinguish in this species. We include some of McDowell’s August 1 photographs of a putative juvenile Merlin (Figure 1) in the hope that readers more knowledgeable than ourselves may be able to age the bird conclusively. Temple (1972), based on a study of specimens of known age and sex, offers one definitive criterion for aging, which unfortunately is not visible in McDowell’s photographs: unlike adult females, juvenile Merlins lack contrast between a “slate-brown” rump and upper tail coverts and a “brown” back.

However, plumage provides some evidence that the photographed bird is freshly fledged. Merlins undergo a single annual molt extending from April into late September, with a wing feather molt beginning in July (rarely June) and continuing



Figure 1. Images of the putative juvenile Merlin (top 4 photos, taken on August 1, 2008) and of the female adult (bottom 2 photos, taken on July 4, 2008) by Lanny McDowell.

sometimes into November (Bent 1938). Therefore an adult in early August should show either very worn flight feathers or incomplete or unevenly aged feathers characteristic of a molt in progress. To our eyes, the bird in the photograph shows uniformly fresh remiges and hence must be a bird of the year in juvenal plumage.

One rectrix appears either broken or incompletely grown, and the end of the tail appears somewhat worn. This may be the result of wear incurred while in the nest. “Cinnamon” coloration of the underparts, mentioned by Bent (1938) as characteristic of juvenal plumage, may no longer be considered a valid trait for aging, though it appears prominently in McDowell’s photographs. And in one picture, the bird seems to show signs of down still projecting past its body feathering. Temple (1972) further shows that juvenile Merlins can be sexed by the color of the narrow, pale bands in the tail, which are pale gray in males, buffy in females. All in all, we think McDowell photographed a juvenile male.

While this instance of nesting may seem preposterously remote from the core breeding range of the Merlin, generally thought of as extending north almost to tree-line and including New York and New England only at their northern extremes (e.g., Konrad 2004), we think this impression is mistaken for two reasons. First, there is evidence that Merlin numbers are increasing in the East and that the breeding range of this species is expanding southward. Second, a clear pattern has emerged of widely scattered breeding records by isolated pairs far outside the “official” breeding range.

A recent Conservation Status Report issued by Hawk Mountain cites a range of statistics showing a steady increase in Merlins in the region over recent decades (Hawk Mountain 2007). *North American Birds* 60 (4) reports “a Merlin nest that fledged 3 or 4 young at Keene, *Cheshire*, NH 14 Jul [2006] . . . well south of previous New England nesting attempts” (Petersen 2007) and predicts, correctly as it turns out, that “[w]ith their current range expansion, these feisty little falcons could be nesting in southern New England before the end of this decade.” In that same issue appears a report of the first breeding by Merlins in Pennsylvania, in McKean County (Fazio and Wiltraut 2007). *North American Birds* 61 (4) reports successful nesting by Merlins in 2007 at two sites in the Pennsylvania mountains, Eaglesmere (Sullivan County) and Promised Land State Park in Pike County. Also in the same issue, Brinkley (2008), in a discussion of avian range expansions, notes that:

Merlins have turned out to be nesting in upstate New York, and summering Merlins have turned up in Ohio, Virginia, North Carolina and adjacent states with increasing frequency. This expansion closely follows the movement of nesting Merlins into suburban and urban areas of the Midwest and northern Great Plains. The Pocono birds are the southernmost nesters known anywhere; but could the mountains of Maryland or West Virginia shelter a pair or two?

We think it entirely possible.

Another factor that tempers our surprise is how much the Chappaquiddick breeding site has to offer, from a Merlin’s perspective. Sparsely settled,

Chappaquiddick generally offers a productive mix of woods, farms, grassland, scrub, and shore, with large amounts of the edge habitat Merlins prefer for hunting. The nesting site is a very short flight from the numerous feeding stations and ample House Sparrow population of downtown Edgartown (this unpopular introduced finch is known to be a favorite target of the Merlin [Konrad 2004]). In the other direction, the pitch pine, oak thickets, coastal scrub, and restored grassland of Wasque Reservation (Trustees of Reservations) furnish tried-and-true Merlin habitat during migration; Wasque is arguably the easiest place in Massachusetts to find this species during passage, with one to five birds almost invariably perched on a tree or snag on the grassland.

The beach and pond system along Chappy's eastern shore, also just a short flight away from the nesting site, attracts numerous small shorebirds. And the marsh, pond shore, coastal scrub, and pine stands immediately around the nesting site are typical of most of the island in supporting numerous breeding Eastern Towhees, Pine and Prairie warblers, Blue Jays, Northern Flickers, assorted icterids, and other Merlin prey.

With an incubation period of between twenty-eight and thirty-two days, and with thirty to thirty-five days needed to fledge young (Ehrlich *et al.* 1988), the late July fledging date suggests that eggs were laid at the very end of May. This corresponds well with the egg dates Bent (1938) provides for eastern Merlins in the southern part of their range (predominantly late May and early June). Given the pattern of range expansion and the quality of the local habitat, a pair of Merlins lingering at Wasque into late spring, and then attempting to breed, begins to look not so much bizarre as overdue. We do not think that Massachusetts birders will need to wait long for a second pair of Merlins to breed in the state.

The authors thank Mary Adelstein and Margaret Fowle for their alertness and careful observations and the Dvorak family for minimizing disturbance of the Merlins nesting in their yard. We gratefully acknowledge Rob Bierregaard's assistance in interpreting Merlin behavior. 

Lierature Cited

- Bent, A. C. 1938. *Life Histories of North American Birds of Prey*. Smithsonian Institution Unites States National Museum *Bulletin 170* (Repr. Dover 1961).
- Brinkley, E. 2008. The Changing Seasons: Southbound. *North American Birds* 61: 550-56.
- Ehrlich, P., D. Dobkin, and D. Wheye. 1988. *The Birder's Handbook*. New York: Simon and Schuster.
- Fazio, V., and R. Wiltraut. 2007. Eastern Highlands and Upper Ohio River Valley. *North American Birds* 60: 525-26.
- Hawk Mountain. 2007. Conservation Status Report: Merlin. http://hawkmountain.org/media/merlinCSR_June07.pdf, accessed September 22, 2008.
- Konrad, P. M. 2004. Effects of management practices on grassland birds: Merlin. Northern Prairie Wildlife Research Center, Jamestown, ND. Northern Prairie Wildlife Research Center Online. <http://www.npwrc.usgs.gov/resource/literatr/grasbird/merl/merl.htm> (Version28MAY2004). Accessed September 22, 2008.

- Petersen, W. R. 2007. New England. *North American Birds* 60 (4): 504-07.
- Sieg, C. H., and D. Becker. 1990. Nest-site Habitat Selected by Merlins in Southeastern Montana. *Condor* 92: 688-94.
- Temple, S. 1972. Sex and Age Characteristics of North American Merlins. *Bird Banding* 43: 191-96.
- Veit, R. R., and W. R. Petersen. 1993. *Birds of Massachusetts*. Lincoln, MA: Massachusetts Audubon Society.
- Warkentin, I., and P. James. 1988. Nest-site Selection by Urban Merlins. *Condor* 97: 734-38.
- Whiting, S. 2008a. Bird News. *Vineyard Gazette*, July 11, 2008.
- Whiting, S. 2008b. Bird News. *Vineyard Gazette*, August 8, 2008.
- Whiting, S., and B. Pesch. 2007. *Vineyard Birds II*. Edgartown, MA: Vineyard Stories.

Matt Pelikan is the Islands Program Director for The Nature Conservancy's Massachusetts chapter. A lifelong birder and a resident of Martha's Vineyard since 1997, he is a former editor of *Bird Observer* and the American Birding Association's newsletter, *Winging It*. **Allan Keith** was born and raised in Brockton, MA. He started birding in 1951 and immediately became fanatical. He did graduate work in Zoology at Yale. He is an elective member of the AOU, and a Trustee of the Nuttall Ornithological Club and the Wilson Ornithological Society. He is the author of two BOU West Indies island monographs (1997, 2003) and of a book on the biodiversity of Martha's Vineyard (2008). He has lived on Martha's Vineyard since 2000. **Lanny McDowell** has been a Vineyard resident since 1970, with occasional excursions into the rest of the world. Recently he established *LannyMcDowellAvianArt.com*, an online outlet for his bird photos as museum quality prints. His photos appear in numerous publications, slide shows, and presentations and are regularly in the *Vineyard Gazette*, which also publishes his occasional feature article on avian subjects. A life-long Vineyarder and naturalist, **Susan ("Soo") B. Whiting** is the co-author (with Barbara Pesch) of *Vineyard Birds II: Where and What to See on Martha's Vineyard*. (2007). She also writes a weekly bird column in the *Vineyard Gazette*. Soo is known to international birders as the owner/operator of *Osprey Tours*. She has birded extensively in Florida and has served as the vice president of the Florida Ornithological Society.



TURKEY VULTURE BY DAVID LARSON

ABOUT BOOKS

Querencia!

Mark Lynch

Lost Land of the Dodo. Anthony Cheke and Julian Hume. 2008. T & A D Poyser. London, Britain.

Beguiled by Birds: Ian Wallace on British Birdwatching. Ian Wallace. 2004. Christopher Helm. London, Britain.

Vineyard Birds II: Where and What to See on Martha's Vineyard. Susan B. Whiting and Barbara B. Pesch. 2007. Vineyard Stories. Edgartown, Massachusetts.

The Paradise of All These Parts: A Natural History of Boston. John Hanson Mitchell. 2008. Beacon Press. Boston, Massachusetts.

For years now I have been interested in the question of what the Spanish call *querencia*, which, loosely translated, means something like sense of place, or a personal intimacy with a singular region.

– p. xi *The Paradise of All These Parts* by John Hanson Mitchell

The pleasures of armchair birding are as considerable as they are relatively inexpensive. Pick up a book by a talented writer and for a while you can be whisked off to the natural history delights of some distant land or time. I am indebted to John Hanson Mitchell for introducing the term “querencia” to me, because this ineffable quality is crucial to writing a great regional natural history. As Mitchell elaborates:

Those with a strong feeling of querencia will know the weather of their country, will know the dates of the arrivals and departures of local migratory birds, and the flowering of trees and shrubs. They will be familiar with the courses and names of the local rivers and streams, the dates of the seasonal passages of fish and the location of hidden animal trails, of dens, swamps, hollows, cliffs, and odd boulders or outcroppings. Furthermore, they will know that certain sites within their terrain exhibit almost mystical emanations.

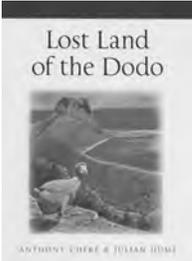
– p. xi *The Paradise of All These Parts* by John Hanson Mitchell

In recent noteworthy books like Barbara Hurd's collection of essays *Walking the Wrack Line* or Bernd Heinrich's autobiography *The Snoring Bird*, there is a palpable sense of place and time more complex and meaningful than any photograph could capture. These writers are masters of querencia and it is this quality that separates the great writers from the workaday scribblers.

Below are four volumes that are about place and birds.

Barely does a cloud-gap, sparkling and blue,
Let one glimpse on a patch of pure sky
The flight of tropicbirds towards Rodrigues or Ceylon,
Like a snowflake lost in the azure.

– *La Ravine Saint-Gilles* by Charles-René-Marie Leconte de Lisle, 1857, quoted on p. 274 of *Lost Land of the Dodo*.



Ever since I was a youngster and read the brief account of the demise of the Dodo in Roy Chapman Andrews' *Nature's Way: How Nature Takes Care of Its Own*, I have been intrigued by the endemic life of far-flung isles. This even affected my nascent philatelist passions and caused me to seriously covet a Mauritius 60 Cent because it had a Dodo on it. While there have been numerous detailed accounts of the extinct or rare birds and the giant tortoises and vanishing lizards of the Mascarene Islands, only *Lost Land of the Dodo* weaves all these threads together to

create a compelling and complete natural history of these fabled isles.

Anthony Cheke is well suited to recount the peculiar and tragic history of the islands of Mauritius, Réunion, and Rodrigues. He led the British Ornithological Union expedition to the Mascarenes in 1973. At this time he began his studies of endangered birds on the three islands. In 1978, he returned to capture endangered bats and birds for captive breeding. Since 1982 he has run a bookshop called Dodo Books in Oxford with his wife Ruth Ashcroft, a former ecologist, and remains involved with the ecological history of the Mascarenes. *Lost Land of the Dodo* is the culmination of his life's work and passion.

Referring to Mauritius as the “island where extinction not only occurred, but where it was, so to speak, discovered” (p. 6), Cheke compares the natural wonders of the Mascarenes prior to human discovery to a series of alien planets, each of which have their own peculiar and irreplaceable life-forms.

This book tells the story of three such ‘planets’ — islands far out in the Indian Ocean that escaped the heavy hand of man until fewer than 500 years ago. Their history is more complete than most because their despoilers took good notes. We have a lot to learn from what they recorded. (p. 7)

What follows is a massive, scholarly but still engaging account of the destruction of the natural history of the Mascarenes. As an indication of how thoroughly researched this book is, 176 pages, of the book's total of 464 pages, are devoted to detailed chapter notes, appendices, and a bibliography. There is no doubt that this is a definitive and important work. The book is profusely illustrated, including a number of wonderful color plates by Julian Hume that show the key species of the islands in their natural habitats.

On Mauritius, the absence of large predators allowed a number of bird species to evolve flightlessness or very terrestrial lifestyles. The only dedicated predators were an owl, a harrier, a kestrel, and two snake species. The iconic Dodo is well known to

most, but other lesser-known bird species were just as fantastic. The huge Raven Parrot (*Lophopsittacus mauritianus*), called “Indian Crow” by the Dutch, was likely not flightless as is generally described in other books, but spent much of its time on the ground searching for food. Its absurdly massive bill allowed this stygian parrot to crack the hardest of palm nuts. This species also exhibited the greatest size sexual dimorphism known in any parrot. But because it was large and easy to catch, it was doomed. Hunting combined with deforestation and introduced monkeys and rats caused the Raven Parrot’s extinction by the late seventeenth century. Cheke notes how odd it is that no enterprising sailor ever brought a Raven Parrot back to Europe because, unlike the Dodo, most of what we know about this bird is based on a handful of contemporary descriptions and a single drawing done in 1601. Gone also are other species of parrots, endemic herons, rails, doves, and songbirds, many lost with only a brief but tantalizing written description or poor drawing left to let us know it ever existed. There are at least some extant specimens of the crested Hoopoe Starling (*Fregilupus varius*), which managed to live alongside other introduced species until the last half of the nineteenth century, only to suddenly vanish forever.

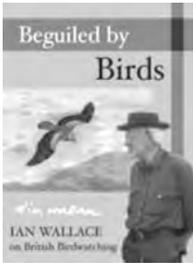
But it was not just the birds that vanished from these Indian Ocean islands. Other plant and animal species also soon disappeared after contact with humanity. “The Mascarenes, particularly Mauritius, once harbored one of the most diverse oceanic lizard faunas anywhere. Unfortunately, little attention was given to these reptiles during the early years of Mascarene history and many had become extinct before being formally described.” (p. 242)

Though a handful of species like the Echo Parrot (*Psittacula eques*) were brought back from the brink of extinction and miraculously survive today, *Lost Land of the Dodo* is predominately the sad story of the irretrievable loss of the unique and marvelous. Recent introductions of non-native parrots and geckos on Mauritius may still pose a threat to the remaining native wildlife. *Lost Land of the Dodo*’s ultimate achievement is to so thoroughly and passionately describe the life and ecosystems of the Mascarenes that the reader keenly feels the loss of the native life of these fabled islands. This is an important history of the end result of wanton habitat destruction combined with the careless introduction of non-native species, something we can witness every day in our own backyards.

For me, half Lowland, half Highland Scot, sporting some heady drops of illegitimate Stuart blood, Parry’s tune to Blake’s Jerusalem is altogether too English-triumphant but the verses do supply three apt titles for my main stations with birding and the human activities that they provoked.

Beguiled by Birds (p. 6)

Stuart, Blake, Parry, and birding? This is ground zero for hardcore birders who are also unapologetic anglophiles. No other geopolitical entity is as identified with the history, spirit, and sport of birding as Britain. Prolific writer, artist, dedicated birder, and renowned commentator on the avocation, Ian Wallace is the perfect choice to write this history of ornithology, birding, and birders of that island nation. His credentials are extensive. Wallace was a former editor of the “master journal” *British*



Birds, former Chairman of the British Birds Rarities Committee, and a founder/contributor to the groundbreaking *Birds of the Western Palearctic*. There is not an important person in British ornithology and birding in the last half of the twentieth century that Wallace has not met, worked with, or birded with. And being a rebellious Scot, he is not afraid to let his opinions of his fellow countrymen and women fly, and this is what makes *Beguiled by Birds* as entertaining and it is informative. This is social history at its most pleasurable.

Beginning in prehistory, this pleasantly rambling and digressive account rapidly moves into recent times, and every aspect of ornithology and birding is covered. Specific events like the beginnings of British Birds or the organization of the rarities committees receive the full “Wallace treatment.” His chapter on “Ornithological Shysters” centering around the infamous “Hastings rarities” kefluffle is enlightening as well as fair and balanced. But it is when Wallace is writing from a personal perspective about the more important sea changes in birding that have occurred over the decades that *Beguiled by Birds* is most interesting. These would include the changing relationship between the scientific ornithologists and the amateur birders, the rise of the great ringing stations, the challenges and opportunities of birding during the war, and the ultimate change in the spirit of birding that has come with better optics and more detailed field guides. Of course Wallace delights in the numerous quirky tales that dot the fabric of the history of British birding:

The successful chase for a rarity can be a feast in more ways than one. Britain’s third Houbara Bustard appeared on Clubleys Field near the Spurn Peninsula on the 17th October 1896 and survived a poorly aimed first shot on that day. Alerted presumably by early telephone, W. Eagle Clarke and H.F.W Witherby traveled up to 240 miles by unrecorded means to watch it through binoculars on the following day but made no attempt to prevent an eventual lethal fusillade from G.A. Clubleys. Witherby went home but Eagle Clarke and John Cordeaux further celebrated the event by dining on the body. They “found the flesh dark and tender, tasting of wild goose with a savour of grouse.” (p. 53)

This is also a literary history of the field, and Wallace fondly recalls the numerous early bird books that stoked his youthful passion. Though most of these titles are familiar to British birders, Wallace’s glowing descriptions of treasured books like *Seventy Years of Birdwatching* by H.G. Alexander, *Birds of the Ocean* by W.B. Alexander, or the essential *Handbook of British Birds* by Witherby et al., will tempt American birder-bibliophiles to hunt down their own copies. This is also very much an autobiography, and photos of a young Wallace wandering in Kenya while in the National Service during the Mau Mau uprising or in Jordan on an expedition with James Ferguson-Lees are scattered throughout the text.

The passion and sheer joy of birding is never far from Wallace’s mind. Wallace relishes the memory of returning from a successful tick of a Wilson’s Phalarope at

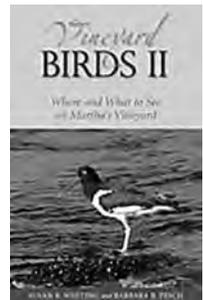
Rosyth, “So back we went, dripping ever more slowly, to take lunch with the cream of Edinburgh business society. My green wellies, peeking out from now drying and shrinking trousers, produced on the face of the headwaiter a look that no twitcher could ever imagine. Ah, the days of purely accidental rarity collection but purposefully stylish celebration, they were splendid.” (p. 98)

Beguiled by Birds is an opinionated, thorough, meandering, passionate, and delightful history of British birding. It is also profusely illustrated, including a large number of small paintings by the author. If your heart skips a beat when you hear the word “dunnock” or you dream of finding a flock of migrant Dotterels on the local football pitch, this is a must-own book.

Residents of Martha’s Vineyard like to claim that their island is unique in all the world. While every place is in some sense unique, this is a claim that can be made more fairly here than in most places. – p. xi Matt Pelikan’s “Foreword” to *Vineyard Birds II*

A good regional annotated species list is a kind of minimalist portrait of a place, especially when that list is as remarkable as that of Martha’s Vineyard. Personally, I can count quite a number of great birding experiences and outstanding state “ticks” that I have witnessed on that island. These would include such luminaries as Red-billed Tropicbird, Northern Lapwing, Burrowing Owl, and of course the Red-footed Falcon. For an off-islander this sublime “huge pile of sand” is just far enough offshore to insure that every trip is a special one, yet still close enough to the mainland that a single-day jaunt over to see some newly discovered specialty isn’t a crazy idea. Spend a weekend on the Vineyard at the peak of fall migration, and you’ll become hooked on birding the island.

Vineyard Birds II is an updated and revised edition of the original volume published twenty-four years ago by the same two authors! A brief introduction nicely summarizes the changes that have occurred since the first book. It is no surprise that the most serious changes are the inevitable loss of habitat. This is followed by a brief but important foreword by Matt Pelikan that describes the birding year on the island. There is a single page listing of the major birding spots on the island, followed by a habitat guide to a few of the common species. This latter section is geared for the beginner birder. A nice map to the key birding locations is found under the front cover.

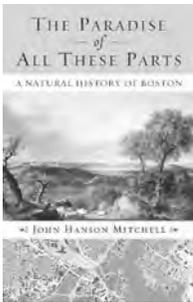


The bulk of *Vineyard Birds II* is a concise but complete annotated listing of all species that have been recorded on the island as of 2007 and their changing status since the last book. Included are a few problematic listings such as the “large fork-tailed swift” seen by Keith and Daniels on July 14, 1996, and the Sulfur-bellied/Streaked Flycatcher found in 1983. In every case, the decisions of the Massachusetts Avian Records Committee are taken into account even if the authors disagree with the committee’s decision. Though the Vineyard continues to accrue a growing list of uncommon migrants and outstanding vagrants, the status of breeding

species is more of a mixed bag. While Tree Swallow, Pine Warbler, and Common Yellowthroat are still common breeders, other species like Grasshopper Sparrow are in serious decline. Still others like Marsh Wren and Black-throated Green Warbler have ceased to breed here altogether. But overall, many of this small island's nesting species are holding on despite a mind-blowing onslaught of summer tourists and almost unstoppable development. That there is any unclaimed land left on the island is thanks in a large part to the growing conservation concerns by long-time residents.

Do not expect an anecdote-filled opinionated book like *Beguiled by Birds*. That is not the authors' intent. This is a book to be used in the field. *Vineyard Birds II* is a marvel of economy, thorough but to the point, it accomplishes its simple goal handily: these are the birds that have occurred on Martha's Vineyard, where, when, and how commonly. It is a must-have for any state birder.

Boston was settled by a highly literate people and for this reason happens to be one of the best-documented places in the United States as far as politics, religion, war, philosophy, literature, art, music, and architecture are concerned. Curiously, however, one of the least-documented aspects of the city's history is the actual nature of the place. This is an odd omission. The city would not exist were it not for its deep-water harbor and navigable rivers, its sharp hills underlain by water-bearing gravel beds, its abundance of fish and waterfowl and its nearby wooded hills. *The Paradise of All These Parts* (p. xii-xiii)



John Hanson Mitchell begins his history of the natural history of Boston by attempting to walk the perimeter of the original “tadpole shaped” Shawmut Peninsula the Pilgrims and Puritans discovered when they landed. This is an almost impossible task since most of the peninsula's outline is now unrecognizable and obliterated, and its imaginary contours now lay across highways and under buildings. No matter, Mitchell loves to walk, and while he is walking the reader is treated to his complex and personal take on the natural history of this particular piece of the coast from prehistoric times to the sinking of the central artery.

The human history of the Shawmut begins with the Paleo-Americans of whom we know little. Much later came the woodland Indians, like the Narragansett Squaw Sachem, who signed the deed to the land over to the Puritans. The native Americans' relationship with the forest and its denizens was complex and subtle, particularly in the way they utilized its natural resources, but there was nothing subtle about how the first Europeans settlers felt about this strip of land with the glacial hills. To them, the wilderness was a dangerous and evil place that needed to be tamed for man to do God's will. Thus began centuries of abuse and pollution of Boston. The Boston Common quickly became an overgrazed barren, covered with refuse and dead animals creating a distinctly unholy stench. Later, a gallows occupied this sorry wasteland. Fens and marshes became the places to empty privies and dispose of slaughterhouse offal. It was a time of “out of sight, out of mind.”

By the mid-1800s, the idea of the “Ring of Green” began to percolate, and with the inspiration and direction of landscape architect Frederick Law Olmstead and the local Brahmins, green spaces and parks were restored and created at a breathtaking rate, and organizations hell bent on the preservation of open wild space sprang into being, including the venerable Trustees of Reservations. Treasured urban birding locations like Franklin Park, Arnold Arboretum, the Middlesex Fells were set aside at this time, and even the Common was cleaned up and made presentable to contemporary Bostonian sensibilities.

With the twentieth century came the creation of Storrow Drive in 1949 and its associated “cynical obliteration of Olmsted’s riverside park” (p. 181). This was followed quickly by the expansion of the airport and the destruction of Olmstead’s beloved Woodland Park. The Boston Redevelopment Authority had taken charge of the city’s future by the 1960s, and the phrase “The New Boston” was on everyone’s lips. Suddenly, it seemed, all the places thought safely preserved for future generations were up for development. It was an era described as the “urban character assassination” of Boston. But out of this dark period of Boston’s natural history came a new and determined sense of preservation that we still see today.

The author tells this complex story by following several threads through time that include his own long personal history in the city. Mitchell’s descriptions of his own walks around Boston at different times of the year routinely digress into entertaining snippets of history or expositions on biology or geology. He is always outdoors, always on the move, talking to any passerby he bumps into. Almost flirting with a bikini-clad lass along the shore, Mitchell talks about local species of jellyfish. Another time he trades tales of giant rats and other urban wildlife with a group of homeless people in an alley. Mitchell also uncovers some of the lesser-known green treasures of Boston like tiny Woodhaven Park in Mattapan, which offers a rare glimpse into the city’s geological history, including outcroppings of Cambridge argillite and Roxbury puddingstone.

There is something reminiscent of the “On the Town” pieces Brendan Gill wrote for *The New Yorker* in the effortless wit, grace, and knowledge of Mitchell’s writing. He combines a clear grasp of the grand sweep of history and geology with an eye for detail. If you have ever enjoyed a morning’s birding in some of the wild spaces left around Boston — scoping eider ducklings around a harbor island or being overwhelmed by a spring warbler wave in Mount Auburn Cemetery — this book will put those experiences into a larger historical context. There is something special about Boston’s wildlife, because against considerable odds and changing fortunes, it has managed to survive and even thrive.

I think what intrigued me the most was that this great primordial turtle and the beautiful hooded merganser and the swifts that flitted past my brother’s attic window, chirping and twittering, on summer evenings seemed all the more wild for having made their way into the heart of the city. I might not have paid much attention to them had I been out in the country. (p. 101) 🐦

Other Literature Cited:

Nature's Way: How Nature Takes Care of Its Own. Roy Chapman Andrews. 1951. Crown Publishers. New York, New York.

The Snoring Bird. My Family's Journey Through a Century of Biology. Bernd Heinrich. 2007. HarperCollins Publishers. New York, New York.

Walking the Wrack Line: On Tidal Shifts and What Remains. Barbara Hurd. 2008. University of Georgia Press. Athens, Georgia.

Vineyard Birds. Susan B. Whiting and Barbara B. Pesch. 1983. Concord Press. Concord, MA.



BLACK-CAPPED CHICKADEE BY GEORGE C. WEST

BIRDERS!

Duck Stamps are not just for hunters.

By purchasing an annual Migratory Bird Hunting and Conservation (“Duck”) Stamp, you contribute to land acquisition and conservation.



Duck Stamps are available for \$15 from U.S. Post Offices, staffed National Wildlife Refuges (where it serves as an annual pass), select sporting goods stores, and at Mass Audubon's Joppa Flats Education Center in Newburyport.

Display your Duck Stamp and show that birders support conservation too.

Bird Watcher's General Store

Featuring: The Amazing AVIARIUM In-House Window Birdfeeder. One-way mirrored plexiglass allows you to watch the birds for hours but they can't see you!

Come see this exceptional birdfeeder in action.



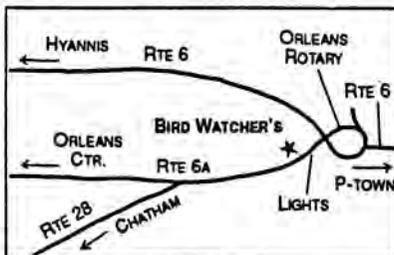
OTHER BIRD-LOVER ITEMS INCLUDE:

- Bird Mugs
- Bird Note Cards
- Bird Carvings
- Bird Field Guides
- Bird Books
- Bird Key Chains
- Bird Jewelry
- Bird Door Knockers
- Bird Telephone
- Bird Houses
- Bird Baths
- Bird Gift Wrap
- Bird T-Shirts
- Bird Photos
- Bird Prints
- Bird Calls
- Bird Recordings
- Bird Potholders
- Bird Towels
- Bird Carving Kits
- Bird Welcome Mats
- Bird Thermometers
- Bird Sun Catchers
- Bird Calendars
- Bird Pillows
- Bird Place Mats
- Bird Mobiles
- Bird Fountains
- Bird Bath Heaters
- Bird Switch Plates
- Bird Puzzles
- Bird Bookmarks

- A complete line of Binoculars, Spotting Scopes and Tripods
- A children's section with birdhouse kits, beginner books, and other fun and educational items

PLUS over 100 different types of bird feeders including Bluejay and Squirrel-proof feeders that work, GUARANTEED, plus ten different types of Bird Seed

GIFT CERTIFICATES & U.P.S. SHIPPING • OPEN YEAR ROUND



Bird Watcher's General Store

36 Route 6A • Orleans, MA 02653

(508) 255-6974

OR

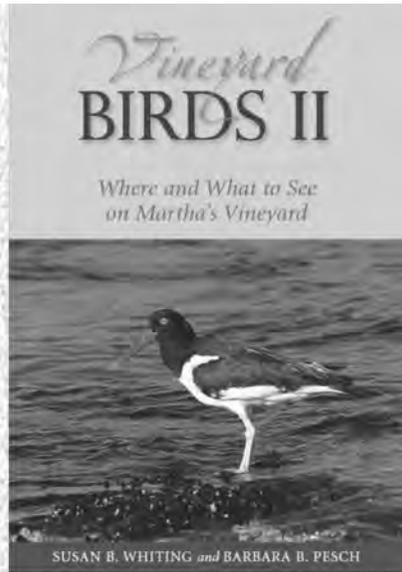
1-800-562-1512

www.BirdWatchersGeneralStore.com

Now, the Latest Look at the Birds Of Martha's Vineyard.

Experts

*Susan Whiting & Barbara Pesch
update records of Island
bird species, describe
habitats where they can be
found, provide a map for those
locations, and include a
checklist of Vineyard birds.*



SUSAN B. WHITING and BARBARA B. PESCH

Photo by Lanny McDowell

\$19.95

Order on-line at
www.vineyardstories.com

Martha's Vineyard Artist & Photographer

Lanny McDowell

offers an artful and distinctive series
of fine art photographic prints.

Visit LannyMcDowellAvianArt.com.

blkwtrbrk@comcast.net

508-696-8826

For birders, by a birder. Great presents!



BIRD SIGHTINGS

July/August 2008

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

July was warm and wet, with an average temperature of 75° in Boston. The temperature reached 90° or higher on four days, with a month high of 95° in Boston on July 19. The combined June-July temperature this year ranks as the fourth warmest in 137 years of record keeping. Rainfall totaled 6.0 inches, about three inches more than average. Sixteen days had measurable amounts of rain, with the most precipitation noted on July 24, when 2.16 inches were recorded. Thunderstorms were noted on nine days, and thunder without rain was noted on an additional four days. Some of these thunderstorms caused a lot of wind damage, and tornadoes were reported in some parts of Massachusetts as well as other New England states.

August was another wet month and also quite cool. The temperature averaged 70° in Boston, 2.3° below average, making it the coolest August since 1964. The high in Boston was 87°, the first August in eight years not to have at least one day at 90° or more. Rainfall was measured at 4.47 inches in Boston, 1.10 inches above normal. The first fall passerine migrants took advantage of northwest winds on August 19, 20, and 26 and on August 31. *R. Stymeist*

WATERFOWL THROUGH ALCIDS

As their appropriate breeding habitat continues to shrink, freshwater breeding ducks in Massachusetts deserve close attention. Plum Island is often the biggest producer of these species, and this summer lived up to that characterization. A maximum of twenty-one adult and thirty-two juvenile Gadwalls were counted there during the reporting period. At least fifty-three American Black Ducks were in that same area during the summer, and the area also hosted healthy numbers of other dabbling ducks. By mid-July the postbreeding aggregations of Common Eiders in Boston Harbor totaled at least 217 birds. A number of immature or juvenile Hooded Mergansers were seen at various locations in central Massachusetts. Noteworthy was a female Common Merganser in Petersham with twenty-four young. All of the typical wintering duck species lingered in our coastal areas including all three scoters, Red-breasted Mergansers, and even Long-tailed Ducks, the latter in Chatham. One of the most interesting lingering ducks was the Ruddy Duck that summered in Chestnut Hill.

This summer the Brookline Bird Club (BBC) again organized intensive pelagic birding trips to the edge of the Continental Shelf south of Nantucket. These trips have always produced exciting finds, and this year was no exception. The trip on August 23 recorded four **Audubon's Shearwaters**, a species that has been a regular visitor to Massachusetts waters, but only to the more distant deep and warm seas. One individual in the shipping channel, however, was unusually close to shore. At least five **Band-rumped Storm-Petrels** were found on the July 19 trip. This was the highest single-day count in the state for this poorly understood species, although the little-explored deep waters of Massachusetts seem to harbor this species with regularity. The July trip's rarities included a **Bridled Tern**, which gave spectacular views as it circled the boat, and two first-summer **Long-tailed Jaegers**. The latter species put on a good show this year, especially in the waters around Provincetown, where as many as three birds were seen occasionally over the beach!

One of the big stories of the summer was the unprecedented number of Cory's Shearwaters throughout the off-shore waters of Massachusetts and in the Gulf of Maine. As many as 475 individuals were seen on Stellwagen Bank in a single day. This influx gave Massachusetts observers an opportunity to try to understand the complex taxonomy of this species. Historically, three subspecies of Cory's Shearwater have been recognized, but Cape Verde Shearwater (*Calonectris edwardsii*) is now treated by the AOU as a species. Rather distinctive, it has been recorded off North Carolina and Maryland; we expect it to be found in Massachusetts before too long. The other two Cory's Shearwater taxa, *C. d. borealis* (our regularly occurring subspecies) and *C. d. diomedea*, or **Scopoli's Shearwater**, present a more of an identification challenge due to apparent variation in published field marks and the subtlety of those characters. Scopoli's Shearwater is very rare in Massachusetts waters, with just two prior records (August 2006 and July 2007), both photographed on BBC pelagic trips. On this year's July trip two individuals photographed over Nantucket Shoals were identified as Scopoli's. This taxon may be reported more regularly in our waters as we become more familiar with its characteristics. At the same time that Stellwagen Bank was hosting these large numbers of Cory's Shearwaters, it also produced as many as 1000 Greater Shearwaters, 270 Sooty Shearwaters, 6722 Wilson's Storm-Petrels, and good numbers of jaegers, with daily high counts of six Pomarine, six Parasitic, and two Long-tailed jaegers.

Great Cormorants are quite rare during the summer in Massachusetts, but occasionally a few individuals, usually young nonbreeders, linger here. This year, two birds were seen in Boston Harbor in mid-July, and another was at Plum Island in early August. American Bitterns were reported individually throughout the state, with most sightings in western Massachusetts. As in most years, the only reports of Least Bitterns came from Plum Island and Great Meadows NWR. The heron roost at Plum Island grew in numbers throughout August and by the end of the month contained at least 125 Great and 188 Snowy egrets. Single Cattle Egrets were discovered in Hamilton on July 21 and Manchester on August 3. Yellow-crowned Night-Herons were reported more widely and more often than usual.

Black Vulture reports included two birds together at Mt. Washington in early July. This species continues to expand in Connecticut and Rhode Island but has not been documented breeding in Massachusetts since 1998. Although Merlins had been steadily expanding their breeding range southward, they had not reached Massachusetts, even in the northern counties. So it was remarkable that the state's first breeding record would come from Martha's Vineyard. Although a nest was not found, a pair at Chappaquiddick Island was aggressively territorial and was later seen with several recently fledged juveniles. Uncommon freshwater marsh birds included two King Rails on Plum Island during July and August and a Common Moorhen at GMNWR from mid-July through the end of August. The American Oystercatchers in Winthrop produced at least a few young this year, with thirteen adults and two young noted on July 2. A **Black-necked Stilt** on Nantucket lingered from June 1, unusual behavior for a species that typically stays only a few days. Sadly, Hudsonian Godwit numbers (along with other species of shorebirds) have shown a dramatic decline in Massachusetts over recent years. The high count of seventy birds at South Beach is down from 160 individuals only twelve years ago! Just as dramatic is the decline of this species in Newburyport, where this year only two birds were noted! In the 1990s, this species came through that area in flocks numbering twenty or more. The first Baird's Sandpiper showed up a bit early on August 13. Plum Island played host to two different Ruffs in early July. Perhaps the rarest shorebird of the season was a Dunlin of the Greenland-breeding subspecies *Calidris alpina arctica*, which winters in the Old World and was well-photographed on South Beach on August 22. This subspecies was collected once in Massachusetts (see Griscom 1937, *Auk* 54: 70-2) on August 11, 1900. More recently, a bird photographed on July 5, 2006 (Nikula and Laux) was suspected as pertaining to the species

arctica, and one adult photographed on July 29, 2007 (Iliff and Garvey), was conclusively identified as such. The 2008 bird may be the same individual returning for its third summer, and these Massachusetts records may be the only well-documented records for the United States! Also present on South Beach on August 22 was a White-rumped Sandpiper x Dunlin, presumably one of the two birds seen intermittently here during the summers of 2007 and 2008. Wilson's Snipe once bred fairly regularly in Massachusetts as far east as Cambridge, but is now nearly unknown as a breeding resident. It was exciting to hear that a few birds were found in early July at two sites in western Massachusetts. There were interesting larid sightings during the reporting period, including two different **Sabine's Gulls**, a few different Black-headed Gulls on the North Shore, and a few different Little Gulls. Lesser Black-backed Gulls were well reported throughout coastal Massachusetts, with most sightings concentrated, as usual, on Cape Cod. An impressive concentration of staging terns was noted at Provincetown on 29 July including ninety-five Least Terns and 900+ Roseate Terns. Good numbers of Black Terns were noted along the coast as usual, but two birds inland at Wachusett Reservoir were unusual. While only one Caspian Tern was found this summer, an impressive number of Royal Terns were floating about the state during July. Not surprisingly, the only alcid reported was Black Guillemot, with one or two individuals around Cape Ann during August, teasing that this species may possibly breed in the state.

J. Trimble

Brant	8/22-25	Revere B.	1	M. Iliff	8/6	E. Gloucester	4 m	R. Heil
	8/28	Plymouth B.	1	K. Doyon	White-winged Scoter	7/20	Revere B.	3
Wood Duck						7/31	Winthrop	10
thr		Wakefield	85 max	P + F. Vale	8/3	Chatham (S.B.)	4	B. Nikula
thr		GMNWR	51 max	USFWS (JSS)	8/30	Plymouth B.	2	I. Davies#
	7/5	Ipswich	21	J. Berry	Black Scoter			
	8/9	Tewksbury	20	M. Rines	7/1	P.I.	3	T. Wetmore
	8/18	Longmeadow	52	S. Kellogg	7/10	Dartmouth	1 m	A. + D. Morgan
	8/31	Northfield	47	M. Lynch#	7/12	N. Falmouth	1	A. Pellegrini-Toole
Gadwall					7/13	Sandwich	1	M. Keleher
thr		P.I.	max: 21 ad, 32 juv	R. Heil	7/16, 8/3	Chatham (S.B.)	10, 9	B. Nikula
American Wigeon					Long-tailed Duck			
	7/15	P.I.	3	R. Heil	7/16, 8/3	Chatham (S.B.)	2, 1	B. Nikula
	8/30	Marstons Mills	2	M. Malin	Hooded Merganser			
	8/31	Arlington Res.	2	M. Rines	7/17	Belchertown	2	L. Therrien
American Black Duck					7/18	Lenox	2	G. Hurley
thr		P.I.	53 max 8/31	R. Heil	7/19	Sudbury	2 juv	B. Harris
	7/5	E. Brookfield	5 yg	M. Lynch#	7/22	S. Quabbin	3	L. Therrien
	7/26	Mashpee	4	M. Keleher	7/27	Petersham	4 imm	M. Lynch#
	8/17	Petersham	5	M. Lynch#	8/28	GMNWR	2 juv	J. Moore
	8/22	Pepperell	1	T. Pirro	Common Merganser			
	8/30	Plymouth B.	17	I. Davies#	7/7	Florence	9	T. Gagnon
Blue-winged Teal					7/10	Cummington	12	J. Offerman
thr		P.I.	13 max 8/31	v.o.	7/20	Petersham	1 f + 24 yg	M. Lynch#
	8/22	Pepperell	19	T. Pirro	8/3	Salisbury	1 m, 3 f	S. McGrath#
	8/25	GMNWR	3	USFWS (JSS)	8/27	Amesbury	4	D. Larson#
	8/29	Marstons Mills	3	M. Keleher	8/30	Wachusett Res.	10	K. Bourinot
	8/31	Arlington Res.	4	M. Rines	Red-breasted Merganser			
	8/31	Wakefield	3	P + F. Vale	7/21	Chatham (S.B.)	1	MAS (D. Berard)
Northern Shoveler					7/30	Duxbury B.	1	R. Bowes
	8/31	P.I.	1	R. Heil	8/29	N. Truro	2	M. Lynch#
Northern Pintail					Ruddy Duck			
	7/26-8/31	P.I.	7 max	v.o.	7/7, 8/24	Chestnut Hill	1 m	Heck, Dalton
Green-winged Teal					Ring-necked Pheasant			
thr		P.I.	227 max 8/31	R. Heil	7/5	Essex	1	J. Nelson
	7/15	Andover	1	J. Berry	7/11	E. Boston (B.I.)	1	R. Stymeist
	8/10	Revere	1	A. Birch	Ruffed Grouse			
	8/30	Wakefield	15	P + F. Vale	7/1	Belchertown	2	L. Therrien
Common Eider					7/20	Wachusett Res.	1	S. Moore#
	7/11	P'town H.	25	B. Nikula	Wild Turkey			
	7/15	Boston H.	217	R. Stymeist#	7/4	Wakefield	2 ad, 3 yg	P + F. Vale
	7/16	Chatham (S.B.)	22	B. Nikula	7/6	Oakham	3 ad, 11 yg	M. Lynch#
	7/17	Revere	35	R. Stymeist	7/9	S. Quabbin	21	L. Therrien
	8/13	Gloucester H.	38	J. Berry	7/20	Petersham	2ad, 9 yg	M. Lynch#
Surf Scoter					8/16	Lincoln	12	J. Forbes
	7/1	P.I.	3	T. Wetmore	8/30	Phillipston	20	R. Stymeist#
	7/9	Monomoy	1	D. Berard	Northern Bobwhite			
	7/16, 8/3	Chatham (S.B.)	4	B. Nikula	7/4	Mashpee	4	M. Keleher

Northern Bobwhite (continued)

7/20 WBWS 7 MAS (D. Berard)
8/5 Harwich 10 B. Nikula

Common Loon

thr S. Carver 1 K. Anderson
7/1 P.I. 20 R. Heil
7/10 Westminster 8 C. Caron
7/20 Petersham 7 M. Lynch#
8/13 Plymouth B. 4 I. Davies
8/30 Wachusett Res. 8 K. Bourinot

Pied-billed Grebe

7/26 GMNWR 1 J. Forbes
8/15 P.I. 1 D. Oliver#
8/22 Pepperell 2 T. Pirro
8/25 Mashpee 1 M. Malin

Horned Grebe

7/11 Revere 1 br pl A. Birch

Northern Fulmar

8/16 Stellwagen 1 lt G. d'Entremont#

Cory's Shearwater

thr Stellwagen 475 max 8/11 v.o.
7/11, 25 P'town (R.P.) 50, 108 B. Nikula
7/19 Atlantis Canyon 11 BBC (R. Heil)
7/24, 8/6 E. Gloucester 66, 20 R. Heil
8/6, 20 P'town 400, 65 B. Nikula
8/23 Veatch Canyon 70 BBC (R. Heil)

Scopoli's Shearwater

7/19 Atlantis Canyon 2 BBC (R. Heil)

Greater Shearwater

thr Stellwagen 1000 max 7/8 P. Trull
7/2 off Gloucester 108 M. Emmons
7/16, 25 P'town (R.P.) 38, 35 B. Nikula
7/19 Atlantis Canyon 60 BBC (R. Heil)
8/9 P'town 200 B. Nikula
8/23 Veatch Canyon 15 BBC (R. Heil)

Sooty Shearwater

7/1-8/17 Stellwagen 270 max v.o.
7/2 off Gloucester 27 M. Emmons
7/10, 25 P'town (R.P.) 9, 26 B. Nikula
7/16 Chatham (S.B.) 10 B. Nikula
8/6, 9 P'town 30, 15 B. Nikula
8/23 Veatch Canyon 1 BBC (R. Heil)

Manx Shearwater

7/1-8/11 Stellwagen 20 max 8/9 v.o.
7/5, 8/16 P.I. 2, 1 T. Wetmore
7/11, 8/9 Revere B. 4, 6 Birch, Dukovski
7/19 Atlantis Canyon 1 BBC (R. Heil)
7/25, 8/6 P'town 5, 8 B. Nikula
8/6 Rockport (A.P.) 2 R. Heil
8/6 E. Gloucester 4 R. Heil

Audubon's Shearwater

8/23 Veatch Canyon 4 BBC (R. Heil)

Wilson's Storm-Petrel

thr Stellwagen 6722 max P. Trull
7/16, 25 P'town 500, 610 B. Nikula
7/18, 8/9 N. Truro 200, 60 B. Nikula
7/19 Atlantis Canyon 502 BBC (R. Heil)
7/24 E. Gloucester 38 R. Heil
8/9 P'town 200 B. Nikula
8/23 Veatch Canyon 156 BBC (R. Heil)

Leach's Storm-Petrel

7/19 Atlantis Canyon 5+ BBC (R. Heil)
8/9 Stellwagen 1 B. Nikula
8/23 Veatch Canyon 16 BBC (R. Heil)

Band-rumped Storm-Petrel

7/19 Atlantis Canyon 5 BBC (R. Heil)

Northern Gannet

thr Stellwagen 40 max v.o.
thr P.I. 144 max R. Heil
7/16, 8/9 P'town 4, 30 B. Nikula
7/24, 8/6 E. Gloucester 31, 17 R. Heil
8/23 Nant. Shoals 13 BBC (R. Heil)

Double-crested Cormorant

7/11, 8/2 P'town H. 200, 250 B. Nikula
7/15 Boston H. 1200+ R. Stymeist#
8/31 Essex 370 migr J. Berry#
8/31 Chatham 900+ D. Manchester

Great Cormorant

7/15 Boston H. 2 R. Stymeist#
8/5 P.I. 1 S R. Heil

American Bittern

7/4 Windsor 1 M. Lynch#
7/8-8/8 P.I. 1 v.o.
7/9 WBWS 1 D. Berard
7/11 Sheffield 1 T. Gagnon
7/18 Lenox 1 G. Hurley
8/6 Haverhill 1 J. Fenton
8/14 GMNWR 1 C. Floyd

Least Bittern

7/1-8/5 P.I. 2-3 v.o.
8/13 GMNWR 1 A. Bragg#

Great Blue Heron

7/13 Sandwich 18 M. Keleher
7/15 P.I. 11 R. Heil
8/18 Bourne 14 D. Manchester
8/25 GMNWR 10 USFWS (JSS)
8/26 Nauset 15 B. Nikula

Great Egret

thr E. Boston (B.I.) 28 max 8/25 v.o.
thr P.I. 125 max 8/30 v.o.
7/26 Westport 32 M. Lynch#
8/17 S. Dartmouth 49 SSBC (J. Sweeney)
8/17 Bourne 13 D. Manchester
8/28 GMNWR 7 M. Rines
8/31 Wakefield 6 P. + F. Vale

Snowy Egret

thr P.I. 188 max 8/31 v.o.
thr E. Boston (B.I.) 75 max 8/24 v.o.
7/26 Acoaxet 3 M. Lynch#
8/24 Chatham (S.B.) 20 B. Nikula

Little Blue Heron

7/16 Plymouth 1 juv I. Davies
7/25 Halifax 1 J. Sweeney
8/3 Chatham (S.B.) 1 B. Nikula
8/5 W. Gloucester 7 S. Hedman
8/21 Nantucket 1 E. Andrews

Cattle Egret

7/21 Hamilton 1 J. Berry
8/3 Manchester 1 J. Trimble

Green Heron

7/4 Wakefield 3 ad n P. + F. Vale
7/5 Ipswich 4 J. Berry
7/31 Marston Mills 4 D. Manchester
8/9 Mashpee 6 M. Keleher
8/22 Amherst 5 L. Therrien
8/23 W. Springfield 3 S. Kellogg
8/26 Longmeadow 3 T. Alicea
8/31 Northfield 3 M. Lynch#

Black-crowned Night-Heron

thr P.I. 8 max v.o.
7/9 Monomoy 3 D. Berard
7/11 E. Boston 8 R. Stymeist
8/1 Bourne 3 D. Manchester

Yellow-crowned Night-Heron

7/6 Gloucester 1 ad C. Toftey
7/24, 8/22 MNWS 1 D. Noble
8/3 P.I. 1 juv R. Heil
8/10 Duxbury B. 1 juv R. Bowes
8/25 Mashpee 1 M. Malin

Glossy Ibis

thr P.I. 75 max v.o.
7/9 WBWS 3 D. Berard
7/12 Stellwagen 8 B. Nikula
7/13 E. Boston (B.I.) 20 BBC (S. Zendeck)
7/25 Halifax 10 J. Sweeney
8/17 S. Dartmouth 10 SSBC (J. Sweeney)

Black Vulture

7/3 Mt. Washington 2 R. Laubach
7/5 Wayland 1 J. Hoye#
7/6 Lancaster 1 B. Cassie
7/13 Sheffield 1 R. Laubach

Turkey Vulture

7/8 E. Middleboro 8 R. Lessard
7/9 N. Truro 10 Hawkcount (DM)
7/12 Adams 28 M. Lynch#

Turkey Vulture (continued)				8/26, 31	Barre Falls	2, 2	Hawkcount (BK)
7/28	Winchester	8	M. Rines	Golden Eagle			
8/5	P.I.	12	R. Heil	8/17	Northampton	1	D. McLain
8/21	Northampton	41	T. Gagnon	American Kestrel			
8/31	Essex	7	J. Berry#	8/16	Windsor	7	B. Wood
Osprey				8/23	W. Springfield	4	S. Kellogg
7/13	Sandwich	12	M. Keleher	8/27	Leicester	5	M. Lynch#
7/26	Westport	66	M. Lynch	8/29	Watertown	pr	C. Thrope
7/26	Mashpee	17	M. Keleher	8/31	Southwick	2	S. Ricker
7/31	E. Boston (B.I.)	5	R. Stymeist	8/31	Cuttyhunk I.	2	MAS (J. Galluzzo)
8/5	P.I.	13	R. Heil	Merlin			
8/10	Medford	5	P. Devaney	7/1	Reading	1	P + F. Vale
8/17	S. Dartmouth	5	SSBC (J. Sweeney)	7/3	Chappaquiddick	pr n	M. Pelikan#
Bald Eagle				7/30-8/30	P.I.	1-3	v.o.
7/9	Westminster	1 imm	C. Caron	8/2	Duxbury B.	1	R. Bowes
7/26	Harwich Port	1	B. Nikula	8/3	Newbypt H.	1	R. Heil
7/27	Petersham	2	M. Lynch#	8/14	Quincy	1	C. Dalton
7/27, 8/9	P'town	1	B. Nikula	8/21	Northampton	1	T. Gagnon
8/2	Brookfield	2	M. Lynch#	8/26	Chatham	1	D. Manchester
8/19	P.I.	1 ad, 1 imm	R. Heil	8/27	Leicester	1	M. Lynch#
8/20	GMNWR	1	A. Bragg#	8/27	E. Boston (B.I.)	1	R. Stymeist
8/27	Merrimac R.	2 ad	D. Larson#	8/28	Nantucket	1	V. Laux
8/31	Barre Falls	2	Hawkcount (DS)	8/30	Belchertown	1	S. Surner
Northern Harrier				8/31	Barre Falls	1	Hawkcount (DS)
thr	P.I.	8	v.o.	Peregrine Falcon			
7/26, 8/30	Chatham (S.B.)	2, 3	Nikula, Roberts	8/11	Sandwich	2	M. Keleher#
7/29	P'town (R.P.)	1 f ad	R. Heil	8/31	P.I.	2 juv	R. Heil
8/2	Stellwagen	1	B. Nikula	King Rail			
8/10	Duxbury B.	1	R. Bowes	7/5-8/19	P.I.	1-2	v.o.
8/17	Northampton	1	D. McLain	Virginia Rail			
8/20	N. Truro	1	B. Nikula	7/6	S. Quabbin	2	L. Therrien
8/25	Mashpee	1	M. Malin	7/18	Lenox	3	G. Hurley
8/26	Southwick	1	S. Kellogg	7/26	Mashpee	2	M. Keleher
8/31	Naushon I.	1	MAS (J. Galluzzo)	8/10	Dudley	3	M. Lynch#
Sharp-shinned Hawk				8/16	P.I.	3	T. Wetmore
7/8	N. Truro	2	Hawkcount (DM)	Sora			
7/25	S. Quabbin	1	L. Therrien	7/10-8/26	P.I.	1	R. Heil
8/5	Carlisle	1 ad	T. Brownrigg	7/18	Lenox	1	G. Hurley
8/14	Duxbury B.	1	MAS (J. Galluzzo)	7/29	GMNWR	1	USFWS (JSS)
8/14	Plymouth	2	K. Doyon	Common Moorhen			
8/20	Ipswich (C.B.)	1 migr	J. Berry	7/15-8/31	GMNWR	1	USFWS (JSS)
8/21	Malden	1	P + F. Vale	Black-bellied Plover			
8/26	Belmont	1	R. Stymeist#	thr	P.I.	132 max	8/31 v.o.
8/26-31	Chatham	7	D. Manchester	thr	Duxbury B.	526 max	8/23 R. Bowes
8/30	P.I.	2	S. Grinley	7/4, 8/28	Chatham (S.B.)	450, 2100	B. Nikula
8/31	Concord	1	S. Perkins#	8/thr	Plymouth B.	408 max	v.o.
Cooper's Hawk				8/17	Barnstable (S.N.)	1500	C. Walz#
7/thr	Ipswich	2 pr n	J. Berry#	8/31	Nauset	300	B. Nikula
7/thr	Beverly	pr n	J. Berry#	American Golden-Plover			
7/6	Oakham	2 imm	M. Lynch#	7/30	Chatham (S.B.)	1	MAS (D. Berard)
7/6	Rockport-5	2 fl	C. Haines	8/13-29	P.I.	4 max	v.o.
8/2	S. Quabbin	2	L. Therrien	8/17	Duxbury B.	1	R. Bowes
8/22-30	Melrose	2	D. + I. Jewell	Semipalmated Plover			
8/26-31	Chatham	4	D. Manchester	thr	P.I.	2850 max	8/19 R. Heil
8/31	P.I.	2 juv	R. Heil	7/16-8/30	Plymouth	912 max	8/13 I. Davies
Northern Goshawk				7/20-8/30	Duxbury B.	2320 max	8/23 R. Bowes
7/12	Adams	1	M. Lynch	7/22, 8/7	Chatham (S.B.)	475, 2100	B. Nikula
7/12	Cheshire	1 ad	M. Lynch#	7/31, 8/10	Revere	103, 350	R. Stymeist
7/22	C. Quabbin	1	L. Therrien	8/31	Nauset	800	B. Nikula
Red-shouldered Hawk				8/31	Wakefield	5	P + F. Vale
7/1	E. Middleboropr	4 fl	K. Anderson	Piping Plover			
7/1	Granville	1	J. Weeks	7/2	P'town (R.P.)	22	B. Zajda
8/10	W. Roxbury	2 juv	M. Iliff	7/15	P.I.	33	R. Heil
8/11	N. Attleboro	1 juv	D. Silverstein	7/17	Revere B.	12	R. Stymeist
8/17	Petersham	1 ad + 1 imm	Lynch	7/19	Cotuit	16	M. Keleher
8/26	P.I.	1 ad	P + F. Vale	7/22, 8/7	Chatham (S.B.)	25, 35	B. Nikula
8/26	Dennis	1	R. Stymeist#	7/26	Plymouth B.	19	G. d'Entremont
8/26	Chatham	1	D. Manchester	Killdeer			
Broad-winged Hawk				8/2	Belchertown	58	M. Lynch#
7/9	N. Truro	16	Hawkcount (DM)	8/10	Newbypt.	73	BBC (I. Girinuas)
7/12	Plainfield	2	S. Kellogg	8/23	Newbypt	85	P + F. Vale
7/12	Mt. Watatic	2	C. Caron	8/30	Hadley	26	S. Surner
8/5	Carlisle	2 imm	T. Brownrigg	American Oystercatcher			
8/8	DWWS	1 imm dk	D. Ludlow	7/2	Winthrop	13 ad + 2 yg	Stymeist
8/10	Dudley	2	M. Lynch#	7/10	Dartmouth	5 ad, 1 imm	Morgan
8/15	Danvers	2 ad	D. + I. Jewell	7/11	Squantum	2	T. Factor
8/21	Burlington	1 ad, 1 juv	J. Mullen#	7/13	Centerville	3	B. Kunkel
8/23	Ware R. IBA	3 ad	M. Lynch#	7/25	Fairhaven	8	A. + D. Morgan

American Oystercatcher (continued)				7/31	Winthrop	45	R. Stymeist
7/26, 8/24	Chatham (S.B.)	25, 80	B. Nikula	8/1, 30	Plymouth B.	207, 77	I. Davies#
Black-necked Stilt				8/10	Scituate	34	S. Maguire
7/1-9	Nantucket	1 ph	v.o.	8/17	Westport	47	SSBC (J. Sweeney)
Spotted Sandpiper				Red Knot			
7/15	Boston H.	16	R. Stymeist#	thr	Chatham (S.B.)	1050 max 8/7	B. Nikula
7/29	GMNWR	5	USFWS (JSS)	7/13-8/31	P.I.	15 max 8/30	v.o.
8/10	E. Sandwich	6	D. Manchester	8/13	Duxbury B.	9	R. Bowes
8/13	Squantum	7	T. Factor	8/30	Plymouth B.	16	I. Davies#
Solitary Sandpiper				8/31	Nauset Bay	20	B. Nikula
7/31	Bolton Flats	3	S. Sutton	Sanderling			
8/15	Melrose	4	D. + I. Jewell	thr	Chatham (S.B.)	2000 max 8/7	B. Nikula
8/24	GMNWR	3	M. Lynch#	7/12-8/31	Duxbury B.	486 max 8/17	R. Bowes
8/28	Nantucket	5	V. Laux	7/15-8/31	P.I.	250 max 7/29	v.o.
8/30	Wachusett Res.	4	K. Bourinot	7/30	Nahant B.	800	L. Pivacek
8/30	Wakefield	5	P. + F. Vale	8/17	Barnstable (S.N.)	600	C. Walz#
Greater Yellowlegs				8/25	Revere B.	184	P. + F. Vale
thr	P.I.	42 max	8/31	R. Heil	Sempalmated Sandpiper		
7/2-8/17	Duxbury B.	61 max	7/30	R. Bowes	thr	P.I.	7300 max 8/5
7/22, 8/7	Chatham (S.B.)	110, 225	B. Nikula	thr	Chatham (S.B.)	6700 max 7/22	B. Nikula
8/25	E. Boston (B.I.)	73	P. + F. Vale	7/12-8/31	Duxbury B.	4022 max 8/17	R. Bowes
8/30	Chatham	92	B. Nikula	7/30	Nahant B.	3000+	L. Pivacek
8/31	Nauset Bay	150	B. Nikula	8/4	Revere B.	780	BBC (P. + F. Vale)
Willet				8/10	Scituate	1546	S. Maguire
thr	P.I.	125 max	v.o.	8/30	Plymouth B.	1040	I. Davies#
7/6, 30	Duxbury B.	28, 30	R. Bowes	Western Sandpiper			
7/13	Sandwich	19	M. Keleher	7/6, 8/24	Chatham (S.B.)	1, 6	B. Nikula
7/19	Cotuit	17	M. Keleher	7/25	Plymouth B.	1 ad	J. Hoye#
7/25	Plymouth B.	10	L. Seitz#	7/26, 8/26	P.I.	1, 1	Grinley, Chicking
7/27	WBWS	40+	C. Dalton	7/26	Westport	1	M. Lynch#
7/27	Fairhaven	10	J. Sweeney#	7/30, 8/13	Duxbury B.	1, 3	R. Bowes
Eastern Willet				8/9, 28	WBWS	5, 1	D. Berard
thr	Chatham (S.B.)	335 max	B. Nikula	8/16	Plymouth B.	1 ad, 1 juv	J. Hoye#
7/15	Winthrop	58	R. Stymeist#	8/30	Ipswich (C.B.)	1	D. Williams
Western Willet				Least Sandpiper			
thr	Chatham (S.B.)	22 max	B. Nikula	thr	P.I.	110 max	v.o.
7/25	Falmouth	1	R. Farrell	thr	Chatham (S.B.)	950 max 7/22	B. Nikula
Lesser Yellowlegs				thr	Duxbury B.	71 max 8/17	R. Bowes
thr	P.I.	64 max	7/10	v.o.	7/12	Revere	45
7/18	W. Falmouth	11	R. Farrell	7/13	Squantum	75	G. d'Entremont
7/20	WBWS	9	MAS (D. Berard)	7/26	Newbypt H.	150+	B. Zajda
7/26	N. Monomoy	95	B. Nikula	7/31	Bolton Flats	23	S. Sutton
8/3	Newbypt H.	380	R. Heil	8/9	Mashpee	32	M. Keleher
8/28	Chatham (S.B.)	20	B. Nikula	8/14	Plymouth	69	I. Davies#
8/30	Wakefield	65+	P. + F. Vale	8/30	Wakefield	175	P. + F. Vale
8/30	Hadley	5	S. Surner	8/31	Hadley	11	S. Surner
8/31	Nauset Bay	30	B. Nikula	White-rumped Sandpiper			
Upland Sandpiper				thr	P.I.	165 max 8/31	R. Heil
8/10	Hadley	1	S. Surner	thr	Chatham (S.B.)	70 max 8/28	B. Nikula
8/22	Leicester	2	M. Lynch#	7/30	Nahant B.	2	L. Pivacek
Whimbrel				8/10	Duxbury B.	7	R. Bowes
thr	P.I.	14 max	T. Wetmore	8/11	Plymouth	7	I. Davies
7/6, 20	Duxbury B.	1, 2	R. Bowes	8/25	Revere B.	10	P. + F. Vale
7/11	Saugus	1	A. Birch	8/27	E. Boston (B.I.)	3	R. Stymeist
7/25	Plymouth B.	1	L. Seitz#	8/31	Nauset Bay	75	B. Nikula
7/26, 8/24	Chatham (S.B.)	20, 60	B. Nikula	Baird's Sandpiper			
7/27	WBWS	30	C. Dalton	8/13-28	P.I.	1	J. Carroll + v.o.
7/29	P'town (R.P.)	1	R. Heil	Pectoral Sandpiper			
8/10	Manomet	2	I. Davies#	7/26	N. Monomoy	1	B. Nikula
8/14, 28	Duxbury B.	3, 3	MAS (Galluzzo)	7/26	P.I.	1	S. Grinley#
8/17	Lovells I.	2	R. Kelley	8/3, 30	Chatham (S.B.)	2, 1	B. Nikula
8/17	Westport	7	SSBC (J. Sweeney)	8/20	Nantucket	2	V. Laux
8/23	Orleans	81	D. Clapp	8/22	Scituate	1	T. Factor
Hudsonian Godwit				8/31	Wakefield	2	P. + F. Vale
thr	Chatham (S.B.)	70 max 8/7	B. Nikula	8/31	Nauset Bay	1	B. Nikula
7/22-8/20	Newbypt H.	1-2	v.o.	Dunlin			
Marbled Godwit				7/10, 8/28	Chatham (S.B.)	8, 6	B. Nikula
thr	Chatham (S.B.)	4 max 8/7	B. Nikula	8/16	Plymouth B.	1	J. Hoye#
8/5-10	P.I.	1 juv ph	R. Heil#	8/28	P.I.	1	T. Wetmore
8/10	Newbypt.	1	BBC (I. Giriunas)	Arctica Dunlin			
8/13-16	Plymouth B.	1 ph	I. Davies + v.o.	8/22	Chatham (S.B.)	1 ph	N. Bonomo
8/13-22	Nantucket	1	V. Laux	White-rumped Sandpiper X Dunlin			
8/15	Scituate	1	MAS (J. Galluzzo)	8/22	Chatham (S.B.)	1 ph	N. Bonomo
Ruddy Turnstone				Stilt Sandpiper			
thr	Duxbury B.	184 max 8/23	R. Bowes	7/6-8/31	P.I.	5 max 7/10	R. Heil
thr	Chatham (S.B.)	175 max 8/7	B. Nikula	7/30	Chatham (S.B.)	1	MAS (D. Berard)
thr	P.I.	15 max 8/5	R. Heil	8/9, 28	WBWS	2, 1	D. Berard
7/25	Fairhaven	10	A. + D. Morgan	8/17	Scituate	1	T. Factor

Stilt Sandpiper (continued)									
8/24	E. Boston (B.I.)	1		S. Zende#					
Buff-breasted Sandpiper									
8/18-26	P.I.	1-2		v.o.					
8/27	Leicester	1		M. Lynch#					
8/27	Nantucket	1 imm		S. Langer					
8/30	Chatham (S.B.)	1		MAS (Roberts)					
Ruff									
7/3-12	P.I.	1-2		v.o.					
Short-billed Dowitcher									
thr	P.I.	1383 max	7/10	R. Heil					
thr	Chatham (S.B.)	4400 max	7/22	B. Nikula					
thr	Duxbury B.	95 max	7/30	R. Bowes					
7/12	Wakefield	1		P. + F. Vale					
7/13	Squantum	100		G. d'Entremont					
7/13	E. Boston (B.I.)	92		BBC (S. Zende#)					
7/16-8/31	Plymouth	1240 max	8/1	I. Davies					
7/27	Fairhaven	125		J. Sweeney#					
8/31	Nauset Bay	75		B. Nikula					
Long-billed Dowitcher									
7/22-8/31	P.I.	1-4		v.o.					
7/30	Duxbury B.	2		R. Bowes					
7/31	WBWS	1		D. Berard					
8/1	Plymouth B.	1		I. Davies#					
8/24	Chatham (S.B.)	1		B. Nikula					
Wilson's Snipe									
7/12	Windsor	2		M. Lynch#					
7/12	Adams	2		M. Lynch					
8/30	Wakefield	2		P. + F. Vale					
American Woodcock									
7/1	Belchertown	1		L. Therrien					
7/15	P.I.	3		R. Heil					
Wilson's Phalarope									
7/26	Chatham (S.B.)	1		C. Dalton					
Red-necked Phalarope									
8/6	Rockport (A.P.)	7		R. Heil					
8/16	Chatham (S.B.)	1		MAS (B. Prescott)					
8/23	Veatch Canyon	29		BBC (R. Heil)					
8/30	Stellwagen	9		P. Trull					
Phalarope species									
8/9, 26	P'town	3, 8		B. Nikula					
8/23	Veatch Canyon	65		BBC (R. Heil)					
Pomarine Jaeger									
thr	Stellwagen	6 max		P. Trull					
8/9	P'town	1		B. Nikula					
8/23	Veatch Canyon	1 IS		BBC (R. Heil)					
Parasitic Jaeger									
7/11-8/11	Stellwagen	6 max		v.o.					
7/16, 27	P'town	6, 1		B. Nikula					
8/9, 31	P'town	8, 3		B. Nikula					
8/12	WBWS	3		M. Malin					
8/19	P.I.	2		R. Heil					
8/21	Nantucket	1		V. Laux					
8/30	Chatham (S.B.)	3		MAS (Roberts)					
Long-tailed Jaeger *									
7/11, 29	Stellwagen	1 IS, 3 IS		B. Nikula					
7/19	Nant. Shoals	2 IS		BBC (R. Heil)					
7/31, 8/9	P'town	2 IS, 2 IS		B. Nikula					
8/9	Stellwagen	1 IS		B. Nikula					
Black-legged Kittiwake									
8/6, 11	Stellwagen	3, 25		P. Trull					
8/6	E. Gloucester	1 juv		R. Heil					
8/29	P.I.	1 ad		R. Heil					
8/29	P'town (R.P.)	1		M. Lynch#					
Sabine's Gull									
8/29	P'town	1		B. Nikula					
8/29	P.I.	1		T. Wetmore					
Bonaparte's Gull									
thr	P.I.	127 max	8/19	R. Heil					
7/1	Ipswich (C.B.)	35 imm		J. Berry#					
7/13	Sandwich	1		M. Keleher					
8/2	Revere B.	670		P. + F. Vale					
8/3	Newbypt H.	370		R. Heil					
8/3	Nahant	350		R. Stymest					
Black-headed Gull									
thr	Lynn/Nahant	1 ad		J. Quigley					
7/30	P.I.	1 ad		R. Heil					
Little Gull									
7/27	Newbypt H.	1		S. + J. Mirick					
8/31	P'town	1 IS		B. Nikula					
Laughing Gull									
thr	P.I.	53 max	8/19	R. Heil					
thr	Plymouth	650 max		v.o.					
thr	Stellwagen	900 max		P. Trull					
7/13	Sandwich	64		M. Keleher					
7/17, 8/10	Chatham (S.B.)	143, 150		I. Davies#					
7/22, 8/29	P'town	120, 120		B. Nikula					
8/24	Revere B.	50		S. Coronna					
8/31	Nauset Bay	175		B. Nikula					
Lesser Black-backed Gull									
7/10, 8/9	P'town	1, 1		B. Nikula					
7/11, 8/8	Stellwagen	1 IS, 2 IS		B. Nikula					
7/16	Plymouth	1 IS		I. Davies					
7/22, 8/30	Chatham (S.B.)	1 IS, 10		B. Nikula					
7/26, 8/5	P.I.	2, 4		R. Heil					
7/26	N. Monomoy	5		B. Nikula					
8/2	Duxbury B.	1 IS		R. Bowes					
8/5	Boston	1		M. Garvey					
8/6	Rockport (A.P.)	1 IS		R. Heil					
Bridled Tern *									
7/19	Atlantis Canyon	1 IS		BBC (R. Heil)					
Least Tern									
thr	P.I.	226 max	7/26	R. Heil					
thr	Winthrop	30 max	7/31	Stymest					
7/13	Sandwich	45		M. Keleher					
7/15	Chatham	80		B. Nikula					
7/17	S. Carver	8		K. Anderson					
7/19	Cotuit	200+		M. Keleher					
7/26	Plymouth B.	110		G. d'Entremont					
7/29	P'town (R.P.)	85 ad, 10 juv		R. Heil					
8/17	Barnstable (S.N.)	23		C. Walz#					
Caspian Tern									
7/13	P.I.	1		T. Wetmore					
Black Tern									
7/12, 27	P'town (R.P.)	2, 1		B. Nikula					
7/19, 8/30	Stellwagen	1, 6		P. Trull					
7/25	Essex	2		D. Jones					
8/1, 30	Plymouth B.	3, 3		I. Davies#					
8/1	Ipswich (C.B.)	2		J. Nelson					
8/6	Newbypt H.	4		P. + F. Vale					
8/17	S. Dart. (A.Pd)	2		J. Moore					
8/21	Nantucket	75		V. Laux					
8/28	Chatham (S.B.)	80		B. Nikula					
8/30	Wachusett Res.	2		K. Bourinot					
Roseate Tern									
7/2	P'town (R.P.)	5		B. Zajda					
7/5, 8/11	Stellwagen	5, 50		P. Trull					
7/29	P'town (R.P.)	900+		R. Heil					
8/10	P.I.	18		T. Wetmore					
8/14	Plymouth	37 ad, 5 juv		I. Davies#					
8/17	Barnstable (S.N.)	15, 3 b		C. Walz#					
8/27	Nantucket	190		E. Ray					
8/28	Chatham (S.B.)	200		B. Nikula					
Common Tern									
thr	P.I.	393 max	7/26	R. Heil					
7/5, 8/11	Stellwagen	600, 400		P. Trull					
7/16, 8/31	P'town	200, 2800		B. Nikula					
7/22, 8/28	Chatham (S.B.)	500, 1600		B. Nikula					
7/26	Mashpee	125		M. Keleher					
8/1	Plymouth B.	4100		I. Davies#					
8/17	Barnstable (S.N.)	200		C. Walz#					
Arctic Tern									
7/4, 8/16	Chatham (S.B.)	1, 1		Nikula, Prescott					
7/24	Plymouth	1		I. Davies#					
7/29	P'town (R.P.)	1 ad		R. Heil					
Forster's Tern									
7/23, 30	Duxbury B.	1, 2		R. Bowes					
7/26-8/31	P.I.	1-5		v.o.					
8/27	Salisbury	3		D. Larson#					
8/28	Chatham (S.B.)	4		B. Nikula					
8/31	Nauset Bay	10		B. Nikula					
Royal Tern									
7/1, 26	P.I.	1, 1		Heil, Grinley					
7/4	M.V.	1		J. Liller					
7/5	Ipswich (C.B.)	2		J. Style					

Royal Tern (continued)			Black Skimmer				
7/8	Nantucket	2	E. Ray	7/6, 8/7	Chatham (S.B.)	1, 1	B. Nikula
7/10	P'town (R.P.)	1	B. Nikula	7/9	Monomoy	2	D. Berard
7/18	Chatham	1	J. Hoye#	8/14	Plymouth B.	2	K. Doyon#
7/25, 28	Lynn	1	J. Quigley	8/23	Chatham (S.B.)	1	D. Berard
8/10	Manomet	1	W. Petersen#		Black Guillemot		
Sandwich Tern					Rockport (A.P.)	1	R. Heil
7/8	Nantucket	1	E. Ray	8/6	Gloucester	2	J. Barber
				8/22			

CUCKOOS THROUGH FINCHES

The summer months are slow for passerines as residents become less active at the height of the breeding season in July, and song gives way to feeding young. As fall migration for land birds begins in mid-August, a highlight is the migration of Common Nighthawks. In recent years, the number of nighthawks reported has been declining, and this year was no exception. In past years it was not uncommon to see flocks in the thousands in the Connecticut River Valley, and as recently as August 22, 1991, there was a one-night total of 3674 in Northampton. This year the highest count from Northampton was 746 on August 30. Whip-poor-wills were still calling on Plum Island in late August, and a southward bound Whip was banded at Manomet on August 18.

Perhaps the most exciting bird news during the period was the appearance of a **Broad-billed Hummingbird** at a Dennis feeder on August 23. This was on the heels of Connecticut's first Broad-billed Hummingbird found on August 13. The Massachusetts Broad-billed was an adult male in molt and was banded on August 24 for the first documented record for the state. The bird was not seen for a day or two after the banding but then returned to a routine and continues as we go to press with this issue! Another exciting moment was the brief appearance of an adult male **Calliope Hummingbird**, the fourth state record, at a feeder in Deerfield on August 1. The bird was present again on August 2, and great photographs were submitted.

Olive-sided Flycatcher is among the last songbirds to arrive in the spring and one of the first fall migrants to come back through our area in late August. An individual reported on July 25 in Montgomery was intriguing, as it may have been part of a postbreeding dispersal from nearby. Acadian Flycatchers were noted in new areas in western Massachusetts, albeit in the same general region, a sign of possible range expansion.

It was encouraging to see reports of successful Purple Martin breeding in Mashpee and Rehoboth and also on Plum Island, where a maximum of forty-five was counted, up from thirty-three last year. The annual Tree Swallow extravaganza on Plum Island never disappoints; this year a high count of over 100,000 was estimated. Common Ravens continue to be found in eastern Massachusetts, with birds noted from Wayland and Framingham.

With most birders concentrating on the shorebird migration, it is easy to overlook the southward movement of many warblers. A total of twenty-seven species was noted during the period. A very unseasonal adult male Northern Parula, perhaps an early postbreeder or wanderer, was seen on Plum Island on July 15. Also noted on Plum Island that day was a Scarlet Tanager. The late summer movements of species like these are not easily detected on the mainland but are noteworthy on places like Plum Island, where they don't breed. No Golden-winged Warblers were seen during the period for the second year in a row. Three **Connecticut Warblers** were noted in August as compared with none during August last year.

The surprises during the period include a **Sedge Wren** in Windsor as well as a Lincoln's Sparrow on July 4. For both these birds the Moran Wildlife Management area is a potential habitat for breeding. The first confirmed breeding of Lincoln's Sparrow in Massachusetts occurred in nearby Florida in Berkshire County in 1981. There was a mini flight of White-winged Crossbills from the end of July into mid-August, with most reports coming from the Quabbin area and from Berkshire County. Four birds were seen in Newton on August 27.

R. Stymeist

Yellow-billed Cuckoo			8/17	Fairhaven	3	SSBC (J. Sweeney)	
7/10	Essex	1	J. Berry#	8/28	Medford	3	M. Rines
7/12	Mt. Watatic	4	C. Caron	8/29	Brookline	3	R. Stymeist
7/15	Becket	1	R. Laubach	Yellow-bellied Sapsucker			
7/19	Brookfield	1	M. Lynch#	7/1	Westminster	10	C. Caron
7/27	Petersham	2	M. Lynch#	7/4	Windsor	4	M. Lynch#
7/27	E. Quabbin	2	M. Lynch	7/12	Quabbin (G10)	10	BBC (G. d'E)
8/17	P.I.	1	T. Spahr	7/19	Princeton	ad+fl	S. Sutton
Black-billed Cuckoo			7/20	Petersham	3	M. Lynch#	
7/1	Lynnfield	1	P. + F. Vale	Hairy Woodpecker			
7/6	W. Brookfield	1	M. Lynch#	7/1	Westminster	4	C. Caron
7/10	Essex	1	J. Berry#	7/12	Adams	6	M. Lynch#
7/17, 8/24	Belchertown	1, 1	L. Therrien	7/20	Petersham	9	M. Lynch#
7/19	Hinsdale	1	H. Allen	8/5	Tewksbury	7	M. Rines
7/19-20	Blandford	1	K. + M. Conway	8/9	Mashpee	10	M. Keleher
7/27	Becket	2	R. Laubach	8/31	Northfield	4	M. Lynch#
Eastern Screech-Owl				Pileated Woodpecker			
7/26	Arlington	3	D. Bean	7/1	Westminster	4	C. Caron
7/29	Jamaica Plain	pr	A. Joslin	7/8	Boxford	2	J. Berry
Great Horned Owl				7/16	Ipswich	1	J. Berry
7/3	P.I.	2	T. Wetmore	7/27	Petersham	1	M. Lynch#
8/5	Tewksbury	pr	M. Rines	8/5	Carlsle	2	T. Brownrigg
Barred Owl				Olive-sided Flycatcher			
7/11	Washington	2	T. Smith	7/25	Montgomery	1	A. + L. Richardson
7/16	Uxbridge	2 imm	J. Barthel	8/23	Ware R. IBA	2	M. Lynch#
7/25	Lenox	1	R. Laubach	8/31	Northfield	1	M. Lynch#
7/28	E. Middleboro	1	K. Anderson	Eastern Wood-Pewee			
8/9	Colrain	4	M. Lynch#	7/2	Westminster	13	C. Caron
8/17	Hamilton	1 juv	J. Berry	7/6	Oakham	17	M. Lynch#
8/24	Assabet R. NWR	1	J. Forbes	7/20	Petersham	20	M. Lynch#
8/26	S. Quabbin	1	L. Therrien	8/10	Dudley	13	M. Lynch#
Northern Saw-whet Owl				8/15	Mashpee	7	M. Keleher
7/24	E. Middleboro	2+	K. Anderson	8/18	S. Quabbin	17	L. Therrien
Short-eared Owl				8/21	Boxford	7 m	J. Berry
8/14	Duxbury B.	1	MAS (J. Galluzzo)	8/23	Ware R. IBA	13	M. Lynch#
Common Nighthawk				8/24	Wayland	7	B. Harris
8/16, 21	Northampton	27, 314	T. Gagnon	Yellow-bellied Flycatcher			
8/17, 23	Leicester	20, 283	M. Lynch#	8/12, 27	P.I.	1, 1	D. Chickering
8/22, 23	Pittsfield	361, 203	S. Robinson	8/20	MNWS	1	S. Williams#
8/22, 23	S. Quabbin	54, 554	L. Therrien	8/22	Lexington	1	P. + F. Vale
8/23	Waltham	37	J. Forbes	8/28	Nantucket	1	V. Laux
8/24, 30	Leicester	123, 148	M. Lynch#	Acadian Flycatcher			
8/26	Nantucket	22	V. Laux	7/1	Granville	2	J. Weeks
8/27, 30	Northampton	329, 746	T. Gagnon	7/9	W. Quabbin	2	L. Therrien
8/27, 29	Southwick	40, 25	S. Kellogg	7/22	C. Quabbin	1	L. Therrien
8/27	Mt.A.	62	R. Stymeist#	7/25	S. Quabbin	1	L. Therrien
8/30	Florence	131	J. Gawienowski	Alder Flycatcher			
Whip-poor-will				7/4	Windsor	5	M. Lynch#
8/9	Mashpee	4	M. Keleher	7/6	Wakefield	1	P. + F. Vale
8/18	Manomet	1 juv b	I. Davies	7/12	Cheshire	8	M. Lynch#
8/21	P.I.	3	T. Wetmore	7/27	Greylock	7	R. Laubach
8/28	Southwick	1	S. Kellogg	Willow Flycatcher			
Chimney Swift				7/15	P.I.	10	R. Heil
8/22	Pittsfield	200	A. Rennie	7/18	Bridgewater	2	W. Petersen
8/23	Grafton	76	J. Liller	7/19	Wakefield	2	P. + F. Vale
8/25	Gloucester	40	S. Hedman	7/20	W. Roxbury	3	R. Mayer
8/26	Belmont	30	R. Stymeist#	8/2	Brookfield	4	M. Lynch#
Broad-billed Hummingbird (details submitted)*				8/30	Hadley	2	S. Surner
8/24-31	Dennis	1 m ad b ph	R. + M. Murphy	Least Flycatcher			
Ruby-throated Hummingbird				7/2	Westminster	2	C. Caron
8/2	Quabbin Pk.	5	M. Lynch#	7/3	Ipswich	1 m	J. Berry
8/9	Mashpee	5	M. Keleher	7/6	Oakham	6	M. Lynch#
8/9	Colrain	6	M. Lynch#	7/20	Petersham	15	M. Lynch#
8/13	Natick	5	G. Long	8/20	MNWS	1	S. Williams#
8/17	Fairhaven	6	SSBC (J. Sweeney)	8/20	Squantum	2	A. Birch
8/19	P.I.	3	R. Heil	8/21	Woburn	1	M. Rines
8/20	Lexington	4	M. Rines	8/22	Lexington	1	P. + F. Vale
8/23	GMNWR	3	J. Forbes	8/27	E. Boston (B.I.)	1	R. Stymeist
8/31	Barre Falls	5	D. Schilling#	Eastern Phoebe			
Calliope Hummingbird (details submitted)*				7/6	Oakham	12	M. Lynch#
8/1-2	Deerfield	1 ph	R. Ranney-Blake	7/12	Berlin	14	S. Sutton
Belted Kingfisher				8/10	Dudley	22	M. Lynch#
7/13	Rehoboth	5	M. Lynch#	8/19	P.I.	13	R. Heil
7/26	Mashpee	10	M. Keleher	8/23	Ware R. IBA	21	M. Lynch#
8/31	Northfield	6	M. Lynch#	Great Crested Flycatcher			
Red-bellied Woodpecker				7/12	Quabbin (G10)	4	BBC (G. d'E)
7/6	Oakham	3	M. Lynch#	7/16, 22	Ipswich	pr n	J. Berry
8/10	Dudley	6	M. Lynch#	7/20	Chatham	5	F. Bouchard

Great Crested Flycatcher (continued)			7/26	Plymouth B.	200	G. d'Entremont
7/26	Mashpee	6		Westport	4000+SSBC	(J. Sweeney)
8/28	Medford	2	M. Keleher	8/17	Ipswich (C.B.)	5000
			M. Rines	8/20	P.I.	100,000
Eastern Kingbird				8/22	Chatham	1150
7/5	E. Brookfield	14	M. Lynch#	8/26	E. Boston (B.I.)	1800
7/13	Rehoboth	16	M. Lynch#	8/27	P'town	500
7/19	Brookfield	17	M. Lynch#	8/29	Nantucket	4000
8/2	W. Brookfield	11	M. Lynch#	8/29	Northern Rough-winged Swallow	
8/10	P.I.	42	P. + F. Vale	7/24	Plymouth	12
8/23	Ware R. IBA	10	M. Lynch#	8/21	Wakefield	15+
White-eyed Vireo				8/24	Action	45
7/13	Swansea	1	M. Lynch#	7/1	Ipswich (C.B.)	50+
7/26	Westport	6	M. Lynch#	7/1	S. Carver	46 pr
8/15	MNWS	2	J. Hoye#	7/5	E. Brookfield	30+
Yellow-throated Vireo				7/10	P.I.	200+
7/3	Uxbridge	1	J. Liller#	7/12	Duxbury B.	150
7/6	Oakham	6	M. Lynch#	7/25	Plymouth B.	10
7/6	Ipswich	1	J. Berry	8/7	Woburn (HP)	10
7/12	Berlin	3	S. Sutton	7/5	Cliff Swallow	
7/19	Sudbury	1	B. Harris	7/5	Newbury	1
7/27	Petersham	2	M. Lynch#	7/12	Adams	250
Blue-headed Vireo				7/12	Cheshire	10
7/2	Westminster	7	C. Caron	8/4	Salisbury	1
7/2	Carlisle	1	T. + D. Brownrigg	8/12	Duxbury B.	1
7/6	Oakham	5	M. Lynch#	8/19	P.I.	2
7/12	Mt. Watatic	14	C. Caron	7/4	Barn Swallow	
7/12	Quabbin (G10)	2	BBC (G. d'E)	7/13	Adams	109+
7/17	Berlin	2	S. Sutton	7/26	Swansea	104+
7/27	Petersham	7	M. Lynch#	7/26	Plymouth B.	50
8/9	Colrain	7	M. Lynch#	7/30	P.I.	105
8/27	DWWS	2	MAS (J. Galluzzo)	8/9	Colrain	89
Warbling Vireo				8/21	Wakefield	75+
7/6	Wakefield	15	P. + F. Vale	8/24	GMNWR	60+
7/13	Rehoboth	6	M. Lynch#	8/24	Wayland	132
7/19	Brookfield	16	M. Lynch#	8/26	Nauset	40
8/7	Woburn (HP)	11	M. Rines	7/3	Red-breasted Nuthatch	
8/31	P.I.	6	N. Landry	7/12	Ipswich	pr + 1 yg
Philadelphia Vireo				7/12	Mt. Watatic	6
8/21	Melrose	1	P. + F. Vale	7/26	Mashpee	10
8/27	P.I.	2	D. Chickering	8/thr	Middleboro	4
8/31	Lexington	2	P. + F. Vale	8/9	Colrain	20
Red-eyed Vireo				8/17	Petersham	2
7/6	Oakham	49	M. Lynch#	8/23	Ware R. IBA	17
7/10	Westminster	28	C. Caron		Brown Creeper	
7/12	Quabbin (G10)	61	BBC (G. d'E)	7/6	Oakham	2
7/12	Mt. Watatic	16	C. Caron	7/10	Westminster	2
7/12	Adams	50	M. Lynch#	7/20	WBWS	2
7/12	Cheshire	36	M. Lynch#	8/10	Middleboro	2
7/20	Petersham	94	M. Lynch#	8/17	Petersham	4
8/23	Ware R. IBA	26	M. Lynch#		Carolina Wren	
Fish Crow				7/13	Rehoboth	12
7/7	Mashpee	4	M. Keleher	7/26	Acoaxet	20
7/11	Southwick	4	S. Ricker	8/9	Wayland	6
8/4	Bourne	9	D. Manchester	8/10	Dudley	13
8/18	Manomet	22	I. Davies	8/21	Woburn	9
8/23	Longmeadow	2	S. Kellogg	8/22	Lexington	5
8/29	Northampton	4	L. Therrien	8/29	Brookline	5
Common Raven					House Wren	
7/5	Wayland	4	J. Hoye#	7/7	Hamilton	9
7/9	Framingham	2	J. Hoye#	7/19	Brookfield	10
7/12	Berlin	4	S. Sutton	8/9	Wayland	15
7/12	Cheshire	3	M. Lynch#	8/18	Medford	10
7/20	Petersham	5	M. Lynch#	8/21	Woburn	12
8/17	Royalston	5	M. Lynch#	8/24	Wayland	12
Horned Lark				8/31	Lexington	14
7/13	Sandwich	2	M. Keleher		Winter Wren	
7/20	WBWS	3	MAS (D. Berard)	7/3	Ashburnham	2
7/26	Plymouth B.	5	G. d'Entremont	7/4	Windsor	2
7/26	Chatham (S.B.)	2	MAS (S. Wheelock)	8/9	Colrain	5
7/29	P'town (R.P.)	5	ad, 1 juv	8/10	Dudley	3
8/17	Duxbury B.	2	imm		Sedge Wren	
Purple Martin				7/4	Windsor	1
7/1-8/16	P.I.	45 max	v.o.		Marsh Wren	
7/4	Mashpee	14	ad + 17 yg	thr	P.I.	30 max
7/27	Rochester	16	J. Sweeney#	7/5	Ipswich	7
8/27	Rehobeth	7	pr, 31 juv	7/6	Wakefield	13
Tree Swallow						
7/20	Petersham	500+	M. Lynch#			

Marsh Wren (continued)				Brown Thrasher			
7/12	IRWS	5	T. Bronson#	7/1	Ipswich (C.B.)	7	J. Berry#
7/13	Swansea	6	M. Lynch#	8/5	P.I.	14	R. Heil
7/13	GWNWR	10+	BBC (I. Giriunas)	8/17	Burlington	2	M. Rines
7/18	Lenox	2	G. Hurley	8/20	Ipswich (C.B.)	3	J. Berry
7/26	Mashpee	8	M. Keleher	8/30	Wachusett Res.	2	K. Bourinot
Golden-crowned Kinglet				Cedar Waxwing			
7/4	Windsor	12	M. Lynch#	7/27	Petersham	52	M. Lynch#
7/12	Mt. Watatic	8	C. Caron	7/27	P'town	15	B. Nikula
8/3	Greylock	6	R. Laubach	8/5	P.I.	94 ad	R. Heil
8/9	Colrain	22	M. Lynch#	8/9	Colrain	28	M. Lynch#
8/23	Ware R. IBA	4	M. Lynch#	8/17	Leicester	57	M. Lynch#
8/28	P.I.	1	J. Moosbrucker#	8/23	Ware R. IBA	66	M. Lynch#
8/31	W. Newbury	1	S. McGrath	Blue-winged Warbler			
Blue-gray Gnatcatcher				8/5	P.I.	2 m juv	R. Heil
7/3	Uxbridge	4	J. Liller#	8/15	Medford	2	M. Rines#
7/6	Oakham	4	M. Lynch#	8/18	Peddocks I.	3	R. Stymeist
7/19	Princeton	4	S. Sutton	8/24	Newton	2	H. Miller
7/26	Westport	4	M. Lynch#	Tennessee Warbler			
8/9	Wayland	14	B. Harris	8/9	Wayland	1	B. Harris
8/18	Manomet	8	I. Davies	Nashville Warbler			
8/24	Wayland	11	B. Harris	7/12	Mt. Watatic	7	C. Caron
8/30	Wachusett Res.	1	K. Bourinot	8/21	MNWS	1	P. Cozza
Eastern Bluebird				8/22	Chicopee	1	A. + L. Richardson
7/3	Ipswich	12	J. Berry	8/26	S. Quabbin	1	L. Therrien
7/11	Middleton	11	J. Berry	8/31	P.I.	1	B. Harris
8/23	S. Quabbin	12	L. Therrien	Northern Parula			
8/31	Northfield	25+	M. Lynch#	7/4	Harwich Port	1	B. Nikula
Veery				7/15	P.I.	1 m ad	R. Heil
7/2	Carlisle	10	T. + D. Brownrigg	8/14	Medford	2 juv	M. Rines
7/2	Westminster	19	C. Caron	8/21	MNWS	1	P. Cozza
7/3	Ashburnham	4	C. Caron	8/23	Rockport (A.P.)	1	J. + B. Cobb
7/4	Windsor	37	M. Lynch#	Yellow Warbler			
7/6	Oakham	18	M. Lynch#	7/6	Wakefield	36	P. + F. Vale
7/10	Essex	17	J. Berry#	7/26	Acoaxet	16	M. Lynch#
7/12	Adams	21	M. Lynch#	8/5	P.I.	38	R. Heil
7/12	Quabbin (G10)	14	BBC (G. d'E)	8/10	Dudley	12	M. Lynch#
7/12	Cheshire	19	M. Lynch#	8/14	Cambr. (F.P.)	6	R. Stymeist
7/26	Acoaxet	1	M. Lynch#	8/15	Melrose	5	D. + I. Jewell
8/19	P.I.	1	R. Heil	8/31	Northfield	6	M. Lynch#
Swainson's Thrush				Chestnut-sided Warbler			
7/14	Windsor	2	R. Laubach	7/4	Windsor	31	M. Lynch#
8/31	Northampton	1	B. Zajda	7/9	Westminster	16	C. Caron
Hermit Thrush				7/12	Cheshire	28	M. Lynch#
7/1	Manchester	2	J. Berry#	7/12	Quabbin (G10)	19	BBC (G. d'E)
7/2	Westminster	3	C. Caron	8/9	Colrain	6	M. Lynch#
7/2	Carlisle	2	T. + D. Brownrigg	8/15	Medford	1	M. Rines#
7/3	Ashburnham	7	C. Caron	8/18	Waltham	2	J. Forbes
7/12	Mt. Watatic	15	C. Caron	8/20	Lexington	1	M. Rines
7/12	Quabbin (G10)	10	BBC (G. d'E)	8/24	P.I.	1	P. McFarland
7/20	Petersham	12	M. Lynch#	8/26	MNWS	1	P. Peterson
7/26	Mashpee	15	M. Keleher	Magnolia Warbler			
8/9	Colrain	31	M. Lynch#	7/3	Ashburnham	5	C. Caron
8/23	Ware R. IBA	5	M. Lynch#	7/4	Windsor	12	M. Lynch#
8/25	Lakeville	10	R. Turner	7/12	Cheshire	5	M. Lynch#
Wood Thrush				7/12	Mt. Watatic	3	C. Caron
7/6	Oakham	11	M. Lynch#	7/27	Squantum	1 f	G. d'Entremont
7/7	Hamilton	6	J. Berry#	8/9	Colrain	2	M. Lynch#
7/10	Essex	7	J. Berry#	8/17	P.I.	1	K. Hartel#
7/11	Middleton	9	J. Berry	8/28	Medford	1	M. Rines
7/12	Cheshire	9	M. Lynch#	Cape May Warbler			
7/19	Waltham	5	J. Forbes	8/20	Nantucket	1	V. Laux
8/10	Dudley	2	M. Lynch#	8/20	MNWS	1	S. Williams#
8/26	Belmont	1	R. Stymeist#	8/31	P.I.	2	R. Heil
8/31	P.I.	1	T. Wetmore	Black-throated Blue Warbler			
American Robin				7/2	Westminster	36	C. Caron
7/4	Adams	107	M. Lynch#	7/12	Mt. Watatic	12	C. Caron
7/13	Swansea	124	M. Lynch#	7/12	Quabbin (G10)	13	BBC (G. d'E)
7/30	Mt. A.	112	R. Stymeist	7/20	Petersham	6	M. Lynch#
8/5	P.I.	138	R. Heil	7/23	Ipswich	1 m	J. Berry
Gray Catbird				8/9	Colrain	5	M. Lynch#
7/19	Brookfield	54	M. Lynch#	8/21	MNWS	1	P. Cozza
7/26	Acoaxet	63	M. Lynch#	8/24	Newton	1	H. Miller
8/5	P.I.	110	R. Heil	8/27	P.I.	1	D. Chickering
8/7	Woburn (HP)	44	M. Rines	8/31	Lexington	1	J. Forbes
8/9	Mashpee	64	M. Keleher	Yellow-rumped Warbler			
8/22	Lexington	65	P. + F. Vale	7/4	Windsor	17	M. Lynch#
				7/10	Westminster	5	C. Caron

Yellow-rumped Warbler (continued)

7/12	Mt. Watatic	16	C. Caron
7/12	Quabbin (G10)	3	BBC (G. d'E)
7/20	Petersham	9	M. Lynch#
8/9	Colrain	6	M. Lynch#
8/17	P.I.	1	K. Hartel#
8/20	Nantucket	1	V. Laux
8/23	Ware R. IBA	8	M. Lynch#
8/27	E. Boston (B.I.)	1	R. Stymeist
8/30	Medford	1	P. + F. Vale
Black-throated Green Warbler			
7/3	Ashburnham	7	C. Caron
7/6	Oakham	12	M. Lynch#
7/10	Westminster	5	C. Caron
7/10	Essex	3 m	J. Berry#
7/12	Quabbin (G10)	9	BBC (G. d'E)
7/12	Mt. Watatic	12	C. Caron
7/20	Petersham	16	M. Lynch#
8/9	Colrain	17	M. Lynch#
8/31	Northfield	6	M. Lynch#
Blackburnian Warbler			
7/3	Ashburnham	4	C. Caron
7/4	Cheshire	6	M. Lynch#
7/4	Windsor	5	M. Lynch#
7/12	Mt. Watatic	23	C. Caron
7/20	Petersham	8	M. Lynch#
8/9	Colrain	19	M. Lynch#
8/28	P.I.	2	T. Wetmore
Pine Warbler			
7/3	Ipswich	5 m	J. Berry
7/6	Oakham	10	M. Lynch#
7/19	Sudbury	8	B. Harris
7/20	Petersham	10	M. Lynch#
8/23	Ware R. IBA	28	M. Lynch#
8/29	Mashpee	4	M. Keleher
Prairie Warbler			
7/1	Lynnfield	pr	P. + F. Vale
7/2	Westminster	4	C. Caron
7/13	Dunstable	2	J. Forbes
7/27	Petersham	9	M. Lynch#
Blackpoll Warbler			
8/27	Lexington	1	M. Rines
8/28	P.I.	1	T. Wetmore
Cerulean Warbler			
8/13	MNWS	3	D. Noble#
8/16-17	P.I.	1 ph	J. Nelson + v.o.
Black-and-white Warbler			
7/9	Westminster	6	C. Caron
7/12	Mt. Watatic	6	C. Caron
7/28	Manchester	3	J. Berry
8/10	Dudley	6	M. Lynch#
8/18	Medford	7	M. Rines
8/19	P.I.	6	R. Heil
8/20	MNWS	4	S. Williams#
8/23	Ware R. IBA	6	M. Lynch#
American Redstart			
7/2	Medford	pr + 1 yg	R. LaFontaine
7/6	Oakham	14	M. Lynch#
8/5	P.I.	4 ad, 4 juv	R. Heil
8/9	Mashpee	4	M. Keleher
8/18	Peddocks I.	13	R. Stymeist
8/20	Melrose	10+	P. + F. Vale
8/21	Woburn	7	M. Rines
8/28	Medford	12	M. Rines
Ovenbird			
7/2	Westminster	34	C. Caron
7/6	Oakham	17	M. Lynch#
7/10	Essex	8 m	J. Berry#
7/12	Cheshire	13	M. Lynch#
7/12	Mt. Watatic	52	C. Caron
7/12	Adams	12	M. Lynch#
8/9	Mashpee	5	M. Keleher
8/23	Ware R. IBA	8	M. Lynch#
Northern Waterthrush			
7/6	Oakham	2	M. Lynch#
7/11	Middleton	pr w/ yg	J. Berry
8/8	WBWS	2	D. Berard
8/17	Nahant	2	J. Hoye#

Louisiana Waterthrush

7/7	Bolton	1	S. Sutton
7/8	Berlin	1	S. Sutton
7/12	Adams	2	M. Lynch#
8/9	Colrain	2	M. Lynch#
8/9	Whately	1	T. Gagnon
Kentucky Warbler			
8/23	Rockport (A.P.)	1	J. + B. Cobb
Connecticut Warbler			
8/26	Boston (A.A.)	1	M.L. Kaufman
8/27	Newton	1 imm	P. Peterson
8/31	Northampton	1	B. Zajda
Mourning Warbler			
7/4	Windsor	1	M. Lynch#
8/15	Boston (PO Sq.)	1	M. Garvey
8/18	Manomet	1 imm	I. Davies
Common Yellowthroat			
7/3	Ipswich	10	J. Berry
7/4	Cheshire	45	M. Lynch#
7/4	Adams	25	M. Lynch#
7/4	Windsor	46	M. Lynch#
7/5	E. Brookfield	18	M. Lynch#
7/6	W. Brookfield	10	M. Lynch#
7/6	Wakefield	27	P. + F. Vale
7/6	Oakham	17	M. Lynch#
7/8	P.I.	12	T. Wetmore
7/12	Cheshire	41	M. Lynch#
7/12	Adams	17	M. Lynch#
7/12	Quabbin (G10)	30	BBC (G. d'E)
7/15	P.I.	27	R. Heil
7/19	Waltham	10	J. Forbes
7/19	Brookfield	27	M. Lynch#
7/20	Petersham	11	M. Lynch#
8/5	P.I.	31	R. Heil
8/9	Colrain	11	M. Lynch#
8/17	Royalston	11	M. Lynch#
8/19	P.I.	24	R. Heil
8/22	Lexington	14	P. + F. Vale
8/23	Ware R. IBA	16	M. Lynch#
8/27	Lexington	12	M. Rines
8/31	Lexington	14	M. Rines#
8/31	P.I.	16	R. Heil
Wilson's Warbler			
8/19	Waltham	1	J. Forbes
8/31	P.I.	2 m	R. Heil
8/31	Arlington	1	S. Simpson
8/31	Lexington	1	M. Rines#
Canada Warbler			
7/2	Westminster	3	C. Caron
7/4	Windsor	5	M. Lynch#
8/10	Dudley	2	M. Lynch#
8/16	GMNWR	2	J. Forbes
8/18	Medford	6	M. Rines
8/18	Manomet	3 imm	I. Davies
8/20	MNWS	5	S. Williams#
8/23	Rockport (A.P.)	2	J. + B. Cobb
Yellow-breasted Chat			
8/18	Manomet	1 ad	I. Davies
Scarlet Tanager			
7/2	Westminster	33	C. Caron
7/6	Oakham	16	M. Lynch#
7/12	Quabbin (G10)	6	BBC (G. d'E)
7/12	Berlin	13	S. Sutton
7/15	Andover	10	J. Berry
7/19	Brookfield	8	M. Lynch#
7/20, 8/17	Petersham	12, 3	M. Lynch#
8/10	Dudley	5	M. Lynch#
Eastern Towhee			
7/1, 8/20	Ipswich (C.B.)	17, 12	J. Berry#
7/7	Hamilton	14	J. Berry#
7/12	Quabbin (G10)	24	BBC (G. d'E)
7/20	Petersham	47	M. Lynch#
7/26, 8/9	Mashpee	27, 48	M. Keleher
8/5	P.I.	43	R. Heil
8/23	Ware R. IBA	16	M. Lynch#
Field Sparrow			
7/1	P.I.	3	R. Heil
7/3	Saugus	8	P. + F. Vale

Field Sparrow (continued)				7/9	Ipswich	30+	J. Berry
7/11	Middleton	3	J. Berry#	7/12	Lanesboro	60	T. Gagnon
7/27	Petersham	11	M. Lynch#	7/18	Bridgewater	30+	W. Petersen
Vesper Sparrow				8/17	Leicester	68	M. Lynch#
7/10	Montague	2	J. Offerman	8/20, 26	Northampton	489, 1747	T. Gagnon
Lark Sparrow				8/31	Northfield	30+	M. Lynch#
8/21	Nantucket	1	V. Laux	Red-winged Blackbird			
8/26-27	Duxbury B.	1 1W ph	R. Bowes	7/5	E. Brookfield	185+	M. Lynch#
Savannah Sparrow				7/10	P.I.	300+	R. Heil
7/4	Cheshire	3	M. Lynch#	7/13	Rehoboth	300+	M. Lynch#
7/4	Adams	16	M. Lynch#	7/19	Waltham	125	J. Forbes
7/6	W. Brookfield	2	M. Lynch#	7/26	N. Monomoy	75	B. Nikula
7/27	Leicester	24	M. Lynch#	Eastern Meadowlark			
8/31	Northfield	16	M. Lynch#	7/1-8/16	P.I.	3-4	v.o.
Grasshopper Sparrow				7/12	Adams	5	M. Lynch#
7/10	Montague	2	J. Offerman	7/18	Bridgewater	8+	W. Petersen
Saltmarsh Sharp-tailed Sparrow				7/19	Holden	5	S. Sutton
thr	P.I.	77 max 7/1	R. Heil	7/27, 8/17	Leicester	5, 1	M. Lynch#
7/13	N. Monomoy	15	B. Nikula	Brown-headed Cowbird			
7/24, 8/10	E. Boston (B.I.)	13, 10	R. Stymeist	7/13	Swansea	30+	M. Lynch#
7/26	Acoaxet	25+	M. Lynch#	8/19	P.I.	25	R. Heil
7/27	Fairhaven	6	J. Sweeney#	Orchard Oriole			
8/9	Mashpee	7	M. Keleher	7/3	Saugus	5	P. + F. Vale
8/24	Chatham (S.B.)	12	B. Nikula	7/7	Hamilton	pr w/yg	J. Berry#
Seaside Sparrow				7/9	WBWS	3	D. Berard
7/1-8/19	P.I.	1-3	v.o.	7/15	P.I.	5	R. Heil
8/10	Chatham (S.B.)	1 juv	I. Davies#	7/24	Manomet	2	I. Davies#
8/17	S. Dart. (A.Pd)	1	J. Moore	Baltimore Oriole			
Lincoln's Sparrow				7/3	Saugus	12	P. + F. Vale
7/4	Windsor	1	M. Lynch#	7/11	Middleton	20	J. Berry
White-throated Sparrow				8/5	P.I.	24	R. Heil
7/3	Ashburnham	9	C. Caron	8/9	Saugus	13	D. + I. Jewell
7/4	Windsor	26	M. Lynch#	8/15	Mashpee	11	M. Keleher
7/12	Adams	4	M. Lynch#	8/22	Lexington	22	P. + F. Vale
8/9	Colrain	29	M. Lynch#	Purple Finch			
Dark-eyed Junco				thr	P.I.	8 max	v.o.
7/3	Ashburnham	1	C. Caron	7/1	Ipswich (C.B.)	3 m	J. Berry#
7/4	Carlisle	1	A. Ankers	7/4	Plainfield	5	H. Allen
7/12	Adams	4	M. Lynch#	7/9	Mashpee	4	M. Keleher
7/12	Cheshire	9	M. Lynch#	7/10	Westminster	3	C. Caron
7/12	Mt. Watatic	24	C. Caron	7/19	Amherst	6	H. Allen
8/9	Colrain	12	M. Lynch#	House Finch			
Rose-breasted Grosbeak				7/4	Adams	34	M. Lynch#
7/4	Windsor	6	M. Lynch#	7/26	Acoaxet	14	M. Lynch#
7/6	Oakham	9	M. Lynch#	8/5	P.I.	10	R. Heil
7/12	Quabbin (G10)	6	BBC (G. d'E)	White-winged Crossbill			
8/22	Lexington	5	P. + F. Vale	7/27	E. Quabbin	12	M. Lynch
8/24	Wayland	7	B. Harris	7/27	Petersham	12	M. Lynch#
Indigo Bunting				8/11	Windsor	1	J. Morris-Siegel
7/4	Windsor	9	M. Lynch#	8/15	Washington	4	M. Iliff
7/6	Oakham	9	M. Lynch#	8/27	Newton	4	P. Gilmore
7/11	Middleton	5	J. Berry	American Goldfinch			
7/12	Berlin	5	S. Sutton	7/15	P.I.	54	R. Heil
7/12	Cheshire	9	M. Lynch#	7/19	Brookfield	35	M. Lynch#
7/12	Adams	12	M. Lynch#	8/5	P.I.	77	R. Heil
7/19	Tewksbury	11	M. Rines	8/10	Dudley	41	M. Lynch#
8/10	Northampton	16	S. Sumner				
Bobolink							
thr	P.I.	50 max	T. Wetmore				
7/4	Wayland	50	B. Harris				



AMERICAN GOLDFINCH BY WILLIAM E. DAVIS, JR.

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	NAC	Nine Acre Corner, Concord
ABC	Atlas Block	Newbypt	Newburyport
A.P.	Allen Bird Club	ONWR	Oxbow National Wildlife Refuge
A.Pd	Andrews Point, Rockport	P.I.	Plum Island
B.	Allens Pond, S. Dartmouth Beach	Pd	Pond
B.I.	Belle Isle, E. Boston	P'town	Provincetown
B.R.	Bass Rocks, Gloucester	Pont.	Pontoosuc Lake, Lanesboro
BBC	Brookline Bird Club	R.P.	Race Point, Provincetown
BMB	Broad Meadow Brook, Worcester	Res.	Reservoir
C.B.	Crane Beach, Ipswich	S.B.	South Beach, Chatham
CGB	Coast Guard Beach, Eastham	S.N.	Sandy Neck, Barnstable
C.P.	Crooked Pond, Boxford	SRV	Sudbury River Valley
Cambr.	Cambridge	SSBC	South Shore Bird Club
CCBC	Cape Cod Bird Club	TASL	Take A Second Look
Corp. B.	Corporation Beach, Dennis	WBWS	Boston Harbor Census
Cumb. Farms	Cumberland Farms, Middleboro	WMWS	Wellfleet Bay WS
DFWS	Drumlin Farm Wildlife Sanctuary	Wompatuck SP	Wachusett Meadow WS
DWMA	Delaney WMA	Worc.	Hingham, Cohasset, Scituate, and Norwell
DWWS	Stow, Bolton, Harvard Daniel Webster WS	Other Abbreviations	
E.P.	Eastern Point, Gloucester	ad	adult
F.E.	First Encounter Beach, Eastham	b	banded
F.P.	Fresh Pond, Cambridge	br	breeding
F.Pk	Franklin Park, Boston	dk	dark (morph)
G40	Gate 40, Quabbin Res.	f	female
GMNWR	Great Meadows NWR	fl	fledgling
H.	Harbor	imm	immature
H.P.	Halibut Point, Rockport	juv	juvenile
HRWMA	High Ridge WMA, Gardner	lt	light (morph)
I.	Island	m	male
IRWS	Ipswich River WS	max	maximum
L.	Ledge	migr	migrating
MAS	Mass Audubon	n	nesting
M.P.	Millennium Park, W. Roxbury	ph	photographed
M.V.	Martha's Vineyard	pl	plumage
MAS	Mass. Audubon Society	pr	pair
MBWMA	Martin Burns WMA, Newbury	S	summer (1S = 1st summer)
MNWS	Marblehead Neck WS	v.o.	various observers
MSSF	Myles Standish State Forest, Plymouth	W	winter (2W = second winter)
Mt.A.	Mt. Auburn Cemetery, Cambr.	yg	young
		#	additional observers

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>.

Calling on Birders to Help Survey for ALB

With the Christmas Bird Count season upon us, I would like to take this opportunity to reach out to all of you in an appeal to help Massachusetts prevent the further spread of the Asian longhorned beetle (ALB). As you probably already know, Asian longhorned beetles attack a variety of hardwood trees, particularly maple, birch, willow, poplar, and elm. To date, more than 4000 infested trees have been found in the Worcester area, and all will need to be removed and replaced.

While the state and the federal government are actively surveying Massachusetts for invasive, wood-boring beetles, it has always been concerned citizens that have been the ones to spot Asian longhorned beetle when it infests a new area. I know you birders will be out in the field with your keen eyes and your binocs, and I'm hoping that you will take a moment to review the following ALB identification resources and report any suspicious tree damage to our website <<http://massnrc.org/pests/albreport.aspx>> or hotline (1-866-702-9938).

Tips for identifying ALB damage in winter:

<<http://massnrc.org/pests/blog/2008/12/spotting-asian-longhorned-beetle-damage.html>>

The Massachusetts Cooperative Eradication Program Website:

<<http://massnrc.org/pests/alb>> (photos from the Worcester infestation, the latest maps of the regulated area, information about similar species, and more)

Printable Pest Alert from the US Forest Service:

<<http://massnrc.org/pests/albdocs/ALBPestAlertUSDA.pdf>>

Recognizing ALB: a downloadable presentation by Bob Childs, UMass Extension:

<http://www.umassgreeninfo.org/fact_sheets/wood_attackers/ALB_2008/recognize_alb_ppt.pdf>

The Massachusetts ALB Cooperative Eradication Program also has plenty of fact sheets, ID cards, and other outreach material, and has knowledgeable staff available to do presentations on ALB and to teach groups how to identify the beetle and the damage it causes. If you are interested in receiving outreach materials or arranging for training, please contact me at the email or phone below.

Jennifer Forman Orth, Ph.D.

State Plant Pest Survey Coordinator

Massachusetts Department of Agricultural Resources

251 Causeway St., Suite 500

Boston, MA 02114-2151

jennifer.forman-orth@state.ma.us

p: (617) 626-1735

f: (617) 626-1850

<<http://massnrc.org/pests>>



ABOUT THE COVER

European Starling

The European Starling (*Sturnus vulgaris*), the quintessential despised invasive species, is nonetheless a species with a remarkable success story. A lecturer who studied flocking patterns in birds once opened his talk by saying that endangered species were losers — he preferred to study starlings, a real winner species. And a winner the European Starling is. About 100 starlings were released in Central Park, New York City, in 1890–1891, and this meager population has burgeoned to more than 200,000,000 individuals. The starling is a stocky, short-tailed passerine with mostly glossy black plumage, highlighted with buff flecks, and a long bill that in spring is bright yellow. In good light the “black” plumage is iridescent green and purple. The sexes are similar in plumage, and juvenile birds are drab gray or brown. Because they originated from a small population, expanded their range rapidly, and are migratory and gregarious, North American populations show virtually no genetic differentiation. The birds introduced into Central Park were probably of the European subspecies *S. v. vulgaris*, one of eleven subspecies found in Europe and Asia.

Starlings vary regionally and individually in their migration patterns, with some breeders sedentary while others are migratory. Even within a single brood some juveniles migrate, and others do not. Often migrating in flocks of 10,000 or more, they are diurnal migrants and very gregarious. In Massachusetts they are among the most common and widespread breeding species. They are abundant migrants, arriving to breed by April and leaving from October to December. Starlings are also abundant winter residents. For example, the winter roosts on the Mystic River Bridge in Everett and the Fore River Bridge in Quincy together can comprise more than 200,000 individuals.

European Starlings are usually monogamous but are commonly polygynous in some populations. They often produce two broods. They are behaviorally plastic in habitat use, occupying a variety of open areas, often in close association with man. Starlings have an impressive array of vocalizations by both sexes that include whistles, warbles, trills, screams, and rattles. When removed from a mist net or trap, they invariably emit a screeching distress call. European Starlings are excellent mimics of other bird species, human speech, and mammal and inanimate sounds. Their territoriality is confined to the nest cavity and a two-foot radius circle around the cavity. Males choose the nest cavity and then advertise for females; they sing warbling songs from a perch with wings drooping. Whistling songs usually accompany male-male interactions, and fights occur that may result in death. Threat displays include head raised with fluffed feathers and wing flicking. A submissive crouch is an appeasement display.

After selecting a nest cavity and acquiring a mate, the male closely mate-guards the female until egg-laying is complete. The nest cavity is lined with grass, pine needles or other vegetation, and feathers and may include man-made materials such as paper, cloth, and string. The cavity may be natural or man-made, and starlings

frequently out-compete bluebirds, Purple Martins, and woodpeckers for cavities, behavior that negatively impacts these native species. They show a high degree of nest-site fidelity and often reuse the same nest cavity. The usual clutch is five greenish or bluish eggs. Egg dumping in other starling nests (intraspecific brood parasitism) is common. Both sexes have brood patches and both incubate, although the female does most of the work for the twelve days until hatching. Both sexes share brooding duties for the period of about three weeks until fledging. Both parents feed the chicks, but they feed fledglings for only a day or so.

European Starlings tend to feed in flocks, often in mixed species foraging flocks with grackles, Red-winged Blackbirds, and cowbirds. They forage in just about any open area, including urban lawns, grassy fields, salt marshes, agricultural lands, and pastures. They tend to avoid woodlands and forests. Their diet is very diverse and includes fruit, berries, seeds, garbage, livestock feed, and an immense diversity of soil and short-vegetation invertebrates, which they take by probing or gleaning. They are confirmed feeding generalists.

Starlings are preyed upon by the usual mammal and avian predators but fly in tight, maneuverable flocks, a tactic that aids in avoiding avian predators. They have been aided by human habitat alteration of forests into agricultural lands and have taken advantage of urban facilities for roosting sites, as well as nest boxes provided by humans.

The spread of starlings has been phenomenal. After their introduction in the early 1890s, they encompassed the Northeast by 1920, most of the lower forty-eight states by 1930, and much of southern Canada by 1940. By 1970 they had spread throughout most of Canada and Alaska. European Starlings are found in such enormous numbers that they are considered a nuisance species in many areas. On the other hand, if you like starlings, you will be pleased to know that their future in North America is secure, unlike the United Kingdom, where they are declining. 

William E. Davis, Jr.

About the Cover Artist: Barry Van Dusen

The ubiquitous bird on our cover is by the prolific wildlife artist Barry Van Dusen, whose work has appeared on so many of our covers. Barry has illustrated widely, in 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 – 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>>. 



RED-BREADED NUTHATCH BY GEORGE C. WEST



Birders Meeting 2009
Birds and Birding On Our National Wildlife Refuges



17th Massachusetts Birders Meeting

March 7, 2009 / 9:00 am-4:30 pm

Worcester Technical High School, Worcester, MA

Vendors, workshops, and speakers to include
Lee Allen Peterson, Kenn Kaufman, and more

Co-sponsored by Mass Audubon and
US Fish & Wildlife Service
with support from Houghton Mifflin and
Birds & Beans Coffee

For more information visit
www.massaudubon.org/birdersmeeting

AT A GLANCE

October 2008



WAYNE R. PETERSEN

This month's mystery species appears to be a small bird with slender legs, relatively short bill, prominent wing bars, a bold eye ring, and plain underparts. Collectively, these features point to several identification possibilities: a small flycatcher (e.g., *Empidonax* sp.), a vireo species, Ruby-crowned Kinglet, or possibly a warbler (although the bill appears too wide for a warbler).

White-eyed, Yellow-throated, and Blue-headed vireos all have wing bars and eye rings. However, a close look at the mystery bird fails to see the tiny hooked tip characteristic of the stout bills of vireos, and even though the bird has an eye ring, it lacks the spectacled appearance produced by the conspicuous yellow or white lores of some vireos. Furthermore, vireos usually present a big-headed appearance, not true of the pictured bird. Though the mystery species superficially resembles a Ruby-crowned Kinglet, its wide bill and the absence of a black patch on the folded wing beneath the lower wing-bar at once eliminate this tiny species as an identification candidate. As previously noted, the mystery bird's bill is too wide to belong to a warbler, and the only warbler species having the combination of bold eye ring, prominent wing bars, plain underparts, and unstreaked back is the immature Chestnut-sided Warbler — a species that typically cocks its tail upward rather than holding it downward as shown here. The only remaining identification possibility is some sort of flycatcher.

As many readers undoubtedly know, flycatcher identification can be nasty, particularly when it comes to separating the various small flycatchers in the genus *Empidonax*. Since the pictured bird is not large or big-headed like a kingbird or large and long-tailed like a *Myiarchus* flycatcher (e.g., Great Crested Flycatcher), it has to belong to either the genus *Contopus* (e.g., Eastern Wood-Pewee, Olive-sided Flycatcher) or the genus *Empidonax* (e.g., Least Flycatcher, etc.). The bold eye ring and prominent wing bars at once remove Eastern Phoebe as a possibility. Eastern Wood-Pewee can be eliminated by the mystery bird's obvious eye ring and short wings with minimal primary extension (i.e., the projection of the primary tips beyond

the tips of the tertial feathers). Olive-sided Flycatcher is out of the running because it is considerably more robust than an Empid and would not exhibit prominent wing bars and a bold eye ring.

Knowing that the mystery bird is an *Empidonax* flycatcher, the reader should critically examine several features: primary extension and overall wing length, relative tail length, eye ring shape, tertial pattern, throat pattern, and bill size, shape, and coloration. In a black-and-white photograph some of these features are difficult to determine with certainty, since the overall coloration and throat color are impossible to determine. Nonetheless, the pictured bird offers enough information to allow identification with reasonable confidence. A close examination of its wings reveals very little extension of the long primary feathers beyond the tertials (the feathers closest to the lower back), and the tertials themselves appear dark and prominently pale-edged. The tail appears to be relatively short compared to the overall size of the bird, the eye ring is conspicuous and completely encircles the eye, the bill is obviously short and relatively narrow, and the lower mandible is practically unmarked except for a possible trace of dusky at the tip. Based on this combination of characters, all but one of the eastern Empid flycatchers can be eliminated.

Acadian Flycatcher is readily distinguished by a very long primary extension and a long, wide bill that is typically unmarked on the lower mandible. Willow Flycatcher generally shows little semblance of an eye ring and has a fairly long, heavy bill and a relatively long primary extension. Alder Flycatcher closely resembles Willow Flycatcher, although it often tends to show at least a thin eye ring. Yellow-bellied Flycatcher is a close match for the pictured bird, even though the reader cannot see the yellowish color of the throat, an important field mark for this species. An additional feature typical of Yellow-bellied Flycatchers is the dusky-olive coloration of the malar area beside the throat, coloration in low contrast to the sides of the neck and the yellow throat. Yellow-bellied Flycatchers also have longer primary extension than the noticeably short extension shown by the mystery flycatcher. Furthermore, the lower mandible of a Yellow-bellied Flycatcher's bill is normally completely orange-yellow, and its bill would appear longer and relatively wider at the base and heavier overall compared to the small size of the bird — impressions that are not apparent in the mystery photograph. With these various points in mind, only the Least Flycatcher among the eastern Empids is left as a reasonable possibility. Given the characteristics described above, most notably the very short primary extension, short bill, and conspicuous eye ring, the mystery species has to be a Least Flycatcher (*Empidonax minimus*). When observed in the field, the pictured flycatcher repeatedly uttered the *wit* or *pit* notes of this species, and it lacked the yellowish-olive coloration on the back and yellowish throat and underparts that are characteristic of a Yellow-bellied Flycatcher.

In Massachusetts Least Flycatchers are relatively common as migrants in May and in late August and September. As breeding birds, they are locally common in open deciduous and mixed forests. They are often found around the edges of beaver ponds in central and western Massachusetts, such as those adjacent to Quabbin Reservoir. The author photographed this Least Flycatcher at Pochet Island, Orleans, Massachusetts, on October 11, 2008. 

Wayne R. Petersen

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.
AT A GLANCE is sponsored by the Peterson Field Guide series.

Peterson Field Guides[®]

NEW

PETerson FIELD GUIDES[®]

Finding Your Wings
A Workbook for Beginning Bird Watchers
• identifies and describes the birds you often find
• how to identify
• recognize birds
• recognize common birds
• enjoy bird watching
BURTON GUTTMAN

PETerson FIELD GUIDES[®]

Birds of Eastern and Central North America
Fifth Edition
Roger Tory Peterson

PETerson FIELD GUIDES[®]

Advanced Birding
Kenn Kaufman

PETerson REFERENCE GUIDES[®]

Gulls of the Americas
Steve N.G. Howell / Jon Dunn

for Beginning To Expert Birders

Houghton Mifflin • www.houghtonmifflinbooks.com/Peterson/

**BIRD OBSERVER (USPS 369-850)
P.O. BOX 236
ARLINGTON, MA 02476-0003**

**PERIODICALS
POSTAGE PAID
AT
BOSTON, MA**

VOL. 36, NO. 6, DECEMBER 2008

<http://massbird.org/birdobserver/>

CONTENTS

FALL HAWKWATCHING ON PINNACLE ROCK: A SURPRISINGLY PRODUCTIVE SITE IN SUBURBAN BOSTON	<i>Craig Jackson</i>	325
COASTAL BREEDING BIRD MONITORING IN THE BOSTON HARBOR ISLANDS	<i>Carol Lynn Trocki</i>	330
COMMON EIDER DIE-OFFS ON CAPE COD: AN ONGOING INVESTIGATION	<i>Sarah Courchesne, D.V.M., and Julie C. Ellis, Ph.D.</i>	346
FORAGING WINTER FLOCKS OF BIRDS IN A FOREST IN FOXBORO, MASSACHUSETTS	<i>William E. Davis, Jr.</i>	350
FIRST MASSACHUSETTS NESTING RECORD FOR MERLIN (<i>FALCO COLUMBARIUS</i>)	<i>Matt Pelikan, Allan R. Keith, Lanny McDowell, and Susan B. Whiting</i>	355
ABOUT BOOKS		
<i>Querencia!</i>	<i>Mark Lynch</i>	361
BIRD SIGHTINGS		
July/August 2008		371
ABOUT THE COVER: European Starling	<i>William E. Davis, Jr.</i>	386
ABOUT THE COVER ARTIST: Barry Van Dusen		387
AT A GLANCE	<i>Wayne R. Petersen</i>	389