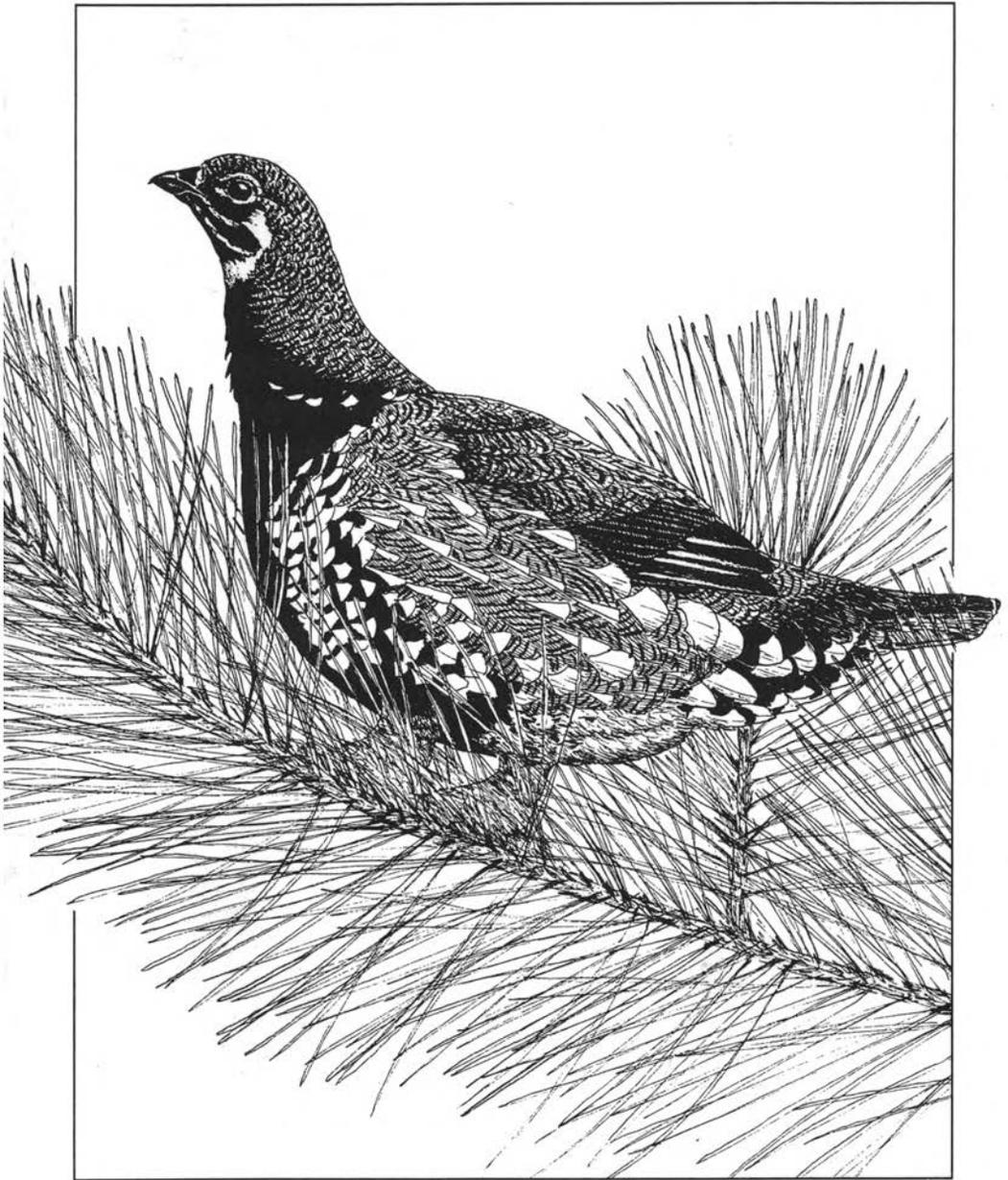


BIRD OBSERVER



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JUNE 1993



BIRD OBSERVER

• a bimonthly journal •

To enhance understanding, observation,
and enjoyment of birds.

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Manuscripts should be typed double-spaced on one side only of 8.5-by-11-inch paper. Manuscripts longer than 15 typed pages (about 4500 words) may be shortened when edited. Use the current A.O.U. Check-List for bird names and sequence. Type tables on separate pages. Black-and-white photographs and graphics are best. Include author's or artist's name, address, and telephone number and information from which a brief biography can be prepared. Indicate whether an IBM-compatible 5.25-inch diskette containing the article in ASCII or Microsoft Word can be supplied. Scientific and technical articles are peer reviewed. Views expressed in *BIRD OBSERVER* are those of the authors and do not necessarily reflect an official position of Bird Observer of Eastern Massachusetts, Inc.

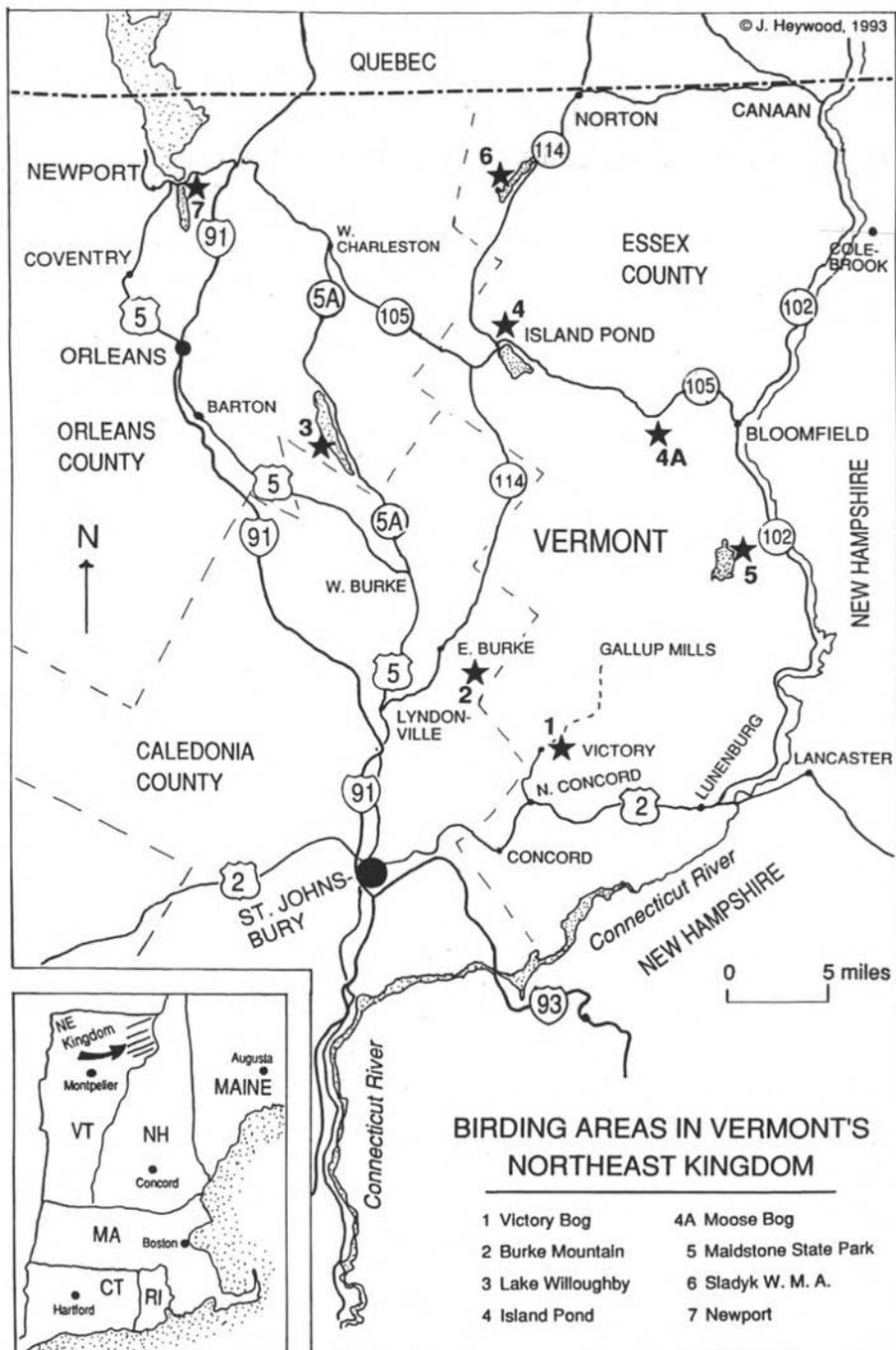
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A BIRDER'S GUIDE TO EASTERN MASSACHUSETTS

Bird Observer of Eastern Massachusetts, Inc., recently signed a contract with the American Birding Association (ABA) to produce *A Birder's Guide To Eastern Massachusetts*. The guide will be based primarily on selected where-to-find-birds articles that have appeared in *Bird Observer* since its inception. It will be produced and published by ABA under its series of bird-finding guides. ABA hopes to have the guide ready for sale by the end of 1993. As the publication date approaches, *Bird Observer* will announce the availability of the guide.



BIRDING VERMONT'S NORTHEAST KINGDOM: AN OVERVIEW

by Walter G. Ellison

Illustrations by Nancy L. Martin

Editor's Note. The late George Aiken, a United States Senator from Vermont, coined the term, *Northeast Kingdom*, in a Rotary Club speech in Lyndonville, Vermont, in 1949. Aiken felt that the name captured the beauty and wildness of the northeastern corner of the state.

Birders look northward to seek out the resident and migratory birds of the coniferous forests that stretch across North America from Newfoundland to Alaska. The Northeast Kingdom of Vermont, comprising Caledonia, Essex, and Orleans counties, is at the southern edge of this biome and harbors many of its characteristic birds. This region also hosts an abundance of birds of northern hardwood forest and has some first-rate wetlands. This article cannot be a detailed guide to the Northeast Kingdom; instead, I outline some of the birding highlights of the region.

To reduce unnecessary repetition, I include lists of characteristic birds of the major habitats of the Northeast Kingdom. Some redundancy between lists has been unavoidable due to broad habitat use by some birds; for instance, Winter Wren appears on most lists. Readers will note the absence of some familiar birds; I did not list some species to avoid needlessly lengthening the lists with common birds such as American Robin. In other instances the birds are scarce, near the northern edge of their ranges, e.g., House Wren, Brown Thrasher, Rufous-sided Towhee, and Field Sparrow.

I focus this account on birding during late spring and early summer, when most birders might plan to visit the Northeast Kingdom. This focus is not intended to discourage birding at other seasons. This is a good area to hunt for such winter specialties as Northern Shrike and Snow Bunting, and may be one of the few readily accessible places to find winter finches in some years. The Northeast Kingdom may also be amazingly birdless in winter when cone crops fail. The 1975 Island Pond Christmas Bird Count featured several parties with day lists of five or fewer species and less than 200 individual birds. That's tough birding. Spring and fall migrations are good here, and interesting waterbirds occur on the many lakes and ponds, especially during fallouts induced by major cold fronts. When it is appropriate, I will refer to birding in other seasons in the following accounts. Besides birds, it is also possible to see moose (increasing), bear, coyote, fisher, and bobcat.

The climate of the Northeast Kingdom is cold temperate with an emphasis on cold. Winter temperatures regularly fall far below zero Fahrenheit, and morning temperatures in summer sometimes dip into the forties. Birders should bring several layers of clothing that can be shed as the day warms up. Raingear

Characteristic Birds of Major Habitats of the Northeast Kingdom

Northern Hardwood Forest

Sharp-shinned Hawk
Broad-winged Hawk
Ruffed Grouse
Barred Owl
Yellow-bellied Sapsucker
Pileated Woodpecker
Least Flycatcher
Common Raven
Red-breasted Nuthatch
White-breasted Nuthatch
Brown Creeper
Winter Wren
Veery
Hermit Thrush
Wood Thrush
Solitary Vireo
Red-eyed Vireo
Black-throated Blue Warbler
Black-throated Green Warbler
Blackburnian Warbler
Black-and-white Warbler
American Redstart
Ovenbird
Canada Warbler (wet areas)
Scarlet Tanager
Rose-breasted Grosbeak
Dark-eyed Junco

Lower-Elevation Coniferous Forest

Sharp-shinned Hawk
Northern Goshawk
Ruffed Grouse
Northern Saw-whet Owl
Black-backed Woodpecker
Pileated Woodpecker
Yellow-bellied Flycatcher
Gray Jay (local—see text)
Common Raven
Red-breasted Nuthatch
Brown Creeper
Winter Wren
Golden-crowned Kinglet
Ruby-crowned Kinglet

Lower-Elevation Conifer Forest (continued)

Swainson's Thrush
Hermit Thrush
Solitary Vireo
Nashville Warbler
Northern Parula (wet areas)
Magnolia Warbler
Cape May Warbler (uncommon)
Yellow-rumped Warbler
Blackburnian Warbler
Bay-breasted Warbler (uncommon)
Canada Warbler (swamps)
White-throated Sparrow
Dark-eyed Junco
Purple Finch
Pine Siskin
Evening Grosbeak

Open, Wet, and Brushy Habitats

American Woodcock
Common Snipe
Ruby-throated Hummingbird
Olive-sided Flycatcher
Alder Flycatcher
Winter Wren (clear-cuts)
Eastern Bluebird
Veery
Nashville Warbler
Tennessee Warbler (rare)
Chestnut-sided Warbler
American Redstart
Mourning Warbler (clear-cuts)
Canada Warbler
Rose-breasted Grosbeak
Indigo Bunting
Lincoln's Sparrow
Swamp Sparrow
White-throated Sparrow

Upper Elevation Species

Gray-cheeked (Bicknell's) Thrush
Blackpoll Warbler (a few north
of Route 105 on logging roads)

and waterproof footwear are also advisable. Late May and June are peak bug season in the north country. Anyone who has braved clouds of biting insects, particularly black flies, will attest to the annoyance these critters cause. Bring along good repellent, but do not let the bugs deter you. There are two blessings to birding the north: little poison ivy and no ticks. As you drive about, remember that a moose through the windshield can be lethal. Drive slowly, and be alert for reddish eyeshine hovering seven feet above the road at night.

Always bring along good topographic maps and a compass if you plan to do any off-trail hiking, since roads are few and far between in the north. This is paper company territory, and logging trucks have the right-of-way on Champion International's timber roads. Try to have at least two wheels off logging roads when you park, listen for the oncoming behemoths, and give way when confronted by a truck, especially a fully loaded one. Not all logging roads will have open gates, so be prepared to change your plans if you find a gated and locked road. Most logging roads will be gated from April to Memorial Day to avoid mud-season damage, but after Memorial Day major logging roads are usually open.

Accommodations are readily found around the major population centers. I list phone numbers at the end of the article for local chambers of commerce. Island Pond has a good motel, The Lakefront, which is comfortable and reasonably priced. Brighton and Maidstone state parks offer camping, and there are several private campgrounds in the region. Useful resources include the DeLorme *Vermont Atlas and Gazetteer*, an excellent road atlas for all but logging roads. Current seven-and-a-half-minute U.S. Geological Survey topographic maps provide the best information on extant logging roads. Athletic birders should also invest in the Green Mountain Club's *The Day Hiker's Guide to Vermont*.

The small city of St. Johnsbury is the southern port of entry into the true Northeast Kingdom. There is a fine old Victorian natural history museum on Main Street in town, the Fairbanks Museum (802-748-2372), which is worth a visit if you have time.

Victory Bog

Victory Bog is much more than a bog. It is a 5000-acre wildlife management area embracing bog, alder swamp, beaver ponds, northern hardwood forest, and large tracts of balsam fir, black spruce, and white cedar. To reach Victory Bog, take U.S. Route 2 east from St. Johnsbury, and continue eastward for 10.5 miles through the villages of East St. Johnsbury and Concord. At the small village of North Concord, turn left (north), and proceed three miles to Victory (don't blink), where you must take the right (east) fork in the road, which continues up the Moose River valley. At about 4.7 miles there is a gravel parking lot above the road grade that marks the southern boundary of the

Victory Wildlife Management Area. There is good birding here, particularly along the Moose River on the east side of the road. State-owned land extends north almost to the village of Gallup Mills four miles to the north.

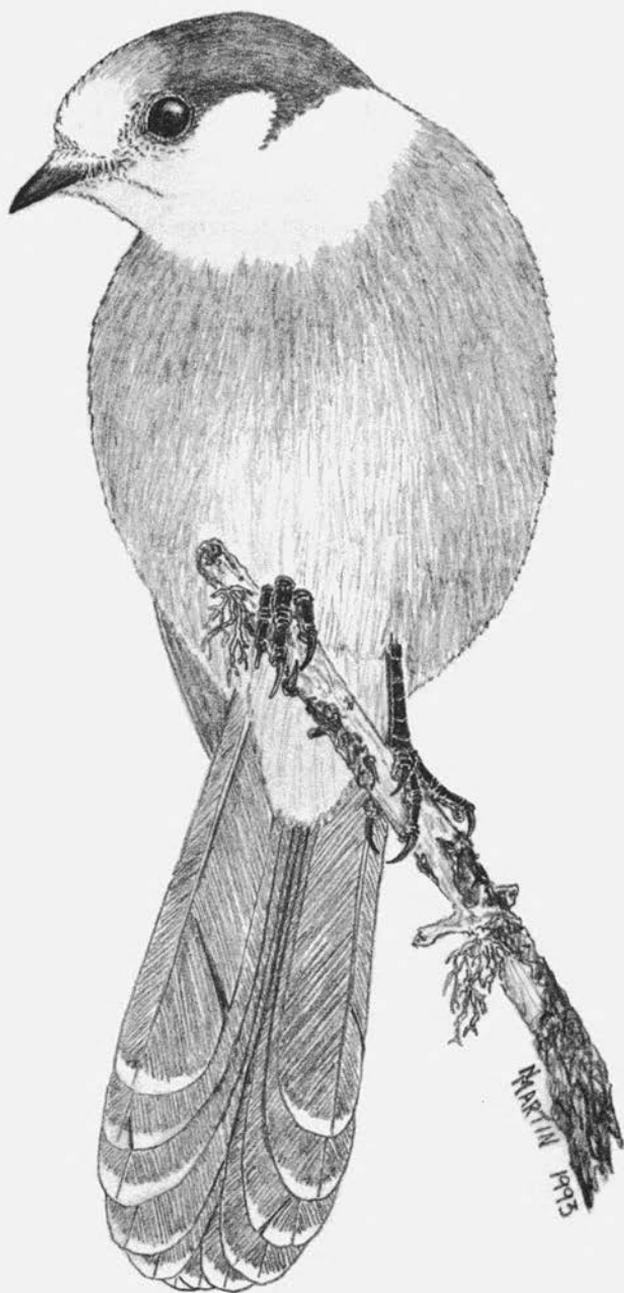
Continue to the Bog Brook crossing parking lot about 5.3 miles north of Route 2. There is a sweeping view of the Bog Brook drainage here with alder and willow swales in the foreground and conifers on the fringes. The best way to bird this area is by canoe or on foot. Bog Brook and Moose River provide waterways for exploration, and old logging roads and more recent skidder trails may be explored. You should also explore the natural gas pipeline right-of-way three miles north of Bog Brook, a consistently good area to search for Gray Jays. Besides Gray Jays, birders may also seek American Bittern, Northern Harrier, Northern Goshawk, Virginia Rail, Common Snipe, American Woodcock, Black-backed Woodpecker, Olive-sided, Yellow-bellied, and Alder flycatchers, Common Raven, Boreal Chickadee, both kinglets, eighteen nesting species of wood warblers, including occasional Bay-breasted and Cape May warblers, Lincoln's Sparrow, and Evening Grosbeak. A map and compass are very useful for covering more than the fringes of this vast area. If you see Gray Jays here or at Moose Bog (see below), check for color bands placed on them by Dr. William Barnard, and let him know the date and location of your sightings (Department of Biology, Norwich University, Northfield, VT 05663).

Burke Mountain

The easiest access in northeastern Vermont to subalpine forest above 3000 feet elevation is via the toll road to the summit of Burke Mountain (3267 feet). To reach Burke Mountain, go to Lyndonville on Interstate 91, then go through town on U.S. Route 5, and turn right (east) onto Route 114 at the north end of town. Proceed north on Route 114 for five miles to the village of East Burke. At the north edge of town Route 114 makes a sharp left turn; take the major right (east) turn here toward Burke Mountain. The turn is hard to miss because of large signs for the Burke Mountain Ski Area. Continue east on this road for 2.5 miles to the base of the toll road. The toll road is open from 10 A.M. to 5 P.M. The woods on the lower slopes have good numbers of the regular northern hardwood forest birds. The summit has a good population of Blackpoll Warblers and two to five pairs of Gray-cheeked Thrushes. If you do not wish to pay the toll or confine yourself to the open hours for the road, which are not peak hours for Gray-cheeked Thrush activity, you may walk up the toll road free of charge or take two other hiking trails up the mountain (see *The Day Hiker's Guide to Vermont*).

Lake Willoughby

Lake Willoughby is a 500-foot-deep blue jewel set amid spectacular granite mountains with soaring cliffs. The main avian attraction here is a pair of



Gray Jay

Illustration by Nancy L. Martin

Peregrine Falcons nesting on the cliffs of Mount Pisgah. There are also rare alpine plants on the calcium-rich granite cliffs such as butterwort, white mountain saxifrage, and alpine woodsia. Several pairs of Common Ravens sport over the cliffs of Mount Pisgah, Mount Hor, Haystack Mountain, and Wheeler Mountain. Lake Willoughby is reached by taking U.S. Route 5 north from Lyndonville for eight miles. Turn right onto Route 5A at the village of West Burke. The lake lies another 6.5 miles to the north.

A hiking trail to the summit of Mount Pisgah begins at a trailhead 0.7 miles south of the lake (5.8 miles north of West Burke) on the east (right) side of Route 5A. Another trail ascends Mount Pisgah from the north, starting from Route 5A three miles north of the southern trailhead (3 miles south of the intersection of Routes 5A and 16). These are good trails for northern hardwood forest birds and such boreal species as Swainson's Thrush. There are Blackpoll Warblers at the summit. Access to the cliff top is restricted during the Peregrine Falcon nesting season from April to July, but one usually can see their comings and goings from below the cliffs along the lake. Migrating hawks ride the updrafts along the Pisgah cliffs during autumn migration, often offering spectacular views. Lake Willoughby itself has surprisingly little waterbird activity, perhaps because of its great depth.

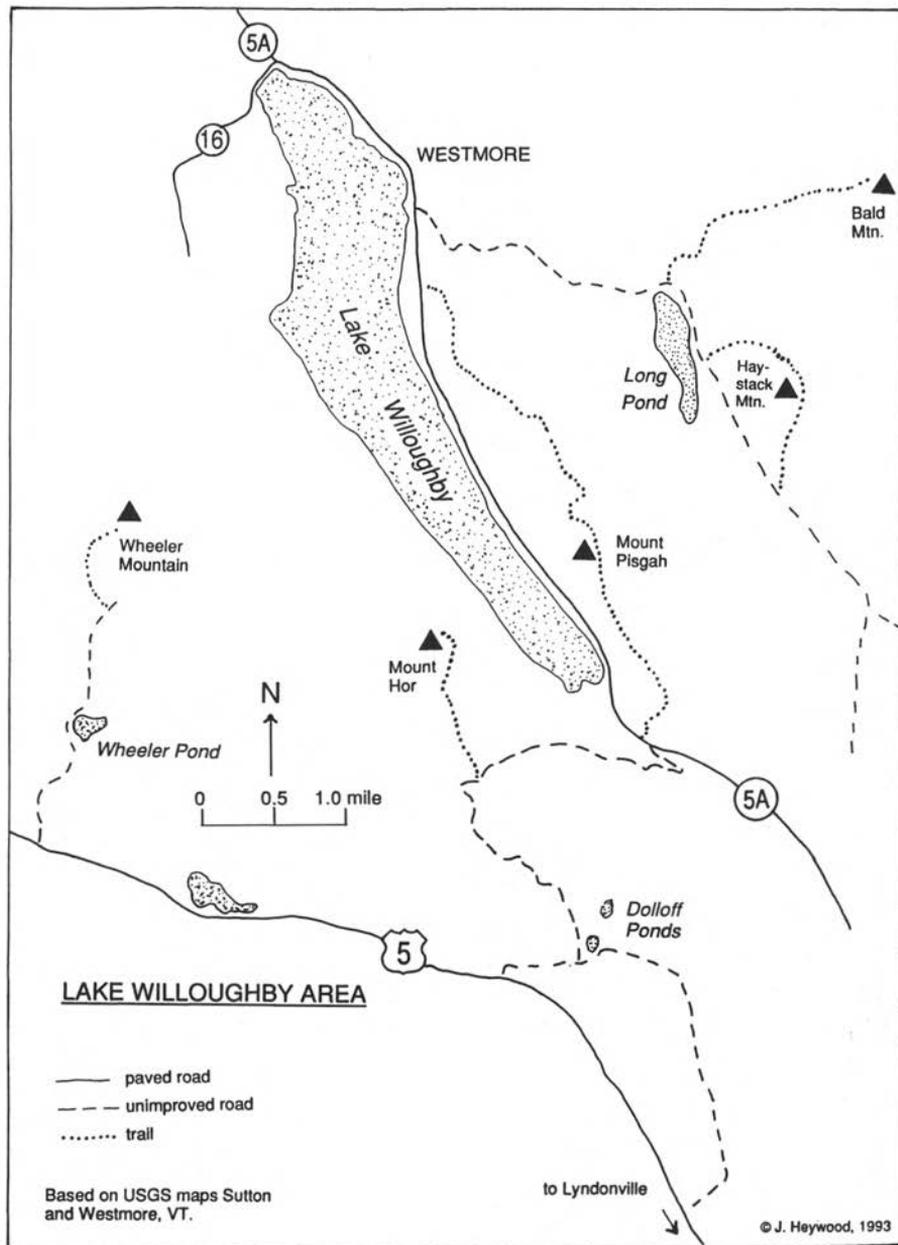
Other good areas to bird around Lake Willoughby include the Mount Hor trail on the west side of the lake, reached by a rough CCC road that leaves Route 5A just south of the southern Mount Pisgah trailhead. The CCC road, if driven carefully, can be productive for Mourning Warbler in regenerating logging scars, and for Rusty Blackbird and Ruby-crowned Kinglet at Dolloff Ponds at the far end of it. Wheeler Mountain offers spectacular views and Blackpoll Warblers on its summit, and Wheeler Pond has nesting Rusty Blackbirds. A relatively easy hiking trail from Long Pond east of Lake Willoughby ascends Bald Mountain (3315 feet), whose summit harbors Yellow-bellied Flycatcher, Gray-cheeked Thrush, and Blackpoll Warbler.

Island Pond

The forests around the village of Island Pond, especially those to the east along Route 105, are the best known and most consistently productive areas for boreal birds in the Northeast Kingdom. Island Pond is twenty-four miles northeast of Lyndonville via Route 114. The town shows its heritage as a railroad town in timber country, but it has a wonderful setting amid round-shouldered mountains on the shores of its namesake pond. Although most of the good birding lies to the east of town, Island Pond and nearby Spectacle Pond are worth a check during migration and for summering Common Loons. Waterbirds on Island Pond have included Red-throated Loon, Red-necked Grebe, Great Cormorant, Brant, all three scoters, Oldsquaw, and Bonaparte's Gull. Brighton State Park on the east side of the pond offers camping and a swimming beach.

While you are in town, keep an eye open for Cliff Swallows flying over the pond and nesting under the eaves of downtown buildings.

Proceed east of town on Route 105. At 3.5 miles is the John H. Boylan Airport, a small airfield that nonetheless offers an oasis of grassland amid the wetlands and forests of Essex County. There are extensive alder swamps



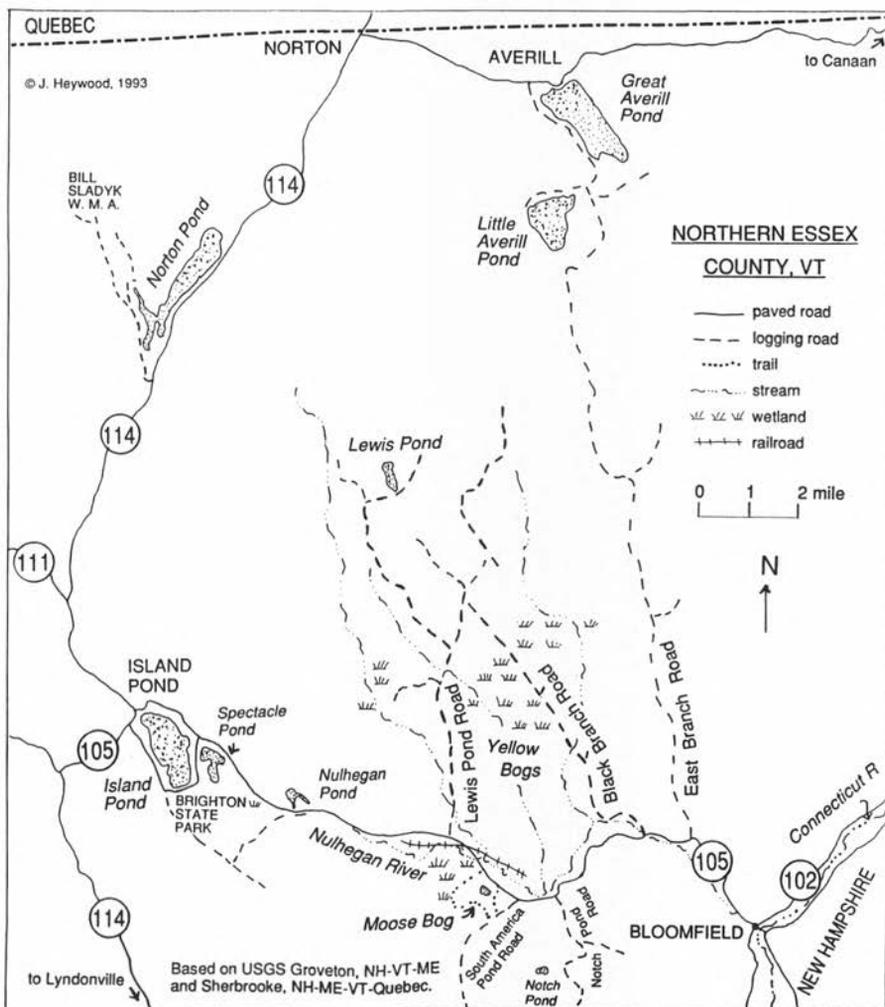
surrounding the airport around Nulhegan Pond and the Nulhegan River. Common Snipe and American Woodcock abound here. The early morning sparrow chorus includes Field, Vesper, Savannah, Lincoln's, and Swamp sparrows. The alder swamps shelter American Bittern, Great Blue Heron, Northern Harrier, and Alder Flycatcher. The environs of the airport is also one of the few local places where Brown Thrasher regularly occurs.

As you motor eastward, you enter the Nulhegan Basin proper, an area dominated by coniferous forest. The lower elevations of the basin are affected by radiative cooling and thus have lower temperatures than the surrounding hills. When you climb out of the basin on logging roads, the frequency of northern hardwood forest increases. After about 6.5 miles from town you cross the Canadian National Railroad at a large old log landing called Wenlock Crossing. On the left is a logging road called the Lewis Pond Road, which penetrates deep into the unincorporated town of Lewis. Habitat conditions on logging roads are unpredictable because forests along them are subject to harvest. Nonetheless, there are still large tracts of wet coniferous and hardwood forest along them. Clear-cuts offer some interesting birding as they regenerate, providing habitat for American Kestrel, Olive-sided Flycatcher, Eastern Bluebird, occasional nesting Tennessee Warblers, Mourning Warbler, and Lincoln's Sparrow. Conifer stands may have Black-backed Woodpecker, Gray Jay, and Boreal Chickadee. Rusty Blackbirds also nest along logging roads, usually near alder swamps. Lewis Pond, reached after ten miles right in two places where a road branches to the left, is an attractive pond, which resounds with the hollow calls of mink frogs in June. Follow the map closely here, for you do not want to take one road (possibly overgrown) that turns off to the right.

A quarter-mile east of Wenlock Crossing on Route 105 is a bridge over the Nulhegan River, just beyond which is a large gravel lot on the left across from the sign marking the 2000-acre Wenlock Wildlife Management Area. On the right, shortly after the sign, is a wood road providing access to the west side of the area, which includes alder swamp along the Nulhegan and coniferous forest along the outlet of Moose Bog Pond. This area includes some grouse dust-bathing sites (hope for Spruce Grouse) and birds similar to those at Moose Bog itself. To reach Moose Bog, continue eastward for a mile, and turn south onto a major gated logging road, the South America Pond Road. The gate is likely to be closed prior to Memorial Day. A quarter-mile south of Route 105 the road dips into an alder swamp with drowned cedars. Park off the road here or at a pullout on the west side of the road closer to Route 105. Bird the cedars, walk back north to the crest of the hill, and take an obscure logging road blocked by granite boulders on the left (west). This narrow track through the black spruces leads to a low ridge above Moose Bog Pond. There are several faint trails downhill to the margin of this boggy pond which sometimes lives up to its

name. In early June its shores are aflame with rhodora. All boreal specialties, including on rare occasion Spruce Grouse, may be seen here. Nashville and Magnolia warblers are very common around Moose Bog, giving birders ample opportunity to learn their songs and calls.

From here continue walking west and north on the Moose Bog trail to Route 105, and then eastward along 105 to South America Pond Road and your car. Cape May Warblers are frequently seen and heard in the tall conifers along Route 105. Logging roads on the north side of Route 105 give access to the Nulhegan River and are also worth exploring. The South America Pond Road is a long logging road that proceeds south over the divide separating the Nulhegan and Paul Stream drainages and continues down the Paul Stream valley passing the vast Ferdinand Bog and eventually depositing the traveler on the road to





Cape May Warbler

Illustration by Nancy L. Martin

Maidstone State Park. It covers some superb boreal habitat and hardwood forest and is well worth spending the better part of a day birding.

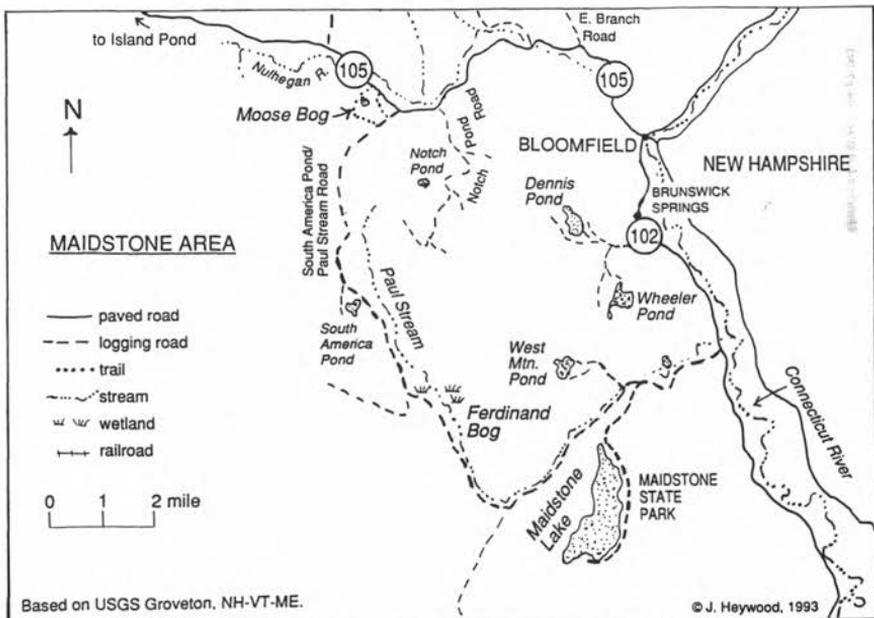
Three other very good logging roads leave Route 105 east of Moose Bog. The first is the Notch Pond Road, which is a south (right) turn off Route 105 a half-mile east of South America Pond Road. The soupy mud along the north side of Route 105 near this turn is a moose wallow. Moose are often seen here at dawn and dusk (you may also see the cars of local moose watchers). The early stages of the Notch Pond Road have hardwoods on the left and conifers on the right, providing an interesting mix of bird species, e.g., Scarlet Tanager and Yellow-bellied Flycatcher. Northern Parula is especially common here.

Proceeding another three miles east on Route 105, you cross the railroad and the Nulhegan River again; here the huge standards of the Hydro Quebec powerline break the horizon. Hard on the left (north) is the Black Branch ("three-toed") Road. After traversing a mix of clear-cuts, alder swamps, and conifer patches along this road, the birder enters an impressive tract of wet black-spruce forest called the Yellow Bogs. At four miles there is a branch in the road. This area has recently been a consistent place to find Spruce Grouse, with a good chance of finding Black-backed Woodpecker, Gray Jay, and Boreal Chickadee. Three-toed Woodpecker has been seen here in winter. The Vermont Fish and Wildlife Department has color-banded Spruce Grouse in this area; please inform the department (103 South Main St., Waterbury, VT 05676) if you see one of these birds.

The third logging road is also on the left (north) another mile east on Route 105, just before 105 crosses the East Branch of the Nulhegan. This road travels up the valley of the East Branch, goes over a rise, and continues north to Averill on the Canadian border. All boreal specialties, except the Spruce Grouse, have been seen along this road, particularly beyond six miles north of Route 105.

Maidstone State Park

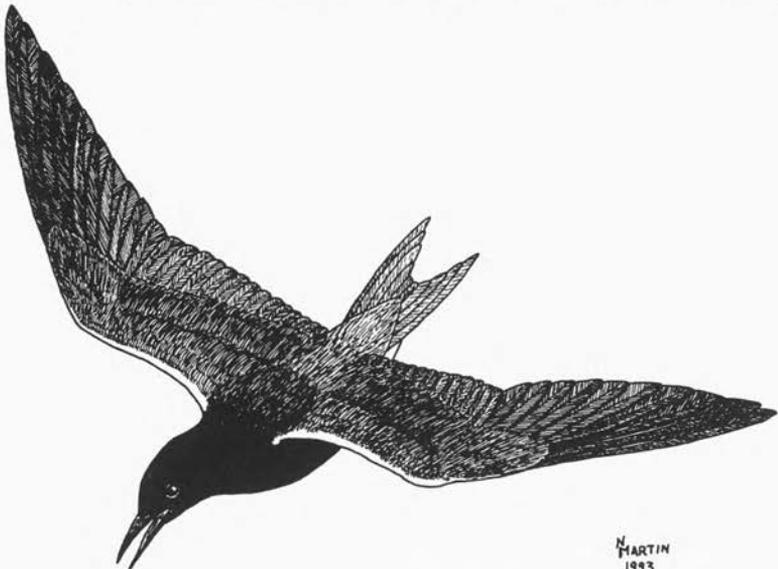
Maidstone Lake is tucked into the hills west of the Connecticut River. Common Loons nest there, and the surroundings offer a good combination of boreal and hardwood forest birds. To reach the gravel access road to Maidstone Lake, either travel sixteen miles north on Vermont Route 102 from U.S. Route 2 in Lunenburg, or take Route 105 from Island Pond to Bloomfield and drive south five miles on Route 102. A more unorthodox way of reaching this road from farther west is via the South America Pond/Paul Stream Road from Route 105 in Ferdinand. From Route 102 the access road takes one through a mix of hardwood and coniferous forest. Fourteen nesting warblers, including Mourning in cutover areas, may be found along the road. The lake is reached after a three-mile drive, and the state park is another 2.5 miles down the east shore past a multitude of camps. The park has a nature trail around the south end of the lake, which is good for a mix of hardwood and coniferous bird species including Eastern Wood-Pewee, Least and Yellow-bellied flycatchers, Winter Wren, Veery, Swainson's Thrush, Northern Parula, and Black-throated Blue and Canada warblers. The best boreal birding near the park is on logging roads north and west of the lake. Recommended are the Paul Stream/South America Pond Road, the road to West Mountain Pond, and logging roads in Brunswick off Route 102 three miles north of the lake access road and just south of Brunswick Springs. Black-backed Woodpecker, Gray Jay, Boreal Chickadee, Rusty Blackbird, and many other boreal specialties have been seen along these roads.



Bill Sladyk Wildlife Management Area

North of Island Pond on Route 114 is the Bill Sladyk Wildlife Management Area, a nearly 9400-acre natural area preserved primarily for deer and small-game hunters, stretching from the west shore of Norton Pond to the Canadian border near Holland Pond. It is impossible to do justice to this area because it has received little attention from birders until recently, but it has great potential and should not be overlooked by the venturesome. Loons nest on several ponds in the vicinity including Norton, Holland, and Beaver ponds, as do Common and Hooded mergansers. Boreal bird species seen here have included Black-backed Woodpecker, Olive-sided Flycatcher, Boreal Chickadee, Bay-breasted Warbler, Lincoln's Sparrow, Rusty Blackbird, and White-winged Crossbill (including July sightings).

To reach this area, drive north on Route 114 for 7.5 miles from Island Pond. Before you reach the shores of Norton Pond, look for a wide gravel road with a well-marked railroad crossing. Turn left (west) here, where there is a prominent sign announcing that you are entering the Wildlife Management Area. Bird along this road as far as it can take you; it passes by some wetlands, then continues through a wooded area to some camps along the shore of Norton Pond. Continue past the camps, and you will eventually come to the west arm of Norton Pond, a large bay with a complex of conifer-and alder-clad wetlands that is worth a careful check. After birding the west arm, continue past Hurricane and Coaticook brooks. The road branches after a moderate-grade hill. The right branch goes through regenerating hardwoods; the left is better for birding



Black Tern

Illustration by Nancy L. Martin

because it passes through good stands of black spruce and balsam fir. Both branches eventually dead-end, the left branch ending at a gate. The road ahead is worth walking and continues for miles into the hinterlands. *The Day Hiker's Guide to Vermont* provides information on a sampling of trails in this area. I recommend you get a copy and bring along a topographic map and compass for in-depth exploration of the area.

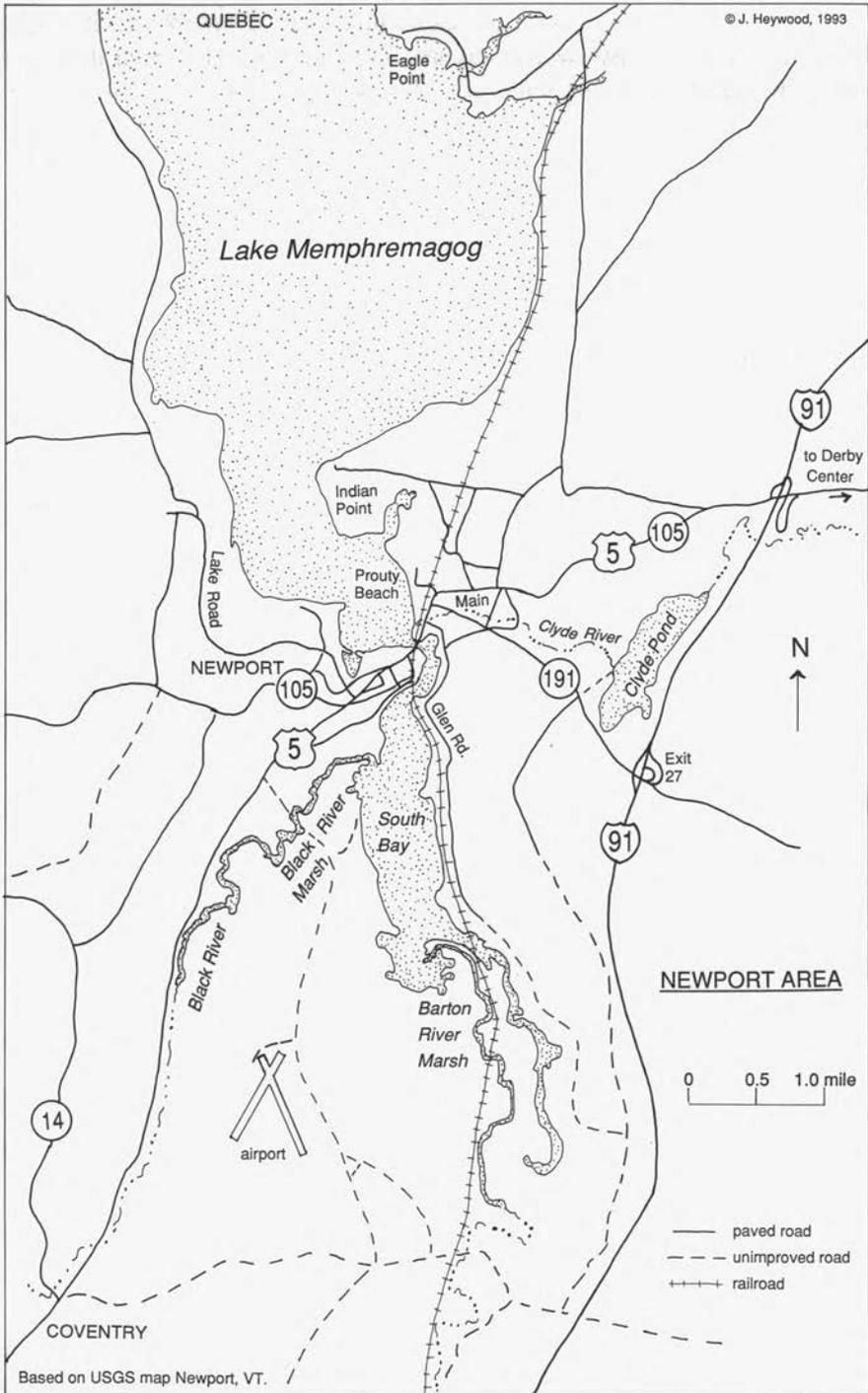
Newport

On the Canadian border northwest of Island Pond is Lake Memphremagog, with the small city of Newport at its southern end. Over half of this huge lake lies in Quebec, but it is nonetheless Vermont's second largest lake. The delta marshes and swamps of the Barton and Black rivers where they empty into South Bay south of Newport are the most extensive and productive wetlands in Vermont outside of the Champlain Valley. The region also has large dairy farms further contributing to a physiographic and avifaunal similarity to the Champlain Valley. A few Purple Martins nest near Newport (one colony is known in Derby Center), and localized grassland species, such as Upland Sandpiper, nest in the area. To reach Newport, take Interstate 91 north from St. Johnsbury or Route 105 north from Island Pond.

Upon entering Newport on Route 191, turn left onto U.S. 5 (Main Street); if you have come north from Island Pond, you will already be on Main Street. There is a park on the left as you drive down Main Street. Turn left onto Glen Road at the end of it. Proceed on Glen Road for 1.7 miles, with South Bay opening up on your right as you drive along. Turn right onto a gravel road that leads to an Agway grain elevator. Park on the shoulder after crossing the Canadian National Railroad, and scope South Bay during migration. There will be at least three species of gulls on the bay, and may also be loons, grebes, bay and sea ducks, and occasional Black Terns from the marshes to the south. Scan for soaring raptors, including Osprey and Bald Eagle. Hordes of Bank Swallows course over the bay and nest on bluffs above Glen Road.

Continue south for another mile, and look on the right for the fence of a small defunct oil depot before the road changes to gravel. Park your car, and cross through the fence to the railroad tracks, and walk south on them into the Barton River Marsh. Keep your ears open for trains; there is enough fill in the causeway to avoid getting run over, but pay attention. The best birding is in the first half-mile. Nesting marsh birds here include Pied-billed Grebe (four to six pairs, usually noisy in late May and early June), American and Least (rare) bitterns, Blue-winged Teal, Northern Harrier, Virginia Rail, Sora, Common Moorhen, Common Snipe, Black Tern, Willow Flycatcher, and Marsh Wren. Warbling Vireo and migrant songbirds are also found here. An American White Pelican spent a few days in May 1990 in this area.

Upon returning to your car, you may continue south on Glen (actually now



Rediker) Road. There is a canoe launch about a half-mile onward on the right; look sharply, for it is narrow and obscure. The road continues south through a mix of farmland and mixed forest with diverse birdlife to a T-intersection 2.9 miles beyond the oil depot. Turn right (south) here, proceed 1.6 miles to another T-intersection, and turn right, heading downhill to the Barton River. At the river there is another intersection. To continue your circuit of Coventry, turn right (north) here; a left turn will take you south along the Barton River to Orleans where you can return to Newport via Interstate 91. A right turn is called for here, but the flats along the Barton River about a quarter-mile to the left are worth checking during migration (see below). If you do check the flats, you should turn around and retrace your steps to follow the recommended itinerary.

The flats along the river on the left (as you head north and then west) often flood and are good in migration. Rarities seen here have included Glossy Ibis and Laughing Gull. Continue across the Barton River listening for Yellow-throated Vireo and looking for Northern Rough-winged Swallows. Another canoe launch is found on the east bank of the river at the bridge. Continue uphill, where you may take either of two right (north) turns into the farmlands above South Bay. This is a good area for grassland birds, including Upland Sandpiper and Horned Lark. Two to four pairs of Upland Sandpipers nest in the area from a little north of the intersections to just north of the Newport Airport (on the left). At 3.8 miles from either right turn, this road rejoins U.S. Route 5. Just before this intersection you pass through the Black River Marsh, which harbors rails, snipe, Alder Flycatcher, and Northern Waterthrush. Many years ago a Yellow Rail was heard here on an early June night. You can return to Newport by turning right (east) on Route 5.

Another good birding spot is the city-owned Prouty Beach, which may have transient shorebirds and offers a view of the lake. The park has campsites and may be crowded with Canadian campers on holiday weekends (e.g., Victoria Day in late May). Birders who ask politely are usually allowed free access to the park, but be prepared to pay a fee from May to early September. Other views of the lake may be had from roads along it in Derby on the east shore, particularly Eagle Point, and from the west shore in Newport town.

Useful Addresses and Phone Numbers

The Vermont Travel Division, 134 State Street, Montpelier, VT 05602 (802-828-3236)

Vermont Chamber of Commerce, Box 37, Granger Road, Montpelier, VT 05602 (802-223-3443)

Vermont Institute of Natural Science (VINS), Box 86, Woodstock, VT 05091 (802-457-2779). Bird Alert (evenings, ask for Steve Faccio). Birders are urged to contribute reports to VINS. Most birding in the Northeast Kingdom is by nonresidents, so your reports will be valued.

Local Chamber of Commerces

Barton	802-525-3242
Burke/Lyndon	802-626-8568
Newport	802-334-7782
Island Pond	802-723-4316
Lake Willoughby	802-525-4496

WALTER G. ELLISON is a native of northern New England. With the encouragement of his father, he began birding at the age of six. Walter has birded all corners of Vermont. He authored a bird-finding guide to the Green Mountain State in 1981 and was a major contributor to Vermont's Breeding Bird Atlas. He earned a master's degree in ecology at the University of Connecticut in 1991 for a study of the range expansion of the Blue-gray Gnatcatcher and is currently pursuing a doctorate at the State University of New York at Albany. Walter plans to study the effects of isolated breeding populations on the genetics of Bicknell's (Gray-checked) Thrush.

NANCY MARTIN, a native of Rutland, Vermont, received her B.A. in biology from Skidmore College. Before moving to Albany, New York, in the fall of 1992, she was Naturalist at the Vermont Institute of Natural Studies (VINS) in Woodstock, Vermont, for fourteen years. Her work at VINS included answering a wide variety of natural history questions from the public, bird banding and other research projects, developing and presenting the "Hawks of Vermont" program using permanent resident raptors, and illustrating VINS publications. Nancy and Walter have been regular birding companions since the Vermont Breeding Bird Atlas and married in 1986.

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SECOND-YEAR MANAGEMENT OF A CLIFF SWALLOW COLONY IN MASSACHUSETTS

by Mara Silver

The impetus to study the conservation status of the Cliff Swallow (*Petrochelidon pyrrhonota*) was provided in the summer of 1990, when these birds nested on my house in Cummington, Massachusetts. The house has a substantial roof overhang and exposed rafter ends. Of the twenty-one Cliff Swallow nests built on the house by early June, all but two were usurped by House Sparrows; of the remaining two, one fell. I wondered: What could be happening to Cliff Swallows regionally? Could these problems be affecting other colonies to this extent?

In the summer of 1991, under sponsorship of the Massachusetts Natural Heritage and Endangered Species Program, I studied a second Cliff Swallow colony at Graves' farm in Williamsburg, Massachusetts, located about ten miles east of the Cummington site. Cliff Swallows nesting at Graves' farm in May had, by July, suffered major setbacks from competing House Sparrows and fallen nests (Silver 1991).

With the support of the Massachusetts Audubon Society, the Graves' farm site was again monitored in the summer of 1992. In addition to work at Graves' farm, which included testing several management techniques, I conducted a survey of active Cliff Swallow colonies in Massachusetts to help determine potential management techniques for many Cliff Swallow colonies.

Natural History and Ecology

Cliff Swallows are members of the family Hirundiniae, the swallows and martins. They are a migratory, highly colonial species; the birds travel between South America and large areas of North America.

In New England the breeding season lasts from early May until early August. The birds build bottle-shaped mud nests under the eaves of buildings and bridge superstructures. Once paired, both sexes participate in nest-building. Clutch size averages three to four eggs. Both parents incubate eggs and feed nestlings. The incubation period is twelve to fourteen days, while the nestling period is approximately twenty-four days. There are occasional second broods. Parents continue to feed fledglings before all the birds leave for South America. The breeding activity within a colony is closely synchronized.

Historical Overview

In the eastern United States, nesting Cliff Swallows have historically been associated with buildings. The first written account of their occurrence in the eastern United States is from a natural site on the Ohio River in Kentucky in

1815 (Audubon 1967). The first recorded sightings of breeding Cliff Swallows in Massachusetts were in Hingham and Attleboro in 1842 (Bent 1942). Henceforth, Cliff Swallow populations increased greatly as more buildings became available for nest sites and fields were cleared for farming (Bent 1942). Cliff Swallow populations peaked in the eastern United States between 1840 and 1860 (Forbush 1908). A slow population decline commenced in about 1880, when introduced House Sparrows began to spread throughout New England (Forbush 1929; Bull 1964). House Sparrows, as cavity nesters, compete directly with Cliff Swallows (Samuel 1969). Another factor contributing to the decline was the increase in painted barns, to which the swallows' nests adhere poorly (Forbush 1929). By the turn of the century they were not considered common in Massachusetts, except in Berkshire County (Bagg and Elliot 1937). The decline has continued in this century due to the factors mentioned above, as well as to loss of open agricultural land, habitat loss due to development, and destruction of wetlands.

Current Status of Cliff Swallows

Table 1 shows 1992 data on Cliff Swallow colonies from all counties in Massachusetts. These data likely do not include every Cliff Swallow colony in the state, especially in Berkshire County.

The swallows' success seems to hinge upon their ability to survive either depredation by House Sparrows or the falling and resultant destruction of their nests and young. At a farm in Williamsburg, Massachusetts, all of about thirty nests were usurped by House Sparrows. There were no signs of fallen nests at this site. Fourteen pairs were counted at a Hadley, Massachusetts, farm, but only three survived harassment by House Sparrows. Again, no fallen nests were found. At other sites, nests were built on supports such as a strip of wood or a wire tacked to a house. At one location in Shelburne, Massachusetts, five nests were built on to old Barn Swallow nests. Some colonies that nest on bridges are more successful. Observations of House Sparrows harassing bridge-nesting swallows in urban areas have been reported (Weatherbee pers. comm.).

Human intervention has been effective in many instances in preserving Cliff Swallow colonies. Intervention strategies included trapping or shooting House Sparrows (Buss 1942; John and Dwight Graves pers. comm.) and attaching artificial plaster nests to structures used by nesting swallows (Bull 1974). (Unlike most North American birds, House Sparrows are not covered under federal protection laws that would prohibit shooting them or using other means of control.) Between 1957 and 1960, and 1970 and 1972, a wildlife biologist in North Dakota shot and trapped House Sparrows, realizing a greater than eighty percent yearly increase in the number of breeding Cliff Swallows at the managed colony (Krapu 1986).

Table 1. Status of Cliff Swallows in Massachusetts in 1992

<u>County</u>	<u>Town</u>	<u>Number of pairs</u>	<u>County</u>	<u>Town</u>	<u>Number of pairs</u>
Berkshire			Essex		
	Adams	75		Gloucester	9
	Cheshire	25		Haverhill	5
	Great Barrington	*		Merrimac	*
	New Lennox	7		Newbury	15
	North Adams	5			
	Pittsfield	9	Plymouth		
	Sheffield	*		Marshfield	24
	West Stockbridge	*		Middleboro	25
Franklin			Middlesex		
	Charlemont	5			0
	Conway	11	Norfolk		
	Shelburne	4			0
Hampshire			Suffolk		
	Belchertown	7			0
	Cummington	18	Bristol		
	Florence	4			0
	Hadley	6	Barnstable		
	South Hadley	14			0
	Westhampton	6			
	Williamsburg	62		TOTAL	399**
Hampden			* Presence confirmed, numbers unknown.		
	Bondsville	*			
	Ludlow	*	** If the average of 15 pairs is assumed at sites where presence is confirmed but numbers are unknown, the total increases to 504 pairs state-wide.		
	Palmer	10			
Worcester					
	Brookfield	*			
	East Brookfield	6			
	Lunenburg	23			
	Princeton	3			
	Rutland	8			
	Templeton	8			
	Winchendon	5			

With one exception, data on present Massachusetts colony locations reflect little or no human intervention on behalf of nesting Cliff Swallows. At a farm in Adams, presently the site of the largest colony in Massachusetts, House Sparrows are baited to an empty silo and shot (Edwin Clairmon pers. comm.). Additionally, the farmer reported that most incidences of nests falling from his barn occurred on a newer section with smooth painted wood. The older section is unpainted rough-cut pine.

Management Strategies At Graves' Farm

At Graves' farm I instituted management techniques to protect the Cliff Swallow colony. While it is too early to draw conclusions about the effect of intensive management upon the colony, preliminary indications are that the swallow population can recover quickly if the most formidable obstacles are reduced or eliminated. Eight pairs of Cliff Swallows arrived at Graves' farm to breed in the spring of 1991. Of the eight pairs, two were successful. In 1992, of the thirty pairs that bred at Graves' farm, thirteen to fifteen were successful. Some breeding periods seemed excessively long, perhaps because of undetected House Sparrow depredation (see below) at various times during the nesting season.

House Sparrow Control. House Sparrow populations were controlled by several shooting or trapping methods. Shooting House Sparrows was most effective, but the sparrows became increasingly wary. Approximately three-quarters of the sparrows were eliminated in two weeks, but the remainder required an additional two months. On June 25 and 26, two unpaired males, the only remaining House Sparrows, destroyed fifteen nests, pecking young and pulling them from nests. The young Cliff Swallows were very vocal and may have induced the attack. Because even two sparrows can have significant effects on Cliff Swallow colonies, constant intervention is essential to control the sparrows and protect the swallow colony.

Despite the use of various designs, trapping resulted in only two captured House Sparrows. Other bird species were more likely to be trapped, although trapping has been effective in other instances (Krapu 1986).

Artificial Nests. The chestnut rafters on which the swallows at Graves' farm built their nests are painted on the south side and unpainted on the north side. Nests fell equally from both sides. In 1991 seven of twelve nests (including rebuilt nests) fell. In 1992, in order to determine if the composition of nests affected nest adhesion, thirty gallons of clay were added to the two-foot by three-foot mud puddle used by the swallows for nesting material. Eleven out of thirty nests fell. The 1992 season was wet and humid. Most nests fell after a rain storm, when the sun came out and humidity was high. Marauding House Sparrows likely caused nests to fall, but this matter requires further investigation.

In late April 1992 three fired, crescent shaped, brown stoneware clay ledges were attached to the eaves of the barn. It was hoped that the swallows would build on to them. One of the three was attached to a part of the eave traditionally unused by Cliff Swallows and was ignored. Of the two attached to the previously used section of the eave, one was utilized. This nest successfully reared offspring.

In 1991 chicks from fallen nests were returned to eaves in plastic bottles and on wooden platforms. The parents investigated but abandoned these chicks. Seven nests containing chicks fell during the 1992 breeding season. The chicks from every fallen nest but one were found alive and returned to substitute clay nests. In every case, the parents accepted the substitute nest and began feeding their chicks within a few hours. The older and louder chicks were tended to more quickly than the younger silent chicks. These substitute nests were made of unfired mud-colored clay, molded to simulate a Cliff Swallow nest, textured on the inside, and screwed to the exact site on the eave from which the nest had fallen. Substitute nests could have been fired, but when unfired, are more lifelike, although they had to be handled with care.

Fired clay ledges appear to offer effective support for the swallows' nests. Additionally this strategy is proactive, allowing the birds to carry out normal nesting activities. Substitute nests are more like a rescue operation than a management technique. The failing of nests is life-threatening to chicks and dramatically disrupts the rhythm of nesting.

Conclusion

Two years of study indicate that human intervention can play an important role in conserving the species. It is unclear which problem, falling nests or House Sparrow depredation, results in greater losses to nesting Cliff Swallows. In addition to these obstacles, weather plays an important role. Cliff Swallows are vulnerable to cold, wet weather and are likely to starve to death in these conditions (Krapu 1986). A colony in coastal Ipswich, Massachusetts, was depredated in two consecutive years by wind and high water (Townsend 1905). To evaluate and then perhaps apply some of the experience gained at Graves' farm to a broader conservation effort is a complex task.

Constant observation is necessary during the nesting period of Cliff Swallows. Such vigilance seems unlikely unless many people are available (perhaps in shifts) to watch a particular colony. It is helpful, but not essential, that observers can use firearms to help control House Sparrows.

Individual sites would require different management strategies. The Graves' farm colony is unique because there are no restrictions on management activity. This may not be the case on other private or public property. Colony sites would have to be evaluated to determine whether management activities are permissible and, if permissible, which activities would be practical. The optimal

sites would be similar to Graves' farm, i.e., conservation land or relatively isolated farmsteads.

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MARA SILVER graduated from the College of the Atlantic in 1987. Since then, she has participated in many ornithological studies that have taken her to the Maine coast as well as the British Isles. For the past three years, Mara has been especially interested in Cliff Swallow conservation. Mara would like to thank John and Dwight Graves for their assistance, and Wayne Petersen for making the project possible.

BIRD OBSERVER WELCOMES MATERIAL FOR PUBLICATION

Bird Observer would like to remind its readers that we welcome contributions for publication. These contributions can include field notes and observations, articles on where to find birds, reviews of bird-related literature or equipment, notes on conservation issues affecting bird populations or important habitats, bird identification difficulties, population surveys, photographs or drawings, and others. The masthead of each issue contains more specific information on article length and format.

THE PIPER'S PROGRESS

by Scott Hecker

The voice of these little birds, as they move along the sand, is soft and musical, consisting of a single plaintive note occasionally repeated. As you approach near their nests, they seem to court your attention, and the moment they think you observe them, they spread out their wings and tail, dragging themselves along and imitating the squeaking of young birds; if you turn from them they immediately resume their proper posture, until they have again caught your eye; when they display the same attempts to deception as before.

When Alexander Wilson recorded these observations on a summer's day in 1810 along a New Jersey beach, he believed he was observing the Semipalmated Plover in a lighter summer plumage. Later he realized he had observed a different, previously undescribed species. He then corrected his error and pointed out the difference between the two and their times of occurrence in New Jersey. In 1924 his friend George Ord gave the bird the name it still bears, the Piping Plover (*Charadrius melodioides*).

For most of the nineteenth century, the Piping Plover was abundant and a common nester on dry sandy beaches from the Carolinas to the mouth of the Saint Lawrence River. Through their observations, ornithologists learned much about the Piping Plover's nesting season, which begins in April and ends in August.

In April the plover's nest, a shallow depression in sand or pebbles, is excavated by the male, tucked neatly in the beach grass or completely exposed between the toe of the dune and the high-tide line. In May the male and female plovers share in the responsibility of keeping the eggs warm, switching about every hour so that one parent can feed in the nearby wrackline or tidal flats. During incubation, it is not uncommon for the clutch of eggs to be washed away by a storm tide or discovered and consumed by a predator. When the plovers lose their eggs, they often re-nest in a nearby location.

If all goes well, by June most of the plover young hatch. While they gain their strength for the first day outside the shell, the hatchlings lie unmoving in the nest. Adults keep close watch at this critical time; if a predator comes, they feign a broken wing as a distraction and move away from the nest. Although the young are well camouflaged, they are highly susceptible to a long list of predators, including mammals that walk the shore and small hawks that approach from the air.

During the second day of life, the young plovers begin moving about on their own. They appear to search randomly for tiny invertebrate food, pecking at the ground and wandering independently not far from the nest site. If one of the

adults sounds an alarm call, the chicks quickly return to seek cover under a parent or the shelter of a plant. When the chicks are capable of keeping up, the parents lead them to better foraging areas along the high-tide line and out onto the tidal flats, sometimes a quarter-mile from the original nest site.

By late June the young have grown from delicate downy hatchlings to sturdy sand-colored adults. They begin to test their wings, and soon make short flights to salt marsh tidal creeks. By July and early August plover families move farther and farther from the original nest site, visiting feeding areas on the beach and its environs. In late August, as the days shorten, the number of plovers thins as family groups depart southward along the Atlantic coast.

Prior to its discovery by ornithologists, the Piping Plover had summered in this way on the New England coast for countless generations. *Charadrius*, the genus that includes the Piping Plover, is one of the oldest known genera of shorebirds. Fossils showing the bones of *Charadrius* species date from sixty-five million years ago. It is sad that in the short time since its discovery in the early 1800s, the Piping Plover has twice nearly been driven to extinction—first at the turn of the last century by market gunners and sportsmen and now, again, by coastal development and unrestricted recreational activities.

In the late 1800s curlews and plovers were favorites with the hunters due to their initial abundance, good taste, and unsuspecting behavior. The larger of the plover species were the first to decline, but the smaller species, including the Piping Plover, followed. By 1908, Edward Howe Forbush was convinced that the Piping Plover was near extinction. In one of his monthly reports to the National Association of Audubon Societies, Forbush stated, "The entire number seen on the Massachusetts coast in July did not exceed twenty birds." This count included a well-guarded group of five pairs at Katama Bay in Martha's Vineyard.

Fortunately, in 1909, after a long and difficult battle, a bill submitted by the Massachusetts Audubon Society passed, prohibiting shooting of the Piping Plover and Killdeer and providing a seven-month closed season on the other species of migratory plovers. Despite continued attempts by sportsmen to repeal this law, it survived, and its beneficiaries began a recovery. Within the next ten years, other state and federal legislation, particularly the Migratory Bird Act, contributed to the steady comeback of the Piping Plover and other shorebirds.

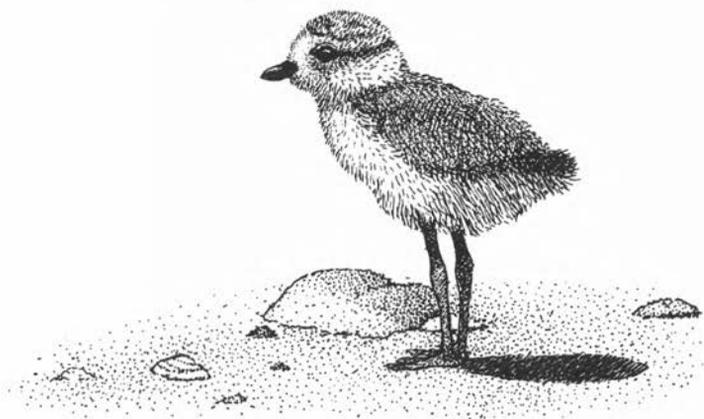
In 1937 Joseph A. Hagar, the ornithologist for the Massachusetts Division of Fisheries and Wildlife, conducted a survey of the Piping Plovers along much of the Massachusetts coastline and estimated 180 pairs. The northeastern population for the plover showed major increases in Rhode Island and New York in the years immediately following the Great Hurricane of 1938, which flattened dunes and destroyed coastal development along much of the southern New England shore. Between 1939 and 1945 the Atlantic coast population of the Piping Plover probably reached its highest twentieth-century numbers.

Shortly after World War II the species was once again reported to be showing signs of decline as an era of coastline development and shoreline stabilization practices began. For example, between 1939 and 1985, the number of Piping Plover pairs on Long Island plummeted from 500 to 114. Population estimates throughout its range mirrored this trend.

The Canadians were the first to take legal steps to protect the Piping Plover by listing it as threatened in 1978. For the next seven years, the bird continued to disappear from Canada's beaches, and its status was changed to endangered in 1985. In January 1986 the U.S. Fish and Wildlife Service followed Canada's lead and listed the Piping Plover as threatened and endangered with extinction. That summer a cooperative effort established a thorough census of the Piping Plover's entire breeding population on the Atlantic coast. The count was 790 pairs—550 in the United States and 240 in Canada. Of the United States Atlantic coast population, the highest number was in Massachusetts: 139 pairs, or twenty-five percent of the United States population.

Given the Piping Plover's new status, wildlife conservationists had to make a plan for the bird's protection, first examining the serious threats to the species and then focusing on management of the bird's nesting habitat to save it from extinction. According to the Atlantic Coast Piping Plover Recovery Plan (1988), "Habitat loss and degradation, disturbance by humans and domestic animals, and increased predation" are the "important causes of the current downward trend." Much of the habitat loss is due to shoreline armoring, construction of beach parking lots, and building of vacation homes, condominiums, and hotels—which are all, for the most part, irreversible impacts. In Massachusetts, nearly half of the Piping Plover's barrier beach habitat is already written off to these uses.

On the remaining undeveloped stretches of barrier beach in Massachusetts, the Piping Plover continues to be threatened by a long list of other human-



induced problems, which wildlife conservationists hope to control to prevent the disappearance of plovers and other coastal species. The greatest threats that we can and should change are the impacts by off-road vehicles, unnecessary "dune-conservation" practices, and unrestricted dog walking. Even the most remote Piping Plover breeding areas are affected by these activities.

On a busy day in summer, off-road vehicles can fill a barrier spit like a parking lot, exceeding five hundred vehicles at one time and driving over every square inch of habitat between the toe of the dune and the water line. The vehicles crush plover chicks and eggs, leave ruts that trap young, and destroy the wrackline—the plover's primary feeding area.

Piping Plovers thrive on flat, bare sections of beach with little vegetation, a brief successional stage created by coastal storms. The common practice of planting beach grass immediately following a storm robs the plovers of their nesting sites, as do related dune-building activities. The goal of these "erosion-control" activities is to fight Mother Nature's tendency to rearrange the beach. Over and over again these activities have proved to be futile and a waste of money.

To address the various threats to the species, wildlife biologists and conservationists have joined forces in the field and in the legal arena to aid this charming, inconspicuous beach nester in its recovery. By the time the Piping Plover was federally listed, it was clear that the posting of signs to protect Piping Plovers and their nests was not going to save them from extinction. Experiments placing welded wire garden fence around individual plover nests were first conducted in 1986 in Massachusetts. These ten-foot-wide, four-foot-high enclosures effectively protect nests from mammalian predators and dogs while allowing the small plover adults to come and go through the wire mesh to their four-egg nests on the open beach. This protection method has proved highly successful and has since been carried out on a much larger scale along the Atlantic coast. In Massachusetts, over two-thirds of the annual number of plover nests are protected with these "predator enclosures," and this has contributed to a sixfold increase in hatching success at some sites.

One of the most difficult problems was how to protect the vulnerable young plovers when they leave the fenced areas to accompany the adults in search of food along the wrackline and on the tidal flats. The young were highly susceptible to disturbance by beachgoers and a variety of recreational activities. Of greatest concern was the fact that much of the best Piping Plover nesting habitat was under recreational use by large numbers of off-road vehicles (300 to 1000 per day).

In 1990 a resident of Orleans, concerned with the effects these vehicles were having on Piping Plovers and other barrier beach natural resources, filed a request for determination under the Massachusetts Wetland Protection Act with the Orleans Conservation Commission to decide whether vehicles should be

regulated under the act. After a tie vote at the local level, a precedent-setting decision was issued by the Massachusetts Department of Environmental Protection and the Massachusetts Division of Fisheries and Wildlife, which ruled that vehicles were having both short-and long-term impacts on the barrier beach, particularly with regard to Piping Plover habitat. This forced the town's parks department, which wished to continue to allow vehicles on the beach, to file a Notice of Intent outlining how they would do so without violating the act. The plan hammered out by wildlife conservationists and town officials, with compromise on both sides, led to improved standards in the protection of Piping Plover habitat after the young hatched and up to their point of fledging, a thirty-five-day period.

Vehicles were first restricted from plover habitat on Nauset Spit during the summer of 1991, and results were immediate. In the 1.2-mile section of beach where in prior years only three to five pairs of Piping Plovers nested, the number of pairs increased to seven. In 1992 the number of pairs doubled to fourteen. After similar restrictions went into effect in former vehicle use corridors on Sandy Neck, Barnstable, Race Point, Cape Cod National Seashore, and North Beach, Chatham, the number of plover pairs doubled from seventeen in 1991 to thirty-five in 1992.

Another factor that contributes to the recovery of Piping Plovers is the unprecedented involvement of local citizens as volunteers and supporters for the protection of Piping Plovers. Interested citizens are locating new nesting sites, patrolling beaches to watch over plover families, attending public hearings, and funding protection efforts. They also fight and support the local political battles necessary to protect the vulnerable nests of plovers from the ever-increasing recreational pressures encroaching on what little space is left for the birds along the Massachusetts coastline.

Management efforts must continue, of course, until the Piping Plover population is fully restored throughout its range and until practices that continue to degrade our precious barrier beach ecosystems are curtailed. But the success story of Piping Plovers in Massachusetts has already proved that people and endangered species can share habitat without threatening the activities of either species.

SCOTT HECKER is coordinator of the Coastal Waterbird Program for the Massachusetts Audubon Society (MAS). His interest in birds stems from childhood in Olmsted Falls, Ohio. He combined interests in wildlife ecology and art at college in Arizona and continued in the field of natural resource management in graduate school in New Hampshire. An accomplished photographer and professional wildlife artist, he has taught biological illustration and produced drawings for the National Park Service. Scott's artwork has appeared on previous covers of *Bird Observer*. Scott also leads MAS natural history tours to Belize.

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SIMILARITIES BETWEEN BIRDING IDENTIFICATION AND MEDICAL DIAGNOSIS

by Stephen Davis

It is no surprise that many birders are doctors because there are many similarities between bird identification and medical diagnosis. Both activities involve the same basic process: determining the correct identification from an extensive list of possibilities. Birding involves identifying the species correctly; medicine involves diagnosing the disease correctly.

In medicine, as in birding, there usually is a list of possibilities from which the definitive identification is made. For example, phrases such as "It soars like a buteo" or "It has the silhouette of a shorebird," suggest that there is often a stepwise process of identification, even though at times it happens very quickly.

Medicine has terms to describe the processes that are used to arrive at the correct answer to a diagnostic puzzle (Cutler, P., 1985, *Problem Solving in Clinical Medicine*, 2nd edition, Williams and Wilkins). One method that doctors use is called the "pattern recognition" method in which a glance at a patient who has characteristic features of a given disease can be diagnosed. Diseases such as hyperthyroidism or Parkinson's disease may present with a combination of features that facilitates instant diagnosis. Birders also use this process in identifying such birds as Great Blue Herons and Belted Kingfishers. It might be a lengthy process to explain the diagnostic clues, but the "gestalt" of the bird or of the disease makes for instant recognition to the experienced birder or physician.

Another method that doctors sometimes use is the "hypothetico-deductive" process. Although birders do not give the technique a name, they often use a similar process. The "hypothetico-deductive" process works in this way: a few hypotheses are generated based on the initial information that is presented. Those hypotheses are eliminated or pursued based on more information that is gathered from specific details that are sought. For example, if a sixty-year-old man has chest pain under the breastbone, there is a lengthy list of possibilities, but some of the hypotheses include coronary artery disease (angina or a heart attack), peptic ulcer disease, a lung problem, or pericarditis. Specific questions are then asked: "Does exercise bring on this pain?" or "Does this pain come on when you eat a spicy meal?" Physicians also look for certain physical findings, such as a cardiac murmur or electrocardiography changes, that would help to pin down the diagnosis.

In birding, the same process is often used: a small brightly colored bird flies into view; it could be a warbler, a bunting, or a finch. Specific details are looked or listened for that help to determine the species. Those details might include the color patterns, the call, the flight pattern, or often more esoteric findings such as

the ratio of the bill length to the head length. These details are the field marks.

Both arenas have the concept of the single definitive detail. It might not apply to each diagnosis or identification, but when present, it is irrefutable. In medicine this finding is called "pathognomonic," and when you have it, you have your diagnosis. For example, if a patient has liver disease, and he has Kayser-Fleischer rings in his eyes, then he has Wilson's disease, a disorder of copper metabolism. In birding single definitive field marks are often used: the "butterbutts" of Yellow-rumped Warblers, the "Old Sam Peabody" call of White-throated Sparrows, or the black underwings of Little Gulls. In birding, more often than in medicine, one clue is often all it takes to pin down the identification.

This process of identification also suggests how some people become experts. They are better able to use the specific diagnostic clues. They know what symptoms or field marks to look for in a given setting and are more skilled at determining the presence or absence of those details. Just as there can be subtle heart sounds, there can be very subtle field mark differentiation: diastolic murmurs may be the *Empidonax* identification of cardiology.

In medicine there are some general rules that have analogies in birding. One saying in medicine is "When you hear hoofbeats, think of horses not zebras." A similar slogan is "Uncommon presentations of common illnesses are more common than common presentations of uncommon illnesses." Both of these sayings suggest that in diagnosis the common disease is much more likely to be the correct diagnosis: your recent fever, for example, is much more likely due to a cold than it is to brucellosis. This principle applies to birding as well: the chickadee near my feeder with the lower-pitched voice is much more likely to be a Black-capped Chickadee with a sore throat or a close encounter with a cat than it is to be a Boreal Chickadee. Similarly, the "different" appearing sparrow that we spot on our Christmas Bird Count is much more likely to be an immature Swamp Sparrow than it is to be a Lincoln's Sparrow.

On the other hand, both endeavors have phrases and concepts that apply to the opposite phenomenon: rare birds and rare diseases do happen. In medicine there is a phrase that no matter how rare the disease is, if that is what the patient has, then his or her chance of having it is one hundred percent. In birding there are different ways of saying the same thing about vagrants, but my favorite is "the birds do not read the bird books," and hence they do not appreciate that we think they are where they are not supposed to be.

The phenomenon of mentoring is similar in both fields. Most birders, I would guess, are introduced to birding by an experienced birder, whose enthusiasm and skill make the activity initially appealing and who continues to nurture the novice birder. In medicine there is a well-established tradition of senior physicians and their relation to young doctors: from the former "apprenticeship" method of medical training to the present day hierarchy of

medical education, there has always been the more experienced clinician guiding young doctors along. The Hippocratic Oath has an inordinate percentage devoted to this relationship.

The "art" of medicine is a well-recognized although elusive entity. There clearly is more to the practice of medicine than tests, diagnoses, and prescriptions, just as there clearly are doctors who maximize their "healing" by using more subtle tools such as compassion, experience, intuition, and wisdom in the care of their patients. The "art" of birding is a less verbalized entity, but there do seem to be birders whose enthusiasm and love for birding, whose "luck," and whose ability to be in the right place at the right time make them more successful birders than their basic identification abilities and their experience would suggest.

One wonders how far the comparison between medicine and birding can be pursued. It may be that physicians are likely to be drawn to birding because some of the same skills make them successful in each endeavor. For example, perhaps it is basically the same cognitive skill that makes one able to differentiate the unique flight pattern of a White-breasted Nuthatch and to recognize the distinctive walking pattern of a person with Parkinson's disease or a mild foot-drop. Perhaps it is similar auditory skills that enable one to distinguish warbler species and mid-systolic clicks.

It might be interesting to study the different types of birding doctors to see whether their attractions to birding are similar to their professional nuances. For example, are internists drawn to birding because of the challenge of the difficult or unusual identification? Are family doctors more drawn by the birding milieu or by the effects on the bird by its unique environment? Are psychiatrists more interested in bird behavior? Are obstetricians more interested, I almost hate to say it, in the eggs of birds? Do surgeons go birding just because they are used to getting up early in the morning?

There are many similarities between birding and medicine. It would be interesting to do a comparative study between doctors who are birders and those who are not to see whether there are differences in diagnostic techniques, attention to detail, passion for the esoteric diagnosis, or any of a number of factors. Also, I wonder whether you can tell what your doctor is like by the number of bird pictures in his or her waiting room or exam rooms. The next time that you see your doctor, you might ask if he or she is a birder.

STEPHEN DAVIS is a clinical assistant professor with the Family Medicine residency program at Brown University. He would like to thank his wife, Esther Entin, M.D., and colleague, John Murphy, M.D., for helpful suggestions. Steve is interested in feedback from readers on other similarities between birding and medicine. He can be reached at 211 Hornbine Road, Swansea, MA 02777.

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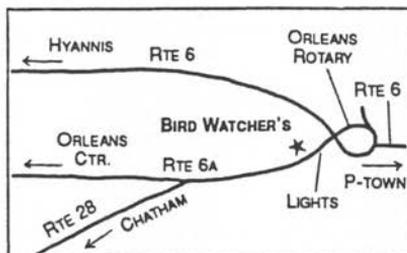
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FIELD NOTES FROM HERE AND THERE _____

REDTAIL DROWNS MALLARD

On February 7, 1993, at approximately 2:00 P.M., upon hearing a loud commotion with crows cawing and dozens of ducks flying out of the Powow River in Amesbury, we (Richard and I) ran to the bedroom windows only to see a hawk in the river. My first thought was that the poor thing had gotten itself in trouble, because there it was, wet up to its shoulders, turning around in circles. Then we realized it was on top of a female Mallard, and it was actually drowning the duck! After several minutes of watching, with the hawk flapping its wings and the Mallard's head occasionally bobbing up, the struggle appeared to cease. The hawk, which we had now identified as a mature Red-tailed Hawk, winged its way to the ice on the shore and dragged itself, then the duck, onto the ice. The Redtail just sat there. The duck managed to get back in the water but was obviously injured. The hawk flapped and shook, but sat on the ice for perhaps ten minutes. It then climbed a bank and sat on a stump, again shaking and flapping its wings all the while. It made its first attempt at flight by going from the stump to a branch, and again rested for another ten minutes, all the while flapping and trying to dry off. I was concerned that it could not fly and would freeze to death (by now it was 2:30 or 2:45 P.M. and twelve degrees outside), but it finally flew away. Meanwhile, the Mallard had managed to pull itself onto the ice and just sat there, again obviously very injured. For two hours we constantly checked the Mallard, and I was so relieved when I saw its head down and assumed it had died. This was approximately 4:15 P.M., and I tried to call Paul Roberts to tell him what we had witnessed. Fortunately, as it turns out, Paul was not expected in until 6:00 P.M.

We sat in our kitchen chatting, and I glanced out and commented to Richard that it looked like a hawk sitting in the top of a dead catalpa, but since I did not have my glasses on, we both shrugged it off, until Richard saw the top of the dead catalpa move. We scrambled around again and got our binoculars on it, and it was a Red-tailed Hawk. It flew to the other side of the river and took up watch. I sat on our bed, watching the hawk in the tree and checking the dead Mallard occasionally. Sure enough, at approximately 4:45 P.M., the hawk flew to the dead Mallard and proceeded to eat it until about 5:30 P.M. After finishing its meal, the Redtail flew down the river and disappeared.

Had it not been for Paul Roberts telling us about seeing an eagle drown a duck, I may not have realized just what was happening in the Powow. This was an incredible scene to witness, especially to see a Redtail drown a duck, get so soaked, and then go through the drying process. Although I am not one hundred percent sure it was the same Redtail that returned and consumed the Mallard, I do believe it to be very likely. An unforgettable experience!

Richard and Lisa Estes, Amesbury, Massachusetts

UPDATE: METROPOLITAN STATE HOSPITAL PROPERTY

In October 1992 *Bird Observer* reported on the efforts of a coalition of local environmental groups to preserve the wildlife habitat on the property of the former Metropolitan State Hospital in Waltham, Massachusetts (Andrews, J.W., and L. E. Taylor, 1992, A Key Link in Greater Boston's Wildlife Habitat: Metropolitan State Hospital, *Bird Observer* 20(5):246). The 330-acre parcel was declared "surplus" after the hospital closed. The hospital buildings and grounds occupy only one-fourth of the surplus land. The remainder of the property is part of a regional greenway and includes habitat for Red-tailed Hawk, Great Horned Owl, Scarlet Tanager, and other noteworthy species. In March 1993, the state/municipal task force working on the project unveiled a proposal developed in conjunction with the Metropolitan District Commission (MDC) to preserve 251 acres of the site as a public reservation. The reservation would protect all wetlands, vernal pools, and mature woods on the property. The MDC proposal is enthusiastically supported by the environmental coalition, and residents of adjoining towns are urged to express their support for the proposal. For more information, contact the Beaver Brook Watershed Coalition, c/o John Andrews, 22 Kendall Road, Lexington, MA 02173, telephone 617-862-6498.

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Venezuela—The Andes and Llanos: January 14-28, 1994

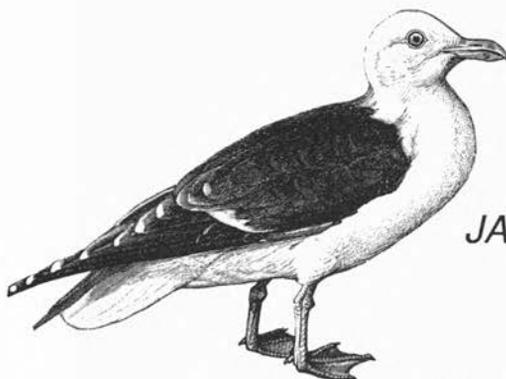
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Churchill and Southeastern Manitoba: June 10-19, 1994

Brian's seventh tour here will include a full week at Churchill (many tours offer only three or four days), with ample time to search out nesting Ross' Gulls, Smith's Longspurs, Northern Shrikes, Snow Geese, and large numbers of breeding shorebirds. Polar Bears and nesting Hawk and Boreal owls have been seen on past tours. Connecticut Warblers, Sharp-tailed Grouse, and Marbled Godwits are a few of the avian highlights on the Winnipeg/southern Manitoba portion of the trip.

Please call or write: Brian Cassie, P.O. Box 211, Foxboro, MA 02035.

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BIRD SIGHTINGS

JANUARY/FEBRUARY 1993

SUMMARY

by Richard A. Forster, Marjorie W. Rines, Robert H. Stymeist

January in Boston was mild, cloudy and drier than normal. The temperature averaged 32.6 degrees, 3.8 degrees above normal. The month's high temperature was 62 degrees on January 5, breaking the record of 61 degrees for that date in 1950. The low was 10 degrees on January 31. Precipitation totaled 2.17 inches, 1.42 inches below normal. There were 13 days with measurable amounts, most of it coming during the week of January 9-15. Snowfall totaled 12.9 inches, just 0.9 inch above average. The month's most significant storm was on the 13-14th, with 7.4 inches.

February, on the other hand, was a month most of us will long remember, especially those living on Cape Cod, who were battered by two storms in the first week of the month. The temperature averaged 27.1 degrees, 3.2 degrees below normal. This was the coldest February since February 1979 averaged 23.1 degrees. The high was 51 degrees on the 16th; the low was 2 degrees on February 7. Precipitation totaled 4.94 inches, 1.32 inches more than normal. Measurable amounts fell on 12 days. Snowfall totaled 19.6 inches, 8.4 above average and the most in any month since 24.3 inches fell in January 1987. The snowfall was the most in February since 1983, when 22.3 inches fell. On Cape Cod gale-force northeast winds combined with a snow-laden offshore storm system to produce whiteout conditions on February 2. Another ocean storm hit the Cape, South Shore, and Cape Ann on February 6, while Boston and points west received just a dusting. The storm on February 22 brought a peak gust of 45 MPH out of the northeast.

R. H. S.

LOONS THROUGH WATERFOWL

The trend for this winter was that the normal species were present at the usual locations in unremarkable numbers. The lack of rarities was extremely surprising. The best indication of true winter populations is represented by systematic surveys such as Take A Second Look (TASL) for waterbirds and a half-day town census in Framingham (5 parties, 9 participants). The only notable trend was the widespread lingering of late fall migrants in numbers well above normal.

The only surprise among the loons was an Arctic/Pacific Loon at Provincetown (no details). At least two were present in the same location last year and sporadically in recent years as well. Red-necked Grebes and Northern Gannets were reported in below average numbers. Both egret species on Cape Cod were carryovers from early winter. The concern about the decline of American Bittern as a breeder in the northeast is reflected by a lone winter observation.

A Greater White-fronted Goose overwintered at a location where it has been present for several years. Among the widely scattered reports of Barrow's Goldeneye was a drake that appeared on the Sudbury River, where it wandered between Wayland and Framingham. Present from January 26 to the end of the reporting period, this sighting represents only the second winter record for inland waters in eastern Massachusetts, with most reports being individuals accompanying migrant Common Goldeneye at ice-out in March.

Scattered reports of freshwater ducks in the last few days of February indicated the onset of migration. Most notable of these was a Eurasian Wigeon in Milford, only the second record for Worcester County following close on the heels of last year's initial report and very likely one of the same individuals. A Blue-winged Teal on Nantucket was an unusual winter report. A wintering flock of Gadwall has established itself in the Seekonk area. It may be the same birds that formerly wintered in the Newport, R.I. area.

R. A. F.

Red-throated Loon

1/23, 1/24	P'town (R.P.), Boston H.	2, 5	J. Hoye#, TASL (M. Hall)
2/5, 2/20	Eastham, Magnolia	8, 1	M. Rines#, T. Aversa#

Arctic/Pacific Loon (no details)

2/7	Provincetown (R.P.)	1	G. Martin#
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Common Loon

1/10, 1/12	Canton, Salisbury/P.I.	1, 23	S. Arena#, R. Forster#
1/16, 1/17	Ipswich, Wachusett Res.	31, 2	BBC (J. Nove), R. Bradbury

DATE	LOCATION	NUMBER	OBSERVERS	JAN./FEB. 1993
Common Loon (continued)				
1/17, 1/24	Plymouth, Boston H.	15, 11	R. Timberlake#, TASL (M. Hall)	
Pied-billed Grebe				
thr, 1/16	Framingham, Falmouth	1, 3	K. Hamilton, R. Heil	
1/25, 1/30	Wareham, Lakeville	1, 1	K. Anderson, K. Holmes	
2/27, 2/28	Falmouth, Millis	1, 1	G. d'Entremont#, P. Iarrobino	
Horned Grebe				
1/7, 1/24	P.I., Boston H.	21, 184	S. Charette#, TASL (M. Hall)	
2/17, 2/20	Lakeville, Rockport	1, 21	K. Anderson, BBC (J. Nove)	
Red-necked Grebe				
1/17, 1/23	Rockport, E. Gloucester	16, 11	J. Berry#, J. Berry#	
1/24, 2/21	Boston H., Provincetown	3, 5+	TASL (M. Hall), B. Nikula	
Northern Gannet				
1/1	Nantucket, Salisbury	5, 8	G. d'Entremont#, J. Brown#	
1/7, 2/28	Cape Ann, Provincetown	50, 10	J. Brown#, G. d'Entremont#	
Great Cormorant				
1/3, 1/7	Framingham, Quabbin (G43)	2 imm, 1 imm	K. Hamilton#, R. Bradbury	
1/17, 2/5	Rockport, Wachusett Res.	115, 1 imm	J. Berry#, R. Bradbury	
2/7, 2/20	Newburyport, Lakeville	97, 2	J. Berry, K. Anderson	
Double-crested Cormorant				
1/1, 1/3	Nantucket, Framingham	3, 1 imm	G. d'Entremont#, K. Hamilton#	
1/16	Falmouth, Wareham	7, 1	R. Heil, M. Sylvia	
2/19, 2/26	Wayland, Newton	1, 1	S. Arena, R. Forster#	
American Bittern				
2/14	Nantucket	1	T. Loring	
Great Blue Heron				
1/9, 1/16	Westport, Falmouth	4, 10	S. Arena#, R. Heil	
2/28	Sandwich, W. Barnstable	6, 12	P. Trimble	
thr	Reports of individuals from 12 locations			
Great Egret				
1/2	Barnstable	2	fide J. Sones	
Snowy Egret				
1/1	Dennis	1	fide J. Sones	
Black-crowned Night-Heron				
1/1-2/10, 1/6	Boston, Plymouth	6 max, 1 ad	v. o., K. Hamilton	
2/14, 2/27	Eastham, Falmouth	1 ad, 2	R. Stymeist#, P. Trimble	
Mute Swan				
thr, 1/1	Arlington, Salem	5 max, 7	L. Taylor, I. Lynch	
1/16	Plymouth, New Bedford	72, 68	M. Lynch#	
1/23, 2/27	Yarmouth, Falmouth	53, 64	B. Nikula, P. Trimble	
Snow Goose				
1/28	Woods Hole	1	fide J. Sones	
Greater White-fronted Goose				
1/1-31	New Bedford	1	v. o.	
Brant				
1/16, 1/17	Plymouth, Provincetown	170, 59	M. Lynch#, M. Boucher	
1/24, 2/21	Boston H.	1018, 772	TASL (M. Hall)	
2/5, 2/14	Eastham, Chatham	200, 125	R. Forster#	
Canada Goose				
1/17, 1/19	Lakeville, Framingham	330, 830	G. d'Entremont, K. Hamilton	
Wood Duck				
1/1-25, 2/27; 1/3	Framingham; Plymouth	3 max, 7; 1 f	K. Hamilton#; G. d'Entremont#	
2/7, 2/21	Lynn, Westport	1 f, 1 m	R. Stymeist#, J. Hoye#	
Green-winged Teal				
1/1-2/11, 1/9	Roslindale, Arlington	10 max, 1 f	T. Aversa, L. Taylor	
1/22, 1/27	E. Boston, Yarmouthport	15, 20	T. Aversa, W. Drew#	
2/21, 2/28	Westport, Sandwich	6, 12	J. Hoye#, P. Trimble	
American Black Duck				
1/17, 1/24	Plymouth, Boston H.	600, 1508	W. Petersen, TASL (M. Hall)	
1/31, 2/16	Westport, S. Dart.	489, 239	M. Boucher, LCES (J. Hill)	
2/20, 2/21	Newburyport, Boston H.	880, 1148	R. Heil, TASL (M. Hall)	
Mallard				
1/24, 1/31	Boston H., Westport	183, 132	TASL (M. Hall), M. Boucher	
Northern Pintail				
1/3, 1/7	Framingham, P.I.	1 f, 14	K. Hamilton#, S. Charette#	
1/16, 1/24	Cumb. Farms, Hingham	2, 2	T. Aversa, TASL (M. Hall)	
1/27, 2/27	Yarmouthport, Carver	25, 1 f	W. Drew#, R. Stymeist#	
2/27, 2/28	Barnstable, Uxbridge	5, 2	T. Prince#, R. Bradbury	
Blue-winged Teal				
1/10	Nantucket	1 m	E. Ray	

DATE	LOCATION	NUMBER	OBSERVERS	JAN./FEB. 1993
Northern Shoveler				
1/1-2/10, 1/17	Boston, Marston Mills	1 m, 1 m	v. o., M. Lynch#	
2/20, 2/23	Winthrop, E. Boston	1, 1	P. + F. Vale, L. Rogers	
Gadwall				
1/9, 1/23	Seekonk, Yarmouth	293, 107	D. Emerson, B. Nikula	
1/23, 2/11	P.I., S. Dartmouth	14, 46	M. Lynch#, LCES (J. Hill)	
2/14, 2/27	Barnstable, Carver	30, 35	B. Van Dusen, R. Stymeist#	
Eurasian Wigeon				
1/1-17, 1/1-31	Plymouth, Chatham	1 m, 1	v. o., v. o.	
1/2, 1/7	Centerville, Fairhaven	1 m, 1 m	M. Rines#, M. Boucher#	
1/8-31, 1/22	Hyannis, Osterville	1, 2	S. Clifton#, R. Bownes	
2/1-28, 2/27	E. Harwich, Milford	1 m, 1 m	v. o., R. Hildrith	
American Wigeon				
1/1-31, 1/7	Arlington, P.I.	29 max, 20	L. Taylor, S. Charette#	
1/10, 1/16	Plymouth, Nantucket	35, 4	G. d'Entremont#, E. Andrews	
1/17, 1/18	New Bedford, Belmont	25, 10	G. d'Entremont, L. Taylor	
2/1-28, 2/27	E. Harwich, Carver	28, 35	v. o., R. Stymeist#	
Canvasback				
1/16, 1/19	Falmouth, Newburyport	300, 1	H. Wiggin#, K. Disney#	
1/30, 1/31	Wareham, Westport	235, 169	M. Sylvia, M. Boucher	
2/9, 2/14	Yarmouthport, Berkley	140, 60	K. Hamilton#, T. Athearn	
2/17	Lakeville	22	K. Anderson	
Redhead				
1/1-2/11, 1/2	Plymouth, Falmouth	6 max, 3	v. o., R. Forster#	
1/16, 1/31	Nantucket, Westport	33, 1 m	E. Andrews, M. Boucher	
2/9	Yarmouthport	1 m	R. Forster#	
Ring-necked Duck				
1/9, 1/16	Lynn, Nantucket	10, 47	J. Brown#, E. Andrews	
1/17, 1/19	Plymouth, Framingham	12, 26	R. Timberlake#, K. Hamilton	
2/15, 2/25	E. Harwich, Lakeville	12, 13	D. Chickering, M. Boucher	
2/21, 2/27	Sandwich, Falmouth	36, 50	P. Trimble	
Greater Scaup				
1/16, 1/17	Falmouth, Hingham	2320, 500	R. Heil, S. Arena#	
1/24, 2/18	Boston H., Wareham	681, 189	TASL (M. Hall), M. Sylvia	
Lesser Scaup				
1/9, 1/10-2/28	Revere, Plymouth	1 f, 1 or 2	J. Berry, G. d'Entremont#	
1/17	New Bedford, Falmouth	8, 30+	J. Hoye#, M. Lynch#	
1/24, 1/25	Westport, Lakeville	6, 11	E. Nielsen, K. Anderson	
Common Eider				
1/16	Plymouth, Buzzards Bay	1000+, 4500+	M. Lynch#, M. Sylvia	
1/23, 1/24	Cape Ann, Boston H.	2000, 10,537	D. Chickering, TASL (M. Hall)	
1/24, 2/14	Hingham, Salisbury	550+, 650	M. Lynch#, BBC (M. Rines)	
2/21	Boston H.	7387	TASL (M. Hall)	
King Eider				
1/16-2/14, 1/16	Rockport, Plymouth	1 f, 1 m	T. Young + v. o., M. Lynch#	
1/16, 1/23	Eastham, Provincetown	1 imm, 1 m	W. Petersen#, T. Aversa#	
1/28	Gloucester	1 imm m	R. Heil	
Harlequin Duck				
1/1-31, 1/1	Rockport, Gloucester	6 max, 1 m	v. o., H. Wiggin#	
1/8, 1/2-2/8	Scituate, Plymouth	3, 1 or 2	D. Ludlow, v. o.	
2/24	Magnolia	1	N. Nash	
Oldsquaw				
1/23, 2/28	Newburyport, Salisbury	250+, 63	M. Lynch#, P. + F. Vale	
Black Scoter				
1/7, 1/23	Rockport, P.I.	6, 3	J. Brown#	
2/8, 2/10	Plymouth, Eastham	50, 20	R. Forster#, R. Forster	
Surf Scoter				
1/16, 1/24	Plymouth, Boston H.	40, 20	M. Lynch#, TASL (M. Hall)	
White-winged Scoter				
1/1, 1/7	Gloucester, P.I.	250, 265	M. Lynch#, S. Charette#	
1/24, 2/20	Boston H., Rockport	517, 210	TASL (M. Hall), BBC (J. Nove)	
Common Goldeneye				
1/16	Ipswich, Plymouth	77, 81	BBC (J. Nove), M. Lynch#	
1/17	Lakeville, Falmouth	50, 74	G. d'Entremont, M. Lynch#	
1/19, 1/23	Framingham, E. Gloucester	27, 50	K. Hamilton, J. Berry#	
1/24, 2/20	Boston H., Newburyport	899, 370+	TASL (M. Hall), R. Heil	
Barrow's Goldeneye				
1/1-1/26, 1/2	Gloucester, Nantucket	1 m, 5	v. o., R. Stymeist#	
1/2-2/8, 1/6-2/20	Plymouth, Osterville	1 f, 1 f	v. o.	
1/9, 1/19-2/20	Rockport, Newburyport	1, 1 or 2	BBC (W. Drummond), v. o.	
1/23, 1/23-2/7	Chatham, Dennis	1 f, 1 m	T. Aversa#, B. Nikula	
1/26-2/28, 2/7-2/20	Wayland, Magnolia	1 m, 1 m	v. o.	

DATE	LOCATION	NUMBER	OBSERVERS	JAN./FEB. 1993
Barrow's Goldeneye (continued)				
2/14, 2/21	Winthrop, Nahant	1 m, 1 m	M. Lynch#, M. Rines#	
Bufflehead				
1/16, 1/23	Plymouth, E. Gloucester	138, 50	M. Lynch#, J. Berry#	
1/23, 1/24	Newburyport, Boston H.	350+, 1745	M. Lynch#, T.A.S.L. (M. Hall)	
2/21, 2/27	Boston H., Wareham	1105, 91	T.A.S.L. (M. Hall), M. Sylvia	
Hooded Merganser				
1/3, 1/9	Framingham, Arlington	29, 17	K. Hamilton#, L. Taylor	
1/11, 1/15	Charlestown, Lakeville	12, 16	M. Hall, K. Anderson	
1/16, 2/10	Falmouth, Boston	184, 11	R. Heil, T. Aversa	
2/27, 2/28	Barnstable, Sandwich	10, 12	G. d'Entremont#, P. Trimble	
Common Merganser				
1/1, 1/3	Winchester, Framingham	40, 53	L. Taylor, K. Hamilton#	
1/8, 1/9	Clinton, Arlington	21, 47	R. Bradbury, L. Taylor	
1/15, 2/13	Westport, Sudbury	55, 55	M. Boucher, S. Perkins	
2/17, 2/25	Lakeville, Millis	17, 15	K. Holmes, P. Iarrobino	
2/27, 2/28	Newbury, Falmouth	58, 40	M. Lynch#, P. Trimble	
Red-breasted Merganser				
1/1, 1/23	Gloucester, Newbypt area	175, 220	M. Lynch#, M. Lynch#	
1/24, 2/21	Boston H.	1023, 662	T.A.S.L. (M. Hall)	

VULTURES THROUGH ALCIDS

The number of Turkey Vulture reports reflects favorably upon its status as an established year-round resident. This year's midwinter Bald Eagle survey on January 8, coordinated by the Massachusetts Division of Fisheries and Wildlife, tallied a record 70 individuals: Quabbin Reservoir (50), Connecticut River (5), Merrimack River (8), Lake Assawompsett (2), Taunton River (2), and Outer Cape Cod (3).

A Golden Eagle was found at Quabbin in late February. Very good numbers of Sharp-shinned and Cooper's hawk were reported. Red-shouldered Hawk was also well recorded, but Rough-legged Hawk was scarce, clearly a non-flight year. The concern about the wintering kestrel population expressed in the last issue appears to be unfounded.

Shorebird reports were unremarkable. The woodcock in Sandwich may have been early migrants. The wintering Common Black-headed Gulls and Mew Gull remained in Winthrop throughout the period. The maximum count of Iceland Gulls at the Plum Island area occurred in mid-February, the typical period of peak abundance. Included in the numerous other Iceland Gull sightings was an adult at Provincetown with clear white primaries. This individual may have been the nominate race of Iceland (*Larus g. glaucooides*), not "Kumlien's," Gull. Glaucous Gulls were scarce. Of the numerous reports of Lesser Black-backed Gulls, all were adults except for one first-winter bird, probably the norm here in midwinter.

We have become accustomed to sizable numbers of kittiwakes and Razorbills at Provincetown in recent winters. Thus, the meager numbers that were present this winter probably disappointed observers who made the trek to that remote location. Of the three reports of Common Murre, two were picked up oiled on Nantucket beaches, a normal pattern for this rare species.

R. A. F.

Turkey Vulture				
1/1; 1/24, 1/31	Dartmouth; Randolph	1; 4, 9	M. Boucher; N. Smith	
2/5, 2/6	W. Newbury, Westport	1, 10	R. Heil, R. Stymeist#	
2/21	W. Brookfield, S. Dartmouth	2, 6	R. Quimby, J. Hoye#	
Bald Eagle				
thr	Newburyport, Lakeville	10 max, 3 max	v. o., K. Holmes	
1/2, 1/9	Quabbin (G43), Bridgewater	10, 2	M. Lynch#, F. Mansfield	
1/9, 2/5	Provincetown, Clinton	1, 1 ad	J. Hoye#, R. Bradbury	
2/10, 2/28	Westport	2 imm, 1 ad	J. Hill	
2/24, 2/26	Lancaster, Wayland	1, 1 ad	D. Mosher, T. Largy	
Northern Harrier				
1/10, 1/12	Rowley, Salisbury/P.I.	2, 5	J. Berry, R. Forster#	
1/17, 2/5	DWWS, Eastham	3, 3	S. Arena#, R. Forster#	
2/6, 2/15	W. Roxbury, Dartmouth	2, 2	T. Aversa#, S. Perkins	
2/19, 2/27	Sandwich, Cumb. Farms	3, 4	P. Trimble T. Aversa	
Sharp-shinned Hawk				
thr	Reports of 27 individuals from 26 locations			
Cooper's Hawk				
thr	Reports of 28 individuals from 27 locations			
Northern Goshawk				
1/3, 1/9	Framingham, Boxford	1, 1	E. Morrier, J. Brown#	
1/13, 1/16	N. Andover, Falmouth	1 ad, 1	L. Wagner, R. Heil	
1/24, 2/15	Lakeville, Quabbin (G40)	1, 1 ad	K. Holmes, R. Forster#	
Red-shouldered Hawk				
thr, 1/15-2/28	W. Roxbury, Boston	2, 1 imm	T. Aversa	

DATE	LOCATION	NUMBER	OBSERVERS	JAN./FEB. 1993
Red-shouldered Hawk (continued)				
1/20, 1/24-2/28	Avon, E. Middleboro	1, pr	K. Holmes, K. Anderson#	
1/25, 1/31	Hanson, Wellesley	4, 1 ad	D. Cabral, K. Hamilton#	
2/5-13, 2/7	Lexington, Orleans	1 imm, 1 ad	C. Floyd#, B. Nikula	
2/27, 2/28	Raynham, Concord	1 ad, 1 ad	S. Arena#, J. Hepburn#	
Red-tailed Hawk				
1/24	Rte 495 N. Littleton-Amesbury	6	B. Wicks	
1/30	Rte 95 Saugus-Salisbury	8	P. + F. Vale	
2/14, 2/15	Newbyp area, Ipswich	10, 7	BBC (M. Rines), BBC (T. Young)	
Rough-legged Hawk				
thr	Newbyp area, Cumb. Farms	4, 2	v. o.	
1/10, 1/14	Ipswich, Essex	1, 1 dk	T. Young	
1/16, 1/18	DWWS, Cape Ann	1, 2	H. Wiggint#, F. Bouchard	
1/23, 2/7	Boston, Marshfield	1 lt, 1 dk	N. Smith, G. d'Entremont#	
Golden Eagle				
2/27	Quabbin (G40)	1 sub ad	R. Bradbury#	
American Kestrel				
thr	Reports of 26 individuals from 23 locations			
Merlin				
1/3, 1/17	Newbury, Falmouth	1, 1	M. Rines#, M. Lynch#	
1/30, 2/5	New Bedford, Eastham	1, 1	S. Arena#, J. Sones#	
Peregrine Falcon				
1/1-2/15, 1/16	Saugus, New Bedford	1 ad, 1 ad	J. Berry#, M. Lynch#	
1/17, 1/22	Cumb. Farms, Cambridge	1, 1	K. Holmes#, D. Chickering	
1/23, 2/7	Boston, Gloucester	1 ad, 1	G. d'Entremont#, C. Leahy	
2/27	Nantucket	1 ad	E. Andrews#	
Ring-necked Pheasant				
1/21	Boston	5	T. Aversa	
2/10, 2/21	Millis, Ipswich	3, 3	P. Iarrobino, T. Young	
Ruffed Grouse				
1/2, 1/13	Quabbin (G40), W. Newbury	7, 5	M. Lynch#, R. Heil	
1/18, 2/6	N. Middleboro, Hamilton	2, 1	K. Holmes, J. Berry	
2/13, 2/14	Raynham, Rockland	2 or 3, 1	S. Arena, R. Stymeist#	
2/14, 2/18	Wenham, Essex	1, 1	K. Disney, T. Young	
Wild Turkey				
1/12, 2/7	Worcester, Barre	17, 58	R. Bradbury, M. Lynch#	
2/14, 2/23	S. Easton, Sherborn	5, 1	D. Constance, T. Grimes	
Northern Bobwhite				
thr, 1/20	W. Roxbury, Middleboro	18 max, 1	T. Aversa, K. Holmes	
2/5	Eastham, Provincetown	20, 10	R. Forster#	
Virginia Rail				
1/2, 1/16	Yarmouthport, Eastham (F.H.)	2, 1	K. Hamilton, W. Petersen#	
2/27	Ipswich	1	J. Berry	
American Coot				
1/1-2/15, 1/10	Arlington, Nantucket	16 max, 20	L. Taylor, E. Andrews	
1/22, 1/30	Lynn, Brockton	3, 13	T. Aversa#, S. Arena#	
2/6, 2/27	Medford, Plymouth	5, 123	M. Rines#	
Black-bellied Plover				
1/16, 2/5	Buzzards Bay, Eastham	3, 1	M. Sylvia, R. Forster#	
2/15, 2/19	Dartmouth, Cohasset	1, 1	S. Perkins, R. Forster#	
Killdeer				
1/1, 1/3	Belmont, Newbury	1, 1	R. Stymeist#, R. Donovan	
1/17, 1/23	Plymouth, Salisbury	3, 1	W. Petersen, H. Wiggint#	
2/10, 2/28	Orleans, Sandwich	1, 1	K. Hamilton#, P. Trimble	
Greater Yellowlegs				
1/3, 1/7	Winthrop, Hyannis	1, 1	M. Rines#, K. Hamilton	
1/8	Hyannis	6	S. Clifton	
Ruddy Turnstone				
1/3, 1/18	Nantucket, Fairhaven	5, 5	G. d'Entremont#, D. Zimmerlin	
2/7, 2/19	Scituate, Cohasset	5, 1	BBC (G. d'Entremont), R. Forster#	
Sanderling				
1/1, 1/7	Revere, W. Dennis	290, 50	P. + F. Vale, K. Hamilton	
1/13, 2/14	Dennis, P.I.	65, 20	K. Hamilton, BBC (M. Rines)	
2/19, 2/21	Cohasset, Nahant	16, 63	R. Forster#, TASL (M. Hall)	
Purple Sandpiper				
1/8, 1/23	Scituate, Salisbury	300, 40	D. Ludlow, M. Lynch#	
1/24	Winthrop, Nahant	23, 215	P. + F. Vale, TASL (M. Hall)	
2/6	Cape Ann, Westport	30, 8	BBC (S. Bolton), R. Stymeist#	
Dunlin				
1/9	Revere, Westport	85, 33	J. Berry, S. Arena#	
1/13, 1/16	Dennis, Plymouth	240, 40	K. Hamilton, M. Lynch#	
1/16, 1/23	Eastham, P.I.	600, 70	W. Petersen#, K. Disney	

DATE	LOCATION	NUMBER	OBSERVERS	JAN./FEB. 1993
Dunlin (continued)				
2/7, 2/15	Scituate, Dartmouth	50, 100	BBC (G. d'Entremont), S. Perkins	
Common Snipe				
thr, 1/2	Newburyport, Yarmouthport	3, 2	R. Heil, R. Forster#	
1/2, 1/3	Nantucket, Framingham	1, 1	G. d'Entremont#, K. Hamilton#	
1/6, 1/24	Plymouth, Easton	2, 2	K. Hamilton, S. Arena#	
2/21, 2/7	Sandwich, Ipswich	2, 1	P. Trimble, J. Berry	
American Woodcock				
2/21-28	Sandwich	3	P. Trimble	
Common Black-headed Gull				
thr	Winthrop, Newburyport	17 max, 2	v. o.	
1/22, 1/23	Cotuit, Revere	1, 4 ad	G. Martin, J. Quigley	
1/30	Brockton	1	S. Arena#	
Bonaparte's Gull				
1/1, 1/7	New Bedford, Cape Ann	250, 70	M. Boucher, J. Brown#	
1/23, 1/24	Newburyport, Winthrop	20+, 320	M. Lynch#, TASL (M. Hall)	
Mew Gull				
thr	Winthrop	1 ad	v. o.	
Herring x Great Black-backed Gull				
2/13	Lynn	1 ad	J. Quigley	
Iceland Gull				
1/10, 1/12	Westboro, Amesbury	1, 6	C. Quinlan, R. Forster#	
1/16, 1/22	Provincetown, Rockport	4, 3	W. Petersen#, R. Forster#	
1/23, 2/7	Truro, Waltham	3, 1	T. Aversa#, M. Rines#	
2/14, 2/17	Newbypt/P.I., Southboro	31, 2	BBC (M. Rines#), R. Bradbury	
thr	Reports of 1 or 2 individuals from 5 coastal locations			
Lesser Black-backed Gull				
1/4, 1/10	Yarmouth, Westboro	1 ad, 1 ad	M. Tuttle, C. Quinlan	
1/16, 1/24	New Bedford, Nahant	1 ad, 1	M. Lynch#, I. Lynch#	
1/24, 1/25	Westport, Nantucket	1, 1 ad	E. Nielsen, E. Andrews	
1/28, 2/13	Rockport, Lynn	1 1W, 1 ad	R. Heil, J. Quigley	
2/13	Raynham	1 ad	S. Arena#	
Glaucous Gull				
1/1, 1/26; 1/17-2/28	Gloucester; Provincetown	1 ad, 1 2W; 1	v.o.	
1/18, 2/15	Yarmouth, Chatham	1, 1	B. Nikula#, D. Chickering	
2/20, 2/27	Rockport, Raynham	1, 1 1W	BBC (J. Nove), T. Aversa#	
Black-legged Kittiwake				
1/17, 1/22	Provincetown, Rockport	1, 2	M. Boucher, R. Forster#	
2/12, 2/28	Rockport, Provincetown	4, 25	N. Nash, G. d'Entremont#	
Common Murre				
1/23; 1/24, 2/21	Rockport; Nantucket	1; 1, 1	S. Arena#; B. Vigneau	
Thick-billed Murre				
1/18	Cape Ann	2	F. Bouchard#	
Razorbill				
1/3, 1/16	Nantucket Sound, P'town	4, 40	R. Stymeist#, W. Petersen#	
1/23, 1/28	E. Gloucester, Rockport	4, 84	J. Berry#, R. Heil	
2/20, 2/28	Rockport, Provincetown	45, 36	BBC (J. Nove), G. d'Entremont#	
Black Guillemot				
1/16	Provincetown, Cohasset	1, 12	W. Petersen#, J. Hubbard	
1/23	E. Gloucester, Rockport	21, 5	J. Berry#, P. + F. Vale	
2/5	Provincetown, Eastham	3, 8	R. Forster#	

OWLS THROUGH PASSERINES

Anyone seeking Barred and Northern Saw-whet owl would do well to visit the Quabbin area on a suitable night. Short-eared Owl was extremely scarce until late in the period at Salisbury, and Long-eared Owl was only slightly more numerous. Away from Logan Airport Snowy Owl was also scarce, but a few individuals could be found at traditional locales throughout the winter. An immature Red-headed Woodpecker survived the winter in Hingham, and Red-bellied Woodpeckers continue to be widely reported, including occurrences in more remote portions of Worcester County. Several sapsuckers were unusual, and flickers seemed to be more prevalent at inland locations than usual.

Red-breasted Nuthatches were scarce outside of the Quabbin area. Carolina Wren appears to be everywhere now and certainly is experiencing its highest population level ever recorded. It remains to be seen whether a harsh, snowy winter will reduce the population as has routinely happened in the past. Winter Wrens were also much better reported than usual, but Ruby-crowned Kinglet was below average. The recovery of the breeding Eastern Bluebird population has resulted in numerous small flocks in winter that were typical forty years ago when the population was healthy. Hermit Thrush, American Robin, Gray Catbird, and Cedar Waxwing were recorded in exceptionally high numbers.

American Pipit was well recorded for midwinter, possibly indicating a new distribution trend. Like several

other northern species, Northern Shrike put in only a brief cameo appearance.

Seven warbler species were reported, about the normal winter average. The most unusual warbler was a Northern Waterthrush, not totally unexpected because of several December 1992 reports. Two male Painted Buntings remained to midwinter. A male Western Tanager was wintering successfully at a feeder in Berkley. There have been few recent reports of this species compared to a decade or so ago when they were almost annual in winter. The sparrow list resembled a recap of fall migration highlighted by a fine assortment of species in Sandwich and several rare-in-winter Lincoln's Sparrows. A high count of Lapland Longspurs was observed in West Newbury. Reports of Eastern Meadowlark were surprisingly, and perhaps encouragingly, numerous and widespread. Reports of winter finches, save a smattering of Evening Grosbeaks, were virtually nonexistent and offered further proof that northern species were not abundant this winter.

R. A. F.

Barn Owl			
1/31	Vinyard Haven	2	T. Young
Eastern Screech-Owl			
thr, 1/3	Mt. Auburn, Framingham	2, 9	J. Heywood#, K. Hamilton
1/16	Brewster	2	W. Petersen#
thr	Reports of individuals from 7 locations		
Great Horned Owl			
1/1, 1/2	Belmont, Quabbin (G40)	3, 4	R. Stymeist#, M. Lynch#
1/3, 1/17	Framingham, Millis	4, 4	K. Hamilton, P. Iarrobino
1/28, 2/15	M. V. (Felix Neck), Ipswich	1, 4	G. Ben David, J. Berry
thr	Reports of 1 or 2 individuals from 15 locations		
Snowy Owl			
1/1-31	Boston (Logan)	5 max 1/6 + 1/31, 3 b	N. Smith
thr, 1/1-31	P.I., Chatham	1 or 2, 1	v. o.
1/10, 1/28	Ipswich, Nantucket	1, 1	T. Young, P. Healy
2/18	Salisbury	2	J. Brown#
Barred Owl			
1/1, 1/2	Lakeville, Quabbin (G40)	1, 3	K. Holmes, M. Lynch#
1/26, 2/20	Essex, W. Newbury	1, 1	T. Young, R. Heil
Long-eared Owl			
1/3, 1/11	P.I., N. Middleboro	1, 1	R. Donovan#, K. Holmes
1/23-2/21, 1/23	Salisbury, E. Boston	1, 1	v. o., S. Arena#
1/26, 2/7	Essex, DWWS	1, 1	T. Young, BBC (G. d'Entremont)
2/21	Cambridge, Gardner	1, 1 dead	N. Harris, S. Arena#
Short-eared Owl			
1/31, 2/20	DWWS, Salisbury	1, 4	J. Hoye#, v. o.
Northern Saw-whet Owl			
1/2, 1/16	Quabbin (G40), Brewster	3, 2	M. Lynch#, W. Petersen#
1/16, 1/18-25	Cambridge (F.P.), Wayland	1, 1	F. Bouchard, S. Arena
2/12, 2/18	Brookline, Essex	1, 1	H. Wiggin, T. Young
Red-headed Woodpecker			
thr	Hingham	1 imm	v. o.
Red-bellied Woodpecker			
1/1-31, 1/3	Outer Cape Cod, Hardwick	5+, 1	v. o., M. Lynch#
2/15	Newbury, Barre	2, 1	D. Loring, R. Forster#
	Reports of individuals from 15 locations		
Yellow-bellied Sapsucker			
1/1-3, 2/25	Nantucket, Watertown	3, 1 m	R. Stymeist + v. o., N. Dane
Downy Woodpecker			
1/3	Framingham	42	v. o.
Hairy Woodpecker			
1/1-31	Millis, Boxford	4 max, 2	P. Iarrobino, J. Brown#
1/2, 1/3	Quabbin (G40), Framingham	3, 9	M. Lynch#, R. Forster#
Northern Flicker			
1/1-31, 1/3	Millis, Waltham	4 max, 3	P. Iarrobino, L. Taylor
1/7, 1/10	Wellesley, Boston	3, 4	R. Forster, T. Aversa
1/16, 2/11	W. Roxbury, W. Newbury	6, 12	T. Aversa, R. Heil
Pileated Woodpecker			
1/2, 1/7	Quabbin (G40), Quabbin (G43)	1, 2	M. Lynch#, R. Bradbury
1/13, 2/3	Westford, Georgetown	1, 1	S. Selesky, B. Pearson
Eastern Phoebe			
1/1-3, 1/1	Nantucket, Chatham	1, 1	N. Claflin#, R. Hall
Horned Lark			
1/10, 1/17	P.I., Bridgewater	23, 30+	T. Young, K. Holmes#
1/17, 1/31	Ptown, Nantucket	25, 12	M. Boucher, E. Andrews
2/11, 2/15	Boston (Logan), Cumb. Farms	40, 150	S. Perkins, M. Sylvia
2/20, 2/21	Newbury, Salisbury	150, 54	R. Stymeist#, J. Brown#

DATE	LOCATION	NUMBER	OBSERVERS	JAN./FEB. 1993
American Crow thr, 1/16 1/19, 2/24	Framingham, Lawrence Boston, Wakefield	2500, 8000+ 450, 400	E. Taylor, E. Taylor E. Taylor, P. + F. Vale	
Fish Crow 1/3, 1/6 1/7, 1/16 1/24, 2/5 2/8, 2/28	Framingham, Brookline Wayland, Belmont Marshfield, W. Newbury Braintree, W. Roxbury	200, 1 7, 1 1, 2 40, 50+	K. Hamilton#, H. Wiggins# S. Arena, L. Taylor M. Lynch#, R. Heil R. Abrams, W. Petersen	
Common Raven 1/2, 2/7	Quabbin (G40), Petersham	5, 1	M. Lynch#	
Red-breasted Nuthatch 1/1-31 1/2, 1/27	Mt. A., Ipswich Quabbin (G40), E. Orleans	1-4, 2 or 3 32, 4	M. Rines, J. Berry M. Lynch#, K. Hamilton	
White-breasted Nuthatch 1/3	Framingham	45	v. o.	
Brown Creeper thr, 1/2 2/7	Millis, Quabbin (G40) Marshfield	3 max, 9 4	P. Iarrobino, M. Lynch# BBC (G. d'Entremont)	
Carolina Wren thr, 1/1 1/3, 1/16 1/24, 2/20 thr	Sherborn, Wellesley Framingham, Falmouth Westport, Rockport Reports of 38 individuals from 21 locations	3, 3 11, 36 21, 3	E. Taylor, R. Forster v. o., R. Heil E. Nielsen, BBC (J. Nove)	
House Wren 1/2	Falmouth	1	R. Forster#	
Winter Wren 1/3, 1/16 2/21 thr	Framingham, Falmouth Sandwich Reports of individuals from 12 locations	2, 6 3	C. Quinlan, R. Heil P. Trimble	
Marsh Wren 1/3, 1/6 2/21	Nantucket, Plymouth Sandwich	1, 1 2	G. d'Entremont#, K. Hamilton P. Trimble	
Ruby-crowned Kinglet 1/1, 1/3 1/3, 1/15 1/16, 1/21 2/5, 2/18	Cambridge (F.P.), Nantucket Framingham, Millis Falmouth, Westport Millis, Orleans	1, 1 1, 1 1, 1 1, 1	R. Stymeist#, G. d'Entremont# C. Quinlan, P. Iarrobino R. Heil, M. Boucher P. Iarrobino, S. Thompson	
Eastern Bluebird thr, 1/3 1/25, 1/26 1/26, 1/31 2/1-28, 2/27 thr	Millis, N. Falmouth Westport, Carlisle Bellingham, Sudbury Sherborn, Raynham Reports of 1-5 individuals from 11 locations	4-12, 8 6-8, 6 12, 6 6, 6	P. Iarrobino, I. Nisbet E. Tronstad, fide W. Petersen C. Langelier, R. Forster# E. Taylor, T. Aversa#	
Hermit Thrush 1/17, 1/28 2/9, 2/27 thr	Sandwich, Rockport Barnstable, P.I. Reports of individuals from 11 locations	2, 2 3, 2	M. Lynch#, R. Heil R. Forster#, C. Leahy	
American Robin 1/9, 1/13 1/14, 1/16 1/17 1/26, 2/23 thr	S. Dartmouth, W. Newbury Essex, Falmouth N. Eastham, Plymouth Littleton, Lincoln Reports of 10-125 individuals from 13 locations	143, 125 430, 135 200, 150 200, 175	T. Aversa#, R. Heil T. Young, R. Heil B. Nikula#, R. Timberlake# fide L. Cocca, W. Petersen	
Gray Catbird 1/4, 1/9 1/16, 1/28 2/6, 2/24 thr	Boston, S. Dartmouth Falmouth, Rockport Wayland, Hingham Reports of individuals from 13 locations	4, 2 13, 3 3, 2	T. Aversa, S. Arena# R. Heil, R. Heil N. Patterson, R. Abrams	
Northern Mockingbird 1/3	Framingham	55	v. o.	
Brown Thrasher 1/16, 2/10 2/20, 2/26 2/17	Falmouth, Orleans Osterville, Ipswich Buzzard's Bay	1, 1 1, 1 1	R. Heil, K. Hamilton P. Trimble, T. Aversa S. Roche	
American Pipit 1/1, 1/3 1/16, 2/11	S. Dartmouth, Squibnocket New Bedford, Cumb. Farms	15, 1 1, 9	M. Boucher, B. Bates# M. Lynch#, S. Bolton#	
Cedar Waxwing 1/16, 1/17 1/17, 1/18 2/23, 2/27 thr	Ipswich, N. Eastham Plymouth, Plympton Lincoln, Mansfield Reports of numerous flocks throughout	100, 200 100, 100 150, 100	J. Berry, B. Nikula# BBC (R. Timberlake), K. Anderson W. Petersen, K. Anderson	

DATE	LOCATION	NUMBER	OBSERVERS	JAN./FEB. 1993
Northern Shrike 1/10, 1/21	Wayland	1, 1	S. Arena#, D. Burke	
European Starling 2/19	Mattapoissett	10,000	M. Sylvia	
Orange-crowned Warbler 2/2	Saugus	1	E. Kierstead	
Yellow-rumped Warbler 1/14, 1/18	Essex, N. Middleboro	17, 12+	T. Young, K. Holmes	
1/23	Eastham, P.I.	12, 36	J. Hoye#, J. Brown#	
1/24, 1/31	Hingham, Martha's Vineyard	10, 21	M. Lynch#, T. Young	
2/5, 2/7	W. Newbury, Westport	11, 20	R. Heil, M. Boucher	
Pine Warbler 1/1-31, 1/3	Northboro, Brewster	1, 1	B. Volkle#, A. King	
2/4-22	S. Acton	1	T. Blackshaw	
Palm Warbler 1/1	Newburyport, Nantucket	1, 7	D. Chickering, D. Brown#	
1/9, 1/26	Westport, Yarmouthport	1, 1	S. Arena#, K. Hamilton	
Northern Waterthrush 2/28	Sandwich	1	P. Trimble	
Common Yellowthroat 1/28	Westboro	1	C. Quinlan	
Yellow-breasted Chat 1/1, 1/2	Newbury, Falmouth	1, 1	J. Brown#, R. Forster#	
1/15, 1/16	Nantucket, Falmouth	1, 1	J. Papale, R. Heil	
Western Tanager thr	Berkley	1 m	fide D. Emerson	
Northern Cardinal 1/3	Framingham	94	v. o.	
Painted Bunting thr, 1/1-2/15	Brewster, Hyannis	1 m, 1 m	A. Furman#, D. Stewart#	
Dickcissel 1/3, 1/15	Nantucket, Lincoln	1 m, 1	G. d'Entremont#, N. Waldron	
2/1-28	Falmouth	1	P. Trimble	
Rufous-sided Towhee thr, 1/16	Nantucket, Falmouth	2, 15	E. Andrews, R. Heil	
2/15	Wareham, Westport	3, 2	M. Sylvia, E. Nielsen	
2/27	Salisbury, Lynnfield	1, 1	M. Lynch#, P. + F. Vale	
thr	Reports of 5 individuals from 4 locations			
American Tree Sparrow 1/3, 1/8	Ipswich, P.I.	15, 33	M. Rines#, D. Chickering	
1/16, 1/31	Middleboro, N. Dartmouth	40, 15	M. Lynch#, M. Boucher	
2/19, 2/21	Sandwich, Millis	70, 16	P. Trimble, P. Iarrobino	
Chipping Sparrow 1/3, 1/9	Brewster, WBWS	15, 2	A. King, J. Hoye#	
1/10-2/28, 1/16	N. Dartmouth, Falmouth	1, 4	M. Boucher, R. Heil	
1/17, 2/1-24	E. Middleboro, Hopkinton	1, 1	K. Anderson, D. Sands	
2/11, 2/19	Sudbury, Wareham	2, 1	K. Hamilton, M. Sylvia	
2/19	Sandwich	1	P. Trimble	
Clay-colored Sparrow thr	Sandwich	2	P. Trimble + v. o.	
Field Sparrow 1/1-31, 1/16	Millis, Falmouth	2, 12	P. Iarrobino, R. Heil	
2/16, 2/19	N. Middleboro, Sandwich	3, 35	K. Holmes, P. Trimble	
2/22, 2/26	N. Dartmouth, W. Roxbury	5, 1	M. Boucher, T. Aversa	
Vesper Sparrow thr, 1/17	Sandwich, Cumb. Farms	3, 2	P. Trimble + v. o., J. Hoye#	
Lark Sparrow 1/2-4	Nantucket	1 ad	R. Stymeist#	
Savannah Sparrow 1/1, 1/17	S. Dartmouth, Cumb. Farms	6, 10	M. Boucher, G. d'Entremont	
2/19, 2/25	Sandwich, Middleboro	90, 25	P. Trimble, M. Boucher	
"Ipswich" Sparrow thr	S. Dartmouth	8 max	T. Aversa#	
Grasshopper Sparrow 2/19-28	Sandwich	1	P. Trimble	
Sharp-tailed Sparrow 1/23, 2/6	Eastham (F.H.), E. Boston (B.I.)	5, 1	T. Aversa#, S. Arena#	
Seaside Sparrow 2/5, 2/6	Eastham (F.H.), E. Boston (B.I.)	2, 1	M. Rines#, T. Aversa#	
Fox Sparrow 1/2, 1/3	Falmouth, Brookline	1, 1	R. Forster#, A. Harris	
1/17-31, 1/22	Middleboro, Nahant	4, 1	J. McEntee, T. Aversa	

DATE	LOCATION	NUMBER	OBSERVERS	JAN./FEB. 1993
Fox Sparrow (continued)				
2/7, 2/16	Westport, Millis	2, 1	M. Boucher, P. Iarrobino	
Song Sparrow				
1/3, 1/16	Framingham, Falmouth	40, 76	S. Patton#, R. Heil	
2/19	Sandwich	120	P. Trimble	
Lincoln's Sparrow				
1/15, 1/16	N. Dartmouth, E. Gloucester	2, 1	M. Boucher, C. Leahy	
Swamp Sparrow				
1/2, 1/8	Plymouth, W. Roxbury	12, 7	R. Forster#, T. Aversa	
1/10, 1/16	Wayland, Cumb. Farms	4, 8	K. Hamilton, T. Aversa	
2/7, 2/19	Hingham, Sandwich	3, 4	BBC (G. d'Entremont), P. Trimble	
2/20, 2/27	Randolph, Easton	7, 3	G. d'Entremont, S. Arena#	
White-throated Sparrow				
1/3, 1/16	Framingham, Falmouth	87, 142	v. o., R. Heil	
White-crowned Sparrow				
thr	Sandwich	6 or 7	P. Trimble + v. o.	
1/1, 2/7	Nantucket, Westport	2, 2	G. d'Entremont#, M. Boucher	
Dark-eyed Junco				
1/3	Framingham	334	v. o.	
"Oregon" Junco				
2/6	W. Roxbury	1	R. Forster#	
Lapland Longspur				
2/11, 2/20	W. Newbury, Newbury	48, 5	R. Heil, T. Aversa#	
2/27	Cumb. Farms	5	S. Arena#	
Snow Bunting				
1/1, 1/9	Nahant, S. Dartmouth	35, 90	R. Heil, T. Aversa	
1/10, 1/16	Eastham, Buzzards Bay	30, 118	J. Sones#, M. Sylvia	
1/16, 1/18	Provincetown, Worcester	80, 9	W. Petersen#, R. Bradbury	
1/19, 1/31	Bridgewater, Westport	40, 80	D. Cabral, M. Boucher	
2/11, 2/20	Boston (Logan), Chatham	30, 50	S. Perkins, B. Nikula	
Red-winged Blackbird				
thr, 1/13	Nantucket, Yarmouthport	65 max, 24	E. Andrews, K. Hamilton	
1/24, 2/15	Marshfield, Needham	10, 15	M. Lynch#, S. Perkins	
2/19, 2/21	W. Roxbury, Harwich	35, 17	T. Aversa, B. Nikula	
2/23	E. Boston (B.I.)	20	L. Rogers	
Eastern Meadowlark				
1/8, 1/16	Nantucket, Ipswich	19, 11	E. Andrews, J. Berry	
1/17	Newbury, Cumb. Farms	6, 46	P. + F. Vale, G. d'Entremont	
1/24, 2/5	Hingham, Eastham (F.H.)	13, 18	M. Lynch#, R. Forster#	
2/5, 2/16	Salisbury, S. Dartmouth	9, 34	R. Heil, LCES (J. Hill)	
thr	Reports of groups of individuals from 9 locations			
Rusty Blackbird				
thr, 2/27	W. Roxbury, Lynnfield	11 max, 27	v. o., P. + F. Vale	
2/27	Wayland	1	A. Hirschkop#	
Common Grackle				
thr, 1/13	Nantucket, Yarmouthport	3-9, 6	E. Andrews, K. Hamilton	
1/17, 1/28	New Bedford, Essex	1, 1	G. d'Entremont, T. Young	
2/6, 2/28	Westport, Barnstable	180, 2	R. Stymeist#, G. d'Entremont#	
Brown-headed Cowbird				
thr, 1/2	Nantucket, Quabbin (G40)	2-11, 6	E. Andrews, M. Lynch#	
1/11, 1/16	Salisbury, Middleboro	1 m, 15	R. Heil, M. Lynch#	
2/14, 2/16	Bridgewater, N. Dartmouth	300, 2	G. d'Entremont#, M. Boucher	
Purple Finch				
1/2, 2/1-28	Quabbin (G40), Acushnet	26, 9	M. Lynch#, M. LaBossiere	
2/3, 2/11	Taunton, W. Newbury	8, 14	D. Cabral, R. Heil	
2/15, 2/21	Ipswich, Petersham	12, 25	BBC (T. Young), S. Arena#	
thr	Reports of 1-3 individuals from 10 locations			
House Finch				
1/3, 2/28	Framingham, WBWS	137, 125	v. o., G. d'Entremont#	
White-winged Crossbill				
2/5	W. Newbury	1	R. Heil	
Pine Siskin				
1/6	Holliston	1	R. Abrams	
American Goldfinch				
1/3, 1/16	Framingham, Belmont	285, 35	v. o., L. Taylor	
Evening Grosbeak				
1/10, 1/16	Wayland, Ipswich	2, 21	S. Arena#, BBC (J. Nove)	
1/23, 1/25	Gloucester, Westboro	13, 1 m	P. + F. Vale, S. Sweet	
2/27	Petersham, Ipswich	5, 8-10	R. Bradbury, M. Reedy	

LIST OF ABBREVIATIONS

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

ABOUT THE COVER: SPRUCE GROUSE

The Spruce Grouse (*Dendragapus [canadensis] canadensis*) is a middle-sized grouse of the northern coniferous forest and boreal bog. These glamorous grouse are absurdly tame, so unafraid of man that they are easily caught with a noose of string on a pole or hit with a stick, earning them the nickname "fool hen." This is a dimorphic species, the male sporting a black throat and breast, outlined in white, the face highlighted with crimson combs above the eyes. The female has brown barring instead of black. Both sexes have a blackish tail with a chestnut terminal band, shorter than the tail of the Ruffed Grouse with which they might be confused. Spruce Grouse are built for winter, with leg feathers that reach to their toes, and arboreal habits that keep them above the deep snow. Their taxonomy is currently under revision. Five subspecies are recognized, but although the generic name *Canadensis* is still recognized by some, most authorities now place the Spruce Grouse in the genus *Dendragapus* together with the Blue Grouse of western North America and the Sharp-winged Grouse (Siberian spruce grouse) of Asia.

The Spruce Grouse is a bird of the northern wilderness, confined largely to the coniferous forest belt from Alaska across Canada to Newfoundland. In the United States they are found in the far west in Idaho, Washington, Montana, and Wyoming, in the Great Lakes region in northern Minnesota, Wisconsin, and Michigan, and in the northeast in northern New York, Vermont, New Hampshire, and Maine. The Spruce Grouse may at one time have occurred in Massachusetts. Nineteenth century records exist from Gloucester and Roxbury, but Griscom and Snyder (*Birds of Massachusetts*) indicate that the specimens are lost and suggest that the records are spurious. Spruce Grouse are resident throughout their ranges, although they may wander in winter, presumably following food supplies.

The Spruce Grouse is a promiscuous species with males establishing display territories that females visit, and after mating the females move on to nest and raise the young alone. The male displays are elaborate, variable, and spectacular. Males produce a "drumming" sound that can occur as a bird departs on a display flight from one low branch to another, flies up from a tilted display tree, or launches itself from the ground straight up in the air fifteen or twenty feet. The drumming, which is basically a rapid fluttering, has been described as resembling distant thunder. The males also "wing clap" during display flights. Males also have an elaborate strutting display, where they tilt up and partially fan their tails, and with wings drooping slightly, neck and breast feathers ruffed, and combs expanded, strut before a female. The birds are largely silent, but produce various low whistles, chucks, and hissing notes during aggressive encounters.

The female nests in a depression in the ground, often in moss, lined with conifer needles, leaves, and sometimes a few feathers. The nest is well hidden, often under a low conifer branch. The eggs are light cinnamon in color with brown spots. Older reports suggest clutch sizes of ten to twelve, but recent data suggest clutches of about five to eight are more usual. Incubation lasts for about three weeks. The young birds develop quickly and are able to fly after ten to twelve days. The female aggressively defends the young, possibly attacking humans that wander too near or giving distraction displays. Females defend territories against other females.

In summer Spruce Grouse feed heavily on buds, leaves, and berries, and will eat animal food including spiders and grasshoppers. In winter they apparently feed exclusively on conifers. They specialize in spruce buds and needles and other short-leaved conifers, but will eat long-leaf pine needles as well. Their physiology is geared to this specialized diet, as their intestines become enlarged during the winter months.

The Spruce Grouse has become extirpated from much of the southern part of its range due to contact with man. Their tameness makes them easy prey to hunters, although in winter their diet of spruce needles gives them a flavor of turpentine, and most people would have to be pretty hungry to eat one! They are still relatively common in more remote areas, and although cryptic and hard to find, the thrill of encountering one in tangled spruce bog is long remembered, and well worth the trek into the wilderness.

W. E. Davis, Jr.

MEET OUR COVER ARTIST

Paul Donahue's artwork has been widely published in the bird literature. Paul spends about half of the year leading tours or working in the rainforest canopy of Manu Lodge in Manu National Park, Peru. The remainder of the year he resides in Machias, Maine, where he paints during the winter after a fall of hawkwatching. Paul can be reached at P.O. Box 554, Machias, Maine 04654.

The Spruce Grouse drawing first appeared in a catalog of Victor Emanuel Nature Tours, Inc. (VENT). *Bird Observer* appreciates the permission granted by VENT to use Paul's drawing for the cover. VENT conducts birding tours around the world. Their address is P.O. Box 33008, Austin, Texas 78764.

M. Steele

April's mystery bird has distinctive field marks, as well as some features that may give pause to the inexperienced observer. Most obvious are a bold wing patch and what appears to be extensive pale coloration in the upper half of the tail. The angle of the bird's head does not afford a look at its bill, a feature that otherwise might be helpful in placing the bird into its correct family. The fact that its legs and feet are concealed also means that they are of no use in getting started on the identification process.

Perhaps the easiest approach to use when faced with identifying a bird whose family is unknown is to focus on whatever obvious field marks do exist. In this instance, the bold wing patch and unstreaked light underparts are the most useful combination of features to use. In eastern North American passerines, only the Northern Mockingbird and the Golden-winged Warbler share these features. However, a mockingbird would show two white wing bars and would have white running down the entire length of the outer tail feathers. Golden-winged Warbler can be eliminated since it has an extensive dark throat, a contrasting pale crown, and lacks pale coloration in the upper portion of its tail. Having removed the above species as possibilities, the only remaining candidate is the American Redstart (*Setophaga ruticilla*). The bird's overall slim proportions, the pointedness of its primaries, the roundness of its head, and the relatively long tail all further suggest that the bird might be a redstart.

An adult male redstart has a black breast, a white belly, and white undertail coverts. The pictured bird is not in this plumage. Although the photograph does not allow the reader to determine whether the shadowy patch in front of the bird's shoulder is yellowish or orange-yellow, it is possible to see that the bird has a black face and a ring of black around the upper breast. These two features immediately indicate that the pictured bird is a male in its first spring plumage. The delayed acquisition of the complete breeding plumage in this warbler until its first full molt at about fourteen months of age has its most obvious analogue in the molt sequence of the immature male Summer Tanager. In some molting redstarts in their first spring, the black markings are less symmetrical and often are represented by black smudges on the breast.



American Redstart photographed by Tom Martin on Monhegan Island in May.

AT A GLANCE

Photo by Wayne R. Petersen



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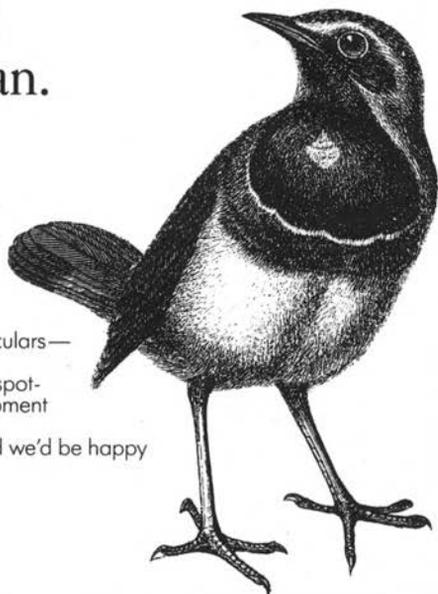
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