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ON THE COVER

Roseate Spoonbill

Soon it will be a year since Connecticut enjoyed its first Roseate Spoonbill. It was so cooperative that many birders now look back on its presence fondly. Mark Szantyr's evocative drawing memorializes the event as well as looks forward to a possible repeat in 2019.

THE MABEL OSGOOD WRIGHT AWARD

2019: To Jeff Spendelow

Steve Broker presented the following, prepared with Denise Jernigan, at the 35th annual meeting of the Connecticut Ornithological Association at Middlesex Community College on March 23, 2019.

Mabel Osgood Wright was born in New York City in 1859, and she died in Fairfield, Connecticut in 1934, the same year that Roger Tory Peterson published his ground-breaking *Guide to the Birds*. Ms. Wright's contributions to Connecticut and American ornithology are considerable, for she was a supremely gifted writer, educator, and conservationist. She was a founder of the late 19th and early 20th century American conservation movement, a founder and first president of the Connecticut Audubon Society, a pioneer in bird protection with her establishment of Birdcraft Sanctuary, a long-time editor of *Bird-Lore*, and a breaker of glass ceilings as one of the first women to be elected to the previously all-male American Ornithologists' Union. She has been elected to the Connecticut Women's Hall of Fame, and on this honorary organization's website one reads a quote from Mabel in which she turns an otherwise trite phrase into something quite profound: "There is so much to see, so much to learn, and so little time between the first consciousness of the eye and its closing."

The Connecticut Ornithological Association established the Mabel Osgood Wright Award in 1991 to recognize and honor a person who has devoted a lifetime to Connecticut ornithology. Each year, we have presented the Wright Award to a natural history educator, a university researcher or museum curator, an author of field guides or of *Connecticut Birds*, a wildlife biologist, a natural history philanthropist, a behavioral biologist, a leader in the Audubon movement. This year's recipient very deservedly joins the 27 previous Mabel Osgood Wright Award recipients, for through his youth, his education, and his professional life he was worked to deepen

and strengthen our understanding, our appreciation, and our protection of birds, in Connecticut and well beyond the bounds of our state.

Dr. Jeff Spendelow, a Founding and Life Member of COA, became interested in birds as a child. After the Saw Mill River Audubon Society established a Nature Sanctuary in the valley below his home in Chappaqua, New York, Jeff obtained a Bird Banding Laboratory Permit and started a banding project there (with his father and his younger brother) when he was 17.

The work that the Spendelows did at the sanctuary resulted in Jeff and his brother being awarded scholarships to the National Audubon Society's Ecology Workshop on Hog Island, Maine, where COA is now supporting young birders with an annual summer camp scholarship.

Jeff got his B.S. from Yale College in 1972 and his Ph.D from Yale University in 1980. He started working on terns while finishing his Ph.D. research on Red-winged Blackbirds. From 1977 to 1982, he also banded migrating songbirds and hawks at Lighthouse Point Park, and shorebirds at New Haven Harbor, doing the latter in part as Chair of the New Haven Bird Club's Conservation Committee.

After Fred Sibley and Jeff made several visits to Falkner Island, CT in 1977, they founded the Falkner Island Tern Project (FITP) in 1978 and ran it together for three summers before Jeff finished his Ph.D. and took over as the sole Director in 1981.

By this time Jeff had become especially interested in exploring the differences between Roseate Terns and Common Terns. So when he learned that Roseate Terns might become extirpated if their current rate of population decline continued, he refocused the FITP goals to concentrate on doing research on this species that could be used to help prevent that extirpation from happening.

As some "old timers" in the audience may remember from

talks Jeff gave at COA meetings many years ago or from taking Twilight Cruises offered by the New Haven Bird Club and Connecticut Audubon Society, Jeff developed a series of research studies that involved putting out half-buried tires and nest-boxes of various designs (1) to increase the amount of protected "under cover" nesting habitat preferred by the Roseate Terns, and (2) to encourage Roseate Tern chicks to continue to use their nest sites as hiding places until they were almost ready to fledge.

Jeff came to the U.S. Fish & Wildlife Service Patuxent Wildlife Research Center in Laurel, MD in late 1984 and included his tern research as part of his official duties there. He found-

Jeff has authored or co-authored more than 70 publications, and his research has played an important role in the decisions by USFWS to list Roseate Terns as Endangered and to add Falkner Island, CT to the National Wildlife Refuge system

ed the Cooperative Roseate Tern Metapopulation Project (CRTMP) and in 1987 began collaborative fieldwork with people working at several Roseate Tern colony sites in the MA-NY-CT area. This was just before the USFWS declared the Northwest Atlantic Roseate Tern breeding population to be endangered, based in part on the population dynamics research done on the birds at Falkner Island.

In 1987, Jeff was appointed by the USFWS to be the Chair of the Technical Working Group to advise the official Roseate Tern Recovery Team in writing the original Recovery Plan when the species was declared Endangered, as well as writing new material for the First Update to the Recovery Plan which came out in 1998.

From 2003 to 2010, Jeff did colony-site fieldwork research in Buzzards Bay, MA, in part to look at how Roseate Terns were impacted by both the Bouchard Barge Oil Spill and the hazing done to try to prevent the terns from becoming oiled during the clean-up procedures taking place at the three colony sites in this area. In 2005, he expanded the CTRMP to investigate the potential impacts of the construction and operation of 124 turbines for a proposed (and now cancelled), Cape Wind Energy Project in Nantucket Sound.

Jeff has authored or co-authored more than 70 publications, and his research has played an important role in the decisions by USFWS to list Roseate Terns as Endangered and to add Falkner Island, CT to the National Wildlife Refuge system. His research also influenced the National Park Service's Cape Cod National Seashore to increase management efforts for migrating terns, in addition to what they do for nesting Least Terns and Piping Plovers.

Jeff continues to direct the CRTMP, which now includes partners spanning the entire range of the Northwest Atlantic breeding population from Connecticut to Nova Scotia. Since 2011, he has focused his attention on learning more about the factors that impact individuals of different ages and breeding status in their use of summer staging sites, especially those sites in the Cape & Islands area of Massachusetts.

After more than 35 years as a federal employee, he retired in December 2018 (during the government shutdown, I must add) to become an Emeritus Research Wildlife Biologist.

It is our distinct pleasure and honor to recognize the many bird studies and conservation accomplishments of Jeff Spindel with the 2019 Mabel Osgood Wright Award.

POPULATION DECLINE OF THE LEAST TERN IN CONNECTICUT: AN UPDATE

By Bruce G. Stevenson

Introduction

On behalf of the Connecticut Ornithological Association (COA), I published an article in the Connecticut Warbler in 2004 on the status to Least Terns (*Sternula antillarum*) in Connecticut (Stevenson 2004). That paper concluded that there were substantial declines in the number of breeding Least Terns, the number of Least Tern fledglings and the ratio of fledglings to pairs of breeding terns.

At the time of publication, there was concern within the COA on the status of Least Terns in the state among water bird specialists, conservationists and bird watchers. In fact, the COA devoted a portion of its annual meeting in 2004 to the Least Tern during which some participants expressed concern that the species could be extirpated from the state. Happily, that result has not happened and Least Terns still nest in Connecticut. However, it may be premature to say that it cannot happen in the future.

This paper provides an update on the status of Least Terns in Connecticut. I analyze data on the breeding population in the state from 1985 to 2016 and I conclude that there is evidence for an apparent stabilization in this species in the state. However, that apparent stabilization has occurred at low levels of breeding pairs, and the year-to-year volatility in numbers of pairs and their breeding success means that extirpation remains possible.

Least Terns in the United States

The Least Tern is the smallest species in the genus *Sternula* and consists of three subspecies: the Eastern Least Tern (*S. antillarum antillarum*), the Interior Least Tern (*S. a. athlasis*) and the California Least Tern (*S. a. browni*) (Frost, 2015;

American Ornithologists Union, 1957). In the United States, individual Least Terns are wide ranging and, as a consequence, there is little genetic variation between the subspecies (Whittier et al., 2006). There is some scientific uncertainty as to whether these subspecies are distinct or are merely regional populations.¹

The IUCN lists the Least Tern as “Least Concern.” In the United States, Least Terns are widespread and common in some places, but their favored nesting habitat of beaches and coastlines for the coastal subspecies and river banks and islands for the interior subspecies are ephemeral and subject to natural disturbance. This habitat also is prized for human recreation, residential development and alteration by water diversion, which interfere with successful nesting in many areas. As a consequence, the Least Tern is under duress.

Between 1966 and 2015, Least Tern populations declined by nearly 90% according to the North American Breeding Birds Survey.² The North American Waterbird Conservation Plan designates the Least Tern as a “Species of High Concern”, with a continent-wide population of 60,000 to 100,000 breeding birds. The Least Tern also is on the 2016 State of North America’s Birds Watch List, which includes bird species most at risk of extinction without significant conservation actions to reverse declines and reduce threats.

Notwithstanding the debate about subspecies within the Least Tern, the California Least Tern was listed as Endangered by the U.S. Secretary of the Interior in 1970 (United States Fish and Wildlife Service, 1973) and the California Fish and Game Commission in 1971 (California Department of Fish and Game, 1976) due to a population decline resulting from loss of habitat (Craig, 1971; Cogswell, 1977). The Interior Least Tern was assigned Endangered status 1985 (United States Fish & Wildlife Service, 1985). The Eastern Least Tern is not listed as Endangered nationally.

At the state level, the Least Tern is classified as Threatened, Endangered or as a Species of Concern for most states in

which it nests because of loss of nesting habitat, disturbance by beach goers, and predation, all of which have resulted in significant reduction in the number of breeding terns. For example, Least Terns are listed as Threatened by the Department of Environmental Conservation in New York State. While breeding populations appear to have stabilized since the 1980s, distribution of terns in New York State declined by 21% according to the second Breeding Bird Atlas (McGowan and Corwin, 2008). In Connecticut, the Least Tern is listed as Threatened by the Department of Energy & Environmental Protection.³

Threats to Least Terns

All three sub-species of Least Terns face threats, as implied above. The principal threats come from natural disturbance and human beings interacting with the ephemeral nature of the species’ nesting habit.

Coastal populations of Least Terns nest on ocean shorelines and the interior population nests on sandy shores and islands of major rivers, such as the Missouri and the Arkansas. Each subspecies nests on open areas within foraging range of large bodies of water as the terns eat a variety of small, narrow-bodied, surface swimming fish species (Thompson et al., 1997; Lott et al., 2013). This nesting habitat is subject to periodic damage and destruction through storms and flooding. For example, heavy rain can cause sheet flowing in the central U.S. resulting in considerable nest loss for interior Least Terns (Winton and Leslie, 2003). Coastal storms consistently disrupt tern nesting habitat.

Nesting success of Least Terns varies with predation and human disturbance (Burger, 1984; Kirsch, 1996, Thompson et al., 1997). For the Eastern Least Tern, habitat loss due to human activity, predation and organochlorine pesticides are major threats (Kress and Hall, 2004). However, persistence of the Least Tern in its breeding areas is a key feature of the species. Lott et al. (2013) studied the interior subspecies and concluded that small populations persisted in isolated areas



Julian Hough photo

A Least Tern family at a colony at Sandy Point in West Haven.

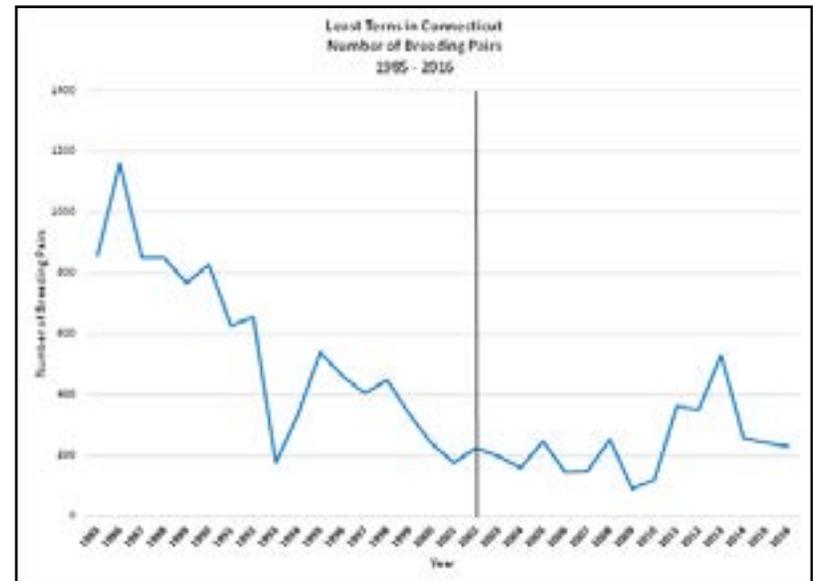
over the three decades they were studied despite drought and flooding and human intervention (e.g., dams on, and diversion of water in, the rivers next to which the birds nest). Small populations of the interior subspecies are resilient to multiple sources of stress (see also Castrale et al 2004; Nelson 2004; Doster 2009).

Population Trends of Least Terns in Connecticut

In the sections below, I investigate the temporal patterns of breeding Least Terns in Connecticut, their productivity and the patterns of usage in primary and secondary breeding sites. Following Garton (2002), Alcakaya et al. (2003) and Lott et al. (2013), I use the term “population” as a collection of nest and/or colony locations that are “connected through frequent dispersal, occupying a collection of habitat patches that lack large intervening areas of non-habitat relative to dispersal distances” (Garton, 2002). Garton further defines a “metapopulation” as “a collection of populations sufficiently close together that dispersing individuals from source populations readily colonize empty habitat patches”. In this context, breeding Least Terns likely are part of a regional population or metapopulation that includes all breeding pairs in New England and the Mid-Atlantic States.

Even in stable regional populations, movement of breeding birds due to changes in nesting habitat creates variability in

Figure 1



(Source: Connecticut Department of Energy & Environmental Protection, Wildlife Division)

the populations measured at any single site.

Number of Breeding Pairs. Figure 1 displays the historical pattern in the number of breeding pairs of Least Terns in Connecticut from 1985 to 2016.⁴ On this graph there is a vertical line at 2002, separating the end of the data series analyzed in the original paper and the data on breeding pairs from 2003 to 2016, newly published in the current report.

The two periods, 1985 to 2002 and 2003 to 2016, are different. In the earlier segment, the number of breeding pairs declines dramatically (Figure 1). Despite considerable year-to-year variability, Connecticut lost an average of 45 Least Tern pairs per year over the 17 years from 1985 to 2002.

From the perspective of 2004, when the initial article was published and the future outcome for terns was unknown, the concern about Least Terns was justified. Using extrapolations from mathematical regressions, it was possible to anticipate that breeding pairs of Least Terns would disappear

in the state in 2005.

Figure 1 clearly shows that the result did not occur and further declines in the number of breeding pairs are much less evident from 2003 to 2016. In 2005, breeding pairs in the state totaled 246 and the average number of pairs from 2003 to 2016 was 237. The data suggest a slight reversal in that numbers of breeding pairs increased from 2003⁵ though there is considerable year-to-year variability.

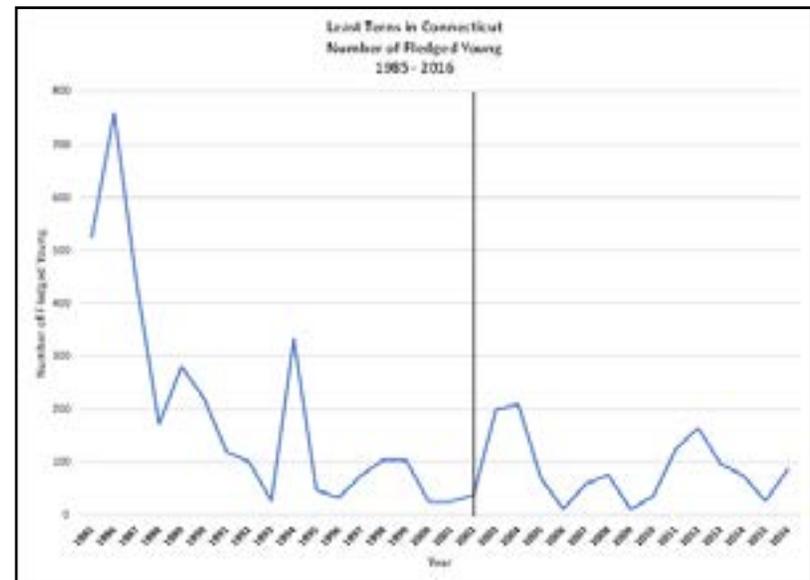
However, the impact of the declining population in the earlier period is clear: from 1985 to 2002, the average number of breeding pairs per year was 551 whereas from 2003 to 2016 the annual average was 237 breeding pairs, less than half of the earlier average. And the range, or variability, in numbers of breeding pairs is high: the range in the 1985 to 2002 period was 175 pairs to 1160 pairs and the range from 2003 to 2016 was 90 to 530.⁶

At this point, we may say that the number of breeding Least Terns appears to have stabilized in Connecticut at approximately 240 pairs per breeding season and, with that stabilization, the concern about immediate extirpation is lessened. Notwithstanding these conclusions, future declines and extirpation are still possible.

As we have seen, variability in the size of breeding populations is a key characteristic of Least Terns across the United States due to the ephemeral nature of their nesting habitat and to environmental pressures, including human activity. In this respect, the Connecticut population is not different from other populations of the species.

This variability is especially evident in large year-to-year changes in the number of breeding pairs. Focusing on the early 1990's, we see that the number of breeding pairs dropped from 655 to 175 from 1992 to 1993, a 73% decline. A comparable decline against the current average number of breeding pairs would imply a drop from 204 pairs (on average) to 64 breeding pairs statewide. Whether the Least Tern could avoid extirpation in Connecticut at this low level is

Figure 2



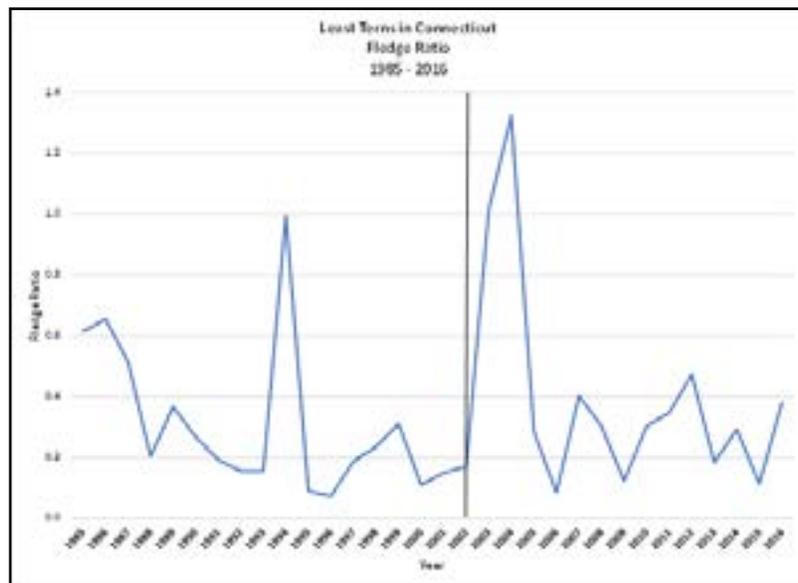
(Source: Connecticut Department of Energy & Environmental Protection, Wildlife Division)

unknown but the history of breeding sites in the state (see below) suggests that these terns might abandon breeding in the state, at least temporarily.

Number of Fledged Young. The historical pattern of the number of Least Tern fledglings is shown in Figure 2 and the pattern is broadly similar to the pattern of breeding pairs: steep declines in the number of fledglings from 1985 to 2002 (the end of the first study) followed by stability from 2003 onward. The fact that the temporal pattern in the number of fledged young follows that of breeding pairs is expected: as the number of pairs increases so, too, should the number of fledged young and when the number of pairs declines, so too should the number of young they fledge.

Fledge Ratio. The ratio of number of fledged young to breeding pairs is the “fledge ratio” and is a measure of the “hatchling success” or productivity of the Least Tern population in a given year. Since Least Terns will re-nest up to three times in a season (Massey and Fancher 1989; Lingle 1993), the

Figure 3



(Source: Connecticut Department of Energy & Environmental Protection, Wildlife Division)

fledge ratio actually captures the average productivity of a pair of terns nesting at a given location in a given season.

Figure 3 shows the pattern of the fledge ratio for Least Terns breeding in CT. For the period 1985 to 2002, the average fledge ratio was 0.302 (with a standard deviation of 0.244) and the average fledge ratio in 2013 to 2016 was 0.401 (SD = 0.350), so there is a slight increase in productivity between these periods. These averages are less than, though not statistically different from, the fledge ratio reported for Interior Least Terns of 0.6 chicks per pair by Winton and Leslie (2003).

The range in annual fledge ratio for interior Least Terns in CT is very large (0.072 to 1.323 fledglings per pair) (Figure 3) and encompasses the full range of comparable ratios for California Least Terns in recent years (0.25 to 0.38 in 2013 and 0.37 to 0.68 in 2015) (Frost, 2015). In fact, the average ratios are strongly influenced by outlier values in which productivity was exceptionally high, such as 1994 (0.994 fledglings per



Julian Hough photo

A pair of Least Terns with food at Sandy Point in West Haven.

pair), 2003 (1.015) and 2004 (1.323). Such “boom” years are a feature of breeding Least Tern populations.

Given the status of Interior Least Terns as Endangered, the reproductive success of this subspecies has been studied extensively. There is considerable evidence that individual adult birds have significant lifetime fecundity:

- The Least Tern has long reproductive lifetimes (Renken and Smith, 1995; Alcakaya et al., 2003; Lott et al., 2013). Interior Least Terns begin breeding at age two or three and attempt to breed nearly every year thereafter. Further, Least Terns are long-lived and one bird was actively breeding at the age of 20 (Thompson et al., 1997). Although there is little published literature on the reproductive success of Eastern Least Terns, they are known to have long lifetimes.⁷
- Adult Least Terns also have high annual survival rates, between 85% and 90% (Renken and Smith, 1995; Lott et al., 2013). Given an annual adult survival rate of 88%, the median reproductive lifespan for interior Least Terns would be approximately six years and 25% of adults would reproduce for approximately 11 years (Renken and Smith, 1995).

Lott et al. (2013) concluded that, with many lifetime breeding attempts, Interior Least Terns experience periodic “boom”

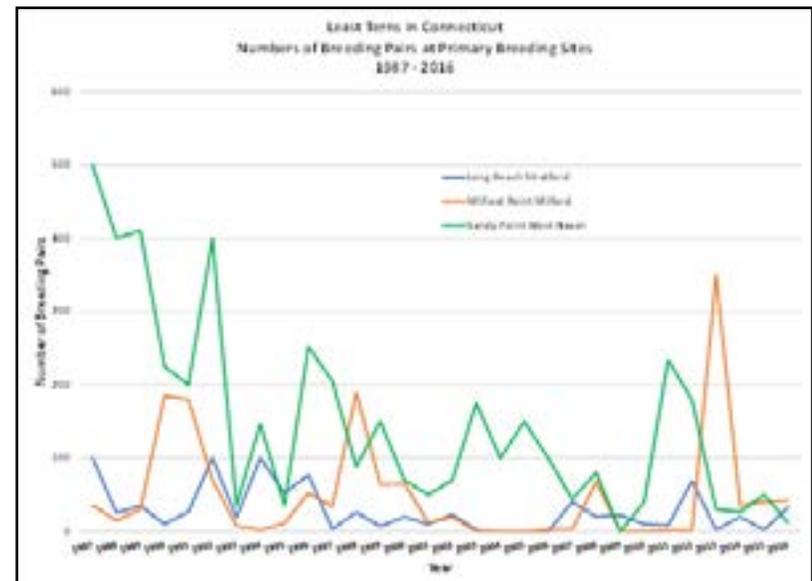
years in which production of fledglings and the fledge ratio reach unusually high levels. Such boom years often occur after major flooding events (Leslie et al., 2000; USACE, 2008) and may produce enough fledglings to sustain regional populations, despite more typical years that have poorer reproductive performance (Whittier, 2001). Boom years shown in Figure 1 suggest that this phenomenon is possible in the Eastern Least Tern, as well.

Variability and Persistence of Least Terns at Breeding Sites in Connecticut. The major sites in Connecticut at which Least Terns bred in 2016 were Milford Point (Milford), Menunketesuck Island (Westbrook), Long Beach (Stratford), Griswold Point (Old Lyme) and Hammonasset Beach State Park (Madison). Historically, Sandy Point in West Haven supported large numbers of breeding Least Terns though only 12 pairs were present in the 2016 breeding season. Sand Island in Greenwich supported small populations in the past, but it is no longer used by Least Terns. This species has begun nesting at Bluff Point/Mumford in recent years though the breeding population is not as large as the other, currently active sites noted above.

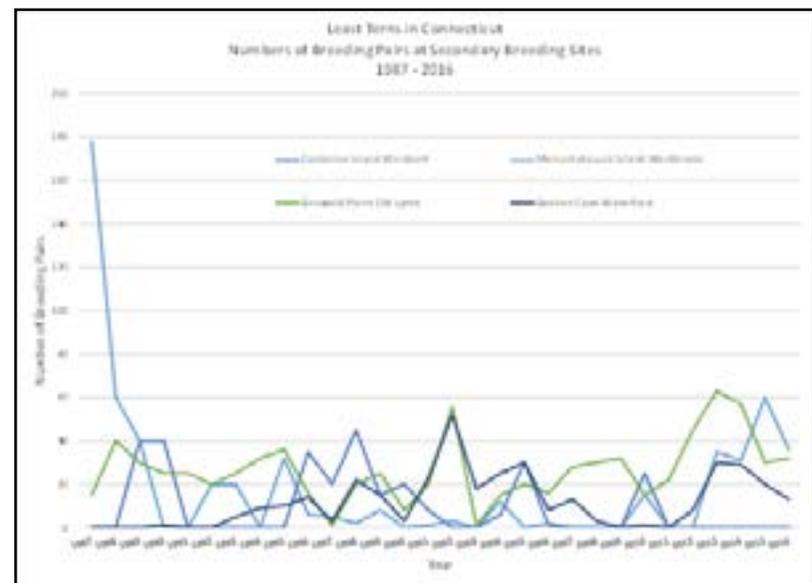
Over the entire 31 years of this study, seven sites account for 80.6% of breeding Least Tern pairs: Sandy Point in West Haven, Milford Point in Milford, Long Beach in Stratford, Cockenoe Island in Westport, Menunketesuck Island in Westbrook, Griswold Point in Old Lyme and Goshen Cove in Waterford. The most important sites (here labeled as “primary” breeding sites) are Sandy Point, Milford Point and Long Beach since they account for an annual average of 58.3% of all breeding pairs of Least Terns during this period. Secondary breeding sites, consisting of Cockenoe Island, Menunketesuck Island, Griswold Point and Goshen Cove, accounted for an annual average of 22.3% for all breeding pairs.

Figure 4 shows the pattern over time of the number of breeding pairs of Least Terns at the primary breeding sites in Connecticut (Panel A) and at secondary breeding sites (Panel B). These data are more precise segments of the state-level data

Figure 4
Panel A



Panel B



presented in Figure 1.

Several features of these results stand out:

- The large concentrations of breeding terns are evident at the primary breeding sites (Figure 4 Panel A). The secondary breeding sites have had fewer breeding pairs (Panel B).
- Sandy Point is an especially important breeding site for Connecticut's Least Terns. Over the 31 years, this site averaged 38.2% of all breeding pairs. The pattern of Least Terns at Sandy Point (Figure 4 Panel A) is very similar to the pattern of breeding pairs in the entire state (Figure 1).

Variability in the number of breeding pairs over time is true for both primary and secondary sites (Figure 4) just as it is for the state overall (Figure 1). In fact, the number of breeding pairs at a primary site can go to zero for a year or more and breeding Least Terns will return to that site in later years. For example, no terns bred at Milford Point from 2002 to 2005. By 2008, the number of pairs reached 68 but in 2009 and 2010 it fell to zero again before reaching 350 in 2013.

In 2009, Sandy Point had no breeding Least Terns and there were no terns breeding at Long Beach from 2004 to 2006. Terns bred at both locations in subsequent years.

The secondary sites experienced temporary absences of Least Terns more frequently and over longer periods, as might be expected with smaller overall populations. For example, in the 17 years from 2000 to 2016 (inclusive), no terns bred at Menunketesuck Island in seven of those years, including the three-year span of 2007 to 2009 and the two years of 2011 and 2012. However, between 2013 to 2016, the number of breeding pairs at this site averaged 40.5.

Conclusions

Stevenson (2004) raised concerns about the long-term decline in the populations of Least Terns in Connecticut. However, in the current updated analysis, the Least Tern persists in

Connecticut and may have stabilized after a long period of decline. This long-term study does show that annual variability in breeding populations and breeding success is the norm for the Least Tern in our state and temporary elimination of terns from individual breeding sites does occur. As such, I cannot conclude definitively that the concerns about extirpation are unwarranted.

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Endnotes

¹ United State Department of Agriculture, December 2015. Fact Sheet. Least Tern, *Sternula antillarum*. Lott et al. (2013) suggested that there is demographic connectivity between interior and coastal Least Tern populations and variable reproduction and immigration/emigration rates affect populations of all three subspecies (Kirsch and Sidle 1999, Lott, 2006).

² Cornell Laboratory of Ornithology. All About Birds, Least Tern. https://www.allaboutbirds.org/guide/Least_Tern/overview

³ <http://www.ct.gov/deep/cwp/view.asp?a=2723&q=326038>

⁴ I am grateful to the Wildlife Division of the Connecticut Department of Energy & Environmental Protection for these data, especially Laura Saucier.

⁵ The slope of a Least-squares regression between number of breeding pairs and year for the period 2003 to 2016 is 12.1, implying that, in this period, the average number of pairs increased by 12 per year. This rate of increase, however, is not statistically different from zero, so the rate of increase is characterized as “directional”.

⁶ The standard deviation is 287 pairs around the mean of 551 pairs in the earlier period and the standard deviation in the latter period was 116 around the mean of 237.

⁷ The Cornell Laboratory of Ornithology. All About Birds. Least Tern.

2018 Fall Hawk Watch

By Steve Mayo

Traditional cold fronts, virtually absent the previous two autumns, finally returned to Connecticut. These brought a great Broad-winged hawk flight as well as later movements of many thousands of both raptors and non-raptors. Five northwestern Connecticut sites (Botsford Hill, Chestnut Hill, Johnnycake Mountain, Middle School, White Memorial) provided coverage in September. Poquonock in the north central part of our state, joined Quaker Ridge and Lighthouse Point in full season watching. One 2017 site (Booth Hill) went unreported in 2018.

THE BROAD-WINGED HAWK FLIGHT

Small numbers of Broad-winged Hawks started moving south as early as August, but early September was associated with mostly heat and high pressure. The second of a pair of fronts passed the morning of September 19 bringing a few hundred Broad-winged Hawks. Another line of low pressure, over the Great Lakes by September 21, passed through Connecticut the following early morning. Counts were impressive at Botsford Hill (1,061), Chestnut Hill (2,048), Johnnycake (1,243) and Middle School (959). But once again Quaker Ridge led the pack. Counters tallied 5,907 including one kettle of 900! As northwest winds slackened September 23, Botsford Hill and Quaker Ridge still counted 974 and 1,508 respectively. These two September days contributed over three quarters of the seasonal total for Broad-wings. The only other significant frontal passage occurred September 29 with good numbers of Broad-winged Hawks at Johnnycake (331) and Quaker Ridge (815). Further east, Poquonock and Lighthouse missed these impressive flights. It is noteworthy that Poquonock had 3 Golden Eagles later in the season, all in October.

QUAKER RIDGE and LIGHTHOUSE POINT PARK

Long hours of coverage and the highest Broad-winged Hawk totals in 5 years, helped Quaker Ridge continue to hold the Connecticut record for hawks per season. Greenwich's 16,541 hawks were double their total for 2016. Bald Eagle sightings helped as well. An all-time site record 317 were tallied, half of these in September. Black Vultures occurred almost daily in October, helping to set another site record (62). Falcons also poured through in record numbers for October. American Kestrels had the highest total in 11 years (628) with 73 seen on September 19. Eleven Merlins on October 5 contributed to the highest seasonal count in 9 years (133). Buteo totals fell within seasonal averages. On November 4, northwest winds brought a season daily record of 139 Red-shouldered Hawks and 35 Red-tailed hawks. The first of 8 Golden Eagles showed on October 18.

Lighthouse also rebounded with a "normal" 2018 season. There were plenty of hours of great hawk watching. The season total of 12,443 was highest in 6 years. September and October exceeded 100 hawks per day on 25 days. Of these, 7 days had over 500 hawks per day. The highest September Osprey count in 10 years helped to set a seasonal all-time record of 1,630. Season records were also attained for Bald Eagle (342) and Cooper's Hawk (2,272). Sharp-shinned Hawk and American Kestrel showed slight improvements over the previous 3 years. Sharp-shinned Hawks continued to move on northwest winds, later in October. There were 417 on October 21 and several other days that exceeded 300. Cooper's Hawks broke the 300 mark on October 5, with 309. Screaming northwest winds brought the low-flying falcons as well. On October 12, just after passing rain, there were 482 American Kestrels and 62 Merlin. Amidst the thousands of Purple Finch and other passerines there were 248 American Kestrels and 86 Merlin on October 21. Turkey Vultures were lowest since 2001. This is probably a reflection of a lack favorable migratory weather patterns later in the season. October and November Buteo counts fell within recent seasonal averages.

Additional data including daily, monthly and seasonal summary reports, may be obtained from the Hawk Migration of North America website, hawkcount.org. Summaries for Connecticut and the rest of New England, can also be obtained from The Northeast Hawkwatch, <http://www.battaly.com/nehw/>.

WATCHERS

Mark Aronson, Jim Asmuth, Renee Baade, David Babington, Bill Banks, Dan Barvir, Bill Batsford, Steve Beal, Joe Bear, Gail Benson, Gail Benson, John Berman, Debbie Bishop, Jay Boll, Nick Bonomo, Polly Brody, Christina Buccieri, Tom Burke, Dana Campbell, Paul Carrier, Charlotte Catalano, Jim Cortina, Louisa Cunningham, Kathy Davies, Rita Dempsey, Ayreslea Denny, Deidre Denny, Paul Desjardins, Amy Dwaretski, Cynthia Ehlinger, Bruce Finnan, Chris Finlay, James Fischer, Bobbie Fisher, Anne Fiske, Frank Gallo, Ted Gilman, Nancy Glynn, Tina Green, Carole Griffiths, Carol Goertz, Tom Goss, Frank Guida, Ed Haesche, Greg Hanisek, Carol Harrington, Richard Harrington, Roy Harvey, Julian Hough, Lynn James, Keith Johnson, Anne Kehmna, Acadia Kocher, Miriam Levin, Alex Linmore, Ryan MacLean, Mike Marsano, Jeff Martin, Shaun Martin, Stefan Martin, Steve Mayo, Robin McAllister, Kevin McGrath, Ken Merrifield, Chris Mignone, Ken Mirman, Judy Moore, Peter Moore, Don Morgan, Jim Muchmore, Tom Murray, Frank Nejame, John Oshlick, Annelise O'Toole, Brian O'Toole, Gary Palmer, David Peake-Jones, Andrea Pelletier, Ron Pelletier, Janet Petricone, Patti Picard, Matt Popp, Janette Purdy, Phil Rausch, Tim Reed, Anne Ribolow, Phil Ribolow, Rick Roach, Paul Roberts, David Salmon, Ronnie Santo, Sol Satin, Beverly Skiles, Scott Slora, Will Schenk, Olaf Soltau, Howie Sternberg, Bev Stevens, George Stevens, Bill Tischler, Carol Titus, Tony Tortora, Andy Towle, Severin Uebbing, Bill Wallace, Mike Warner, Christine Weintraub, Al Welby, Joseph Wojtanowski, Steve Wolter, Sara Zagorski, Joe Zeranski

Connecticut - All Lookouts - Fall 2018

Lookout	Town	Hours	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW
Botsford Hill	Bridgewater	53			17	12	4	63	4			2571
Chestnut Hill	Litchfield	40			6	17	1	47	6			2818
Johnnycake Mt.	Burlington	26	4	44	21	20	5	33	19			1708
MiddleSchool	Torrington	43			7	3	1	3	9		1	1419
Poquonock	Windsor	133	7	25	11	7	2	9	9		2	51
White Memorial	Litchfield											

Lookout	Town	Hours	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW
BV-Black Vulture	SS-Sharp-shinned Hawk											AK-American Kestrel
TV-Turkey Vulture	CH-Cooper's Hawk											ML-Merlin
OS-Osprey	NG-Northern Goshawk											PG-Peregrine Falcon
BE-Bald Eagle	RS-Red-shouldered Hawk											uR- Unidentified Raptor
NH-Northern Harrier												

Connecticut - All Lookouts - Fall 2018

Lookout	Town	Hours	RT	RL	GE	AK	ML	PG	uR	TOTAL
Botsford Hill	Bridgewater	53				10	1		9	2691
Chestnut Hill	Litchfield	40				16		6	4	2917
Johnnycake Mt.	Burlington	26	9			17	3	3		1886
MiddleSchool	Torrington	43				6	1		12	1462
Poquonock	Windsor	133	32			7	3	3	5	176
White Memorial	Litchfield									
INLAND TOTAL		295	41	0	3	56	8	12	30	9132

Lookout	Town	Hours	RT	RL	GE	AK	ML	PG	uR	TOTAL
BV-Black Vulture	SS-Sharp-shinned Hawk									AK-American Kestrel
TV-Turkey Vulture	CH-Cooper's Hawk									ML-Merlin
OS-Osprey	NG-Northern Goshawk									PG-Peregrine Falcon
BE-Bald Eagle	RS-Red-shouldered Hawk									uR- Unidentified Raptor
NH-Northern Harrier										

Broad-winged Hawk Flight - Connecticut - Fall 2018

	Aug	Sept thru 10	11- 15	16-21	22	23	24-28	29	30	Oct	Nov	Total
Lookout												
INLAND GROUP	15											
Botsford Hill			78	251	1061	974	207					2571
Chestnut Hill			190	264	2048	316						2818
Johnnycake Mt.					1243		64	331	70			1708
Middle School			15	442	959	2	1					1419
Poquonock		3	16			4	19	1	7	1		51
White Memorial				7			29					36
"COASTAL" GROUP												
Lighthouse Point	8	1	3	8	79		27	3	4	92		225
Quaker Ridge	42	26	58	463	5907	1508	167	815	246	110		9342
Total												18170

Lighthouse Point, New Haven - Fall 2018

	Hours	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	RT	RL	GE	AK	ML	PG	uR	Total
August	54			52	4	5	1				8				21	4	4		99
September	191		1	980	97	77	772	408		5	125	9			416	93	61	172	3216
October	230	4	181	575	199	314	2712	1705	1	105	92	169		2	1266	354	134	345	8158
November	157		57	23	42	43	149	159	2	133		231	1	1	14	24	16	72	967
December	5									1		2							3
Total	637	4	239	1630	342	439	3634		3	244	225	411	1	3	1717		211		12443

Quaker Ridge, Greenwich - Fall 2018

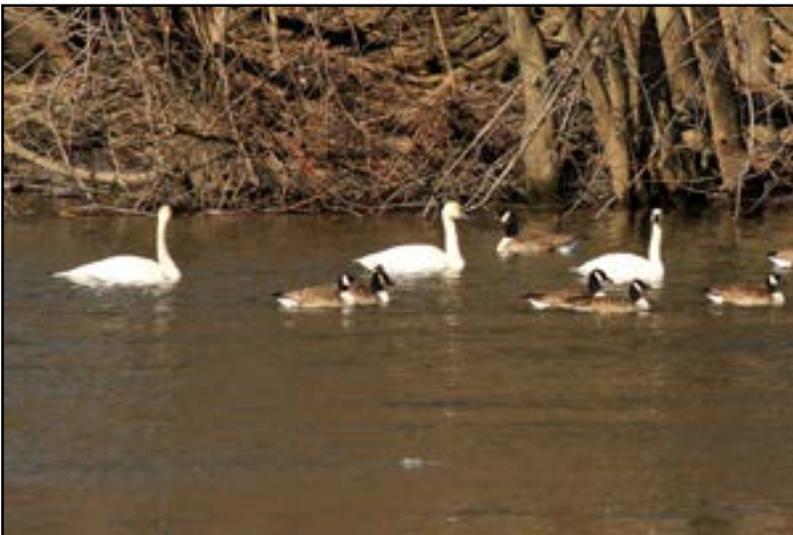
	Hours	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	RT	RL	GE	AK	ML	PG	uR	Total
August	88			80	9		5	2		1	42				3	1		2	145
September	203	1	43	413	159	55	1066	138		17	9190	6			339	58	10	38	11533
October	223	48	978	99	115	79	1286	312	1	295	110	101		5	283	70	20	29	3831
November	161	13	323		34	8	99	37	3	335		164		3	3	4	2	4	1032
Total	675	62	1344	592	317	142	2456	489	4	648	9342	271	0	8	628	133	32	73	16541

CONNECTICUT FIELD NOTES

Winter Season Dec. 1, 2018 to Feb. 28, 2019

By Greg Hanisek and Frank Mantlik

Single **Greater White-fronted Geese** were reported from about a dozen locations, with two seen Jan. 1 in Ellington (NB, AB) and on several January dates at Broad Brook Pond in East Windsor (DJ, JW et al.) Three Tundra Swans, always scarce and seldom cooperative, were found Feb. 10 on the Connecticut River in Glastonbury and remained into March (BA, m.ob.). A **Eurasian Wigeon** was at 14-Acre Pond in Norwalk from Dec. 16 through Jan. 7 (FM, et al.). One wintered on private property in Greenwich (ACu) and another was in Westport from Jan. 27 to mid-February (TG et al.). A high count of 105 Northern Pintails came from Glastonbury Meadows on Feb. 10 (BA). A male **Eurasian Green-winged Teal** found on Feb. 1 at Birdseye boat launch in Stratford was present through the end of the period (BW, m.ob.). Scattered single-digit reports of Redheads came from a few coastal



Bill Asteriades photo
Most migrant Tundra Swans pass by west of Connecticut. These three, shown here on Feb. 10 in Glastonbury, settled in for an extended stay on the Connecticut River.



Frank Mantlik photo
Rusty Blackbirds have become scarce in winter. This one was found on Jan. 23 in Lyme.

and inland locations. A male Ring-necked Duck X scaup sp. hybrid was photographed in New Haven harbor on Jan. 19 and remained through Feb. 11 (NB, JO). A female **Tufted Duck** found Dec. 15 at Captain's Cove in Bridgeport was seen there and in nearby locations in Bridgeport and Fairfield into early March (RC, AKi, TG, m.ob.).

The burgeoning Common Eider population in eastern Long Island Sound produced a count of 1600 on Dec. 15 from the New London-Orient, NY, ferry (DPr);

2500 were at Enders Island in Mystic on Feb. 17 (PR). A **King Eider** found Dec. 26 at the mouth of the Thames River in New London was present through the season (GW, m.ob.). An adult male **Harlequin Duck** found in late November was still at Penfield Reef, Fairfield, on Dec. 5 (JP). A female reported Dec. 22 from Greenwich Point was present through at least Jan. 21 (CEh PDn, et al.). An adult male was found at Jennings Beach, Fairfield, on Feb. 14 (SMA). In a good season for **Barrow's Goldeneyes**, the first report

was of an adult male at Bluff Point State Park in Groton on Dec. 10 (DPr). Another adult male, seen until at least Feb. 3 around the Connecticut River mouth in Old Saybrook, was found on Dec. 12 (RS, TA et al.). A male and female were at Burying Hill Beach in Westport Dec. 15 (TG et al.) and a male was in Noank on Dec. 29-31 (JRe). Inland an adult male found Jan. 19 at Windsor Locks State Park was seen through mid-March (SF, DM et al.).

A Red-necked Grebe was a good inland find Jan. 30 in the Hockanum R. in East Hartford (MPe). There were about 12 coastal reports. At least four Northern Gannets were tallied on Long Island Sound between Fairfield and Stamford on a research vessel on Dec. 3 (FM). The only **Sandhill Crane** was reported Dec. 15 in Storrs (fide CEL). An extraordinary gathering of 450 Ruddy Turnstones was at Hammonasset Beach State Park in Madison, hereafter HBSP, on Feb. 28 (AB). A Dec. 21 nor'easter produced two sightings of **Dovekie**, one at Ender's Island in Mystic (PR) and one at Stonington Point (NB, DPe). The latter location also had 16 Razorbills (DPr et al.). The next day the first leg of a trip on a New London-Orient, NY, ferry yielded a **Common Murre** (DPr, DPe) along with 31 Razorbills on the return trip (DPe). A Common Murre was reported again from the ferry at the Thames River mouth on Jan. 13 (NB, DPr). On Dec. 23 at Shippan Point, Stamford, 26 Razorbills passed by (PDu, AC). An immature **Black-headed Gull** found in late November at Greenwich Point remained deep into March (SMA, m.ob.). The state's second record of **Mew (Kamchatka) Gull** was a very cooperative bird present Jan. 8-21 at Holly Pond in Cove Island Park in Stamford (PDu, m.ob.). Six Glaucous Gulls for the season was a good total for the post-landfill era.

A regular winter roost of Black Vultures in New Milford held 50 on Dec. 1 (RS), and 50 were in a roost along I-84 in Danbury on Dec. 16 (DH). A roost at Long Lots School in Westport held 53 on Jan. 22 (JF). Wintering Golden Eagles have become harder to find in recent years, so the following records were noteworthy: 2 adults at Deer Pond Farm in Sherman on Feb. 11 (SMA) and a sub-adult Feb. 14 in Kent (NB). An



Frank Mantlik photo
Eastern Meadowlarks are always a good winter find. This one was at Silver Sands State Park in Milford on Jan. 2.

Osprey was late Dec. 6-7 at Coventry Lake in Coventry (JA, DPr). The first of two immature Northern Goshawks that wintered along the coast was at Greenwich Point beginning on Dec. 2 (ACu et al.). The second was in the Stratford-Milford area beginning on Dec. 22 (MB, FM et al.). Single American Bitterns were at HBSP Jan. 1-3 (JJ) and at Silver Sands in Milford Jan. 1 -7 (FG, m.ob.). A good late count of three Great Egrets came from Raven Pond in Stratford on Dec. 13 (FM). The last report was Jan. 17 at Short Beach

Park in Stratford (CEh). A late Yellow-crowned Night-Heron was in Westport on Dec. 25 (TG). Reports of single Snowy Owls came from Milford to Westport, ranging from Jan. 2-14 (MN et al.). The only inland report came from Watertown on Jan. 25 (JC).

Late Eastern Phoebes were at Birdseye boat launch in Stratford on Jan. 6 (SF); at Lake Mohegan, Fairfield, on Jan. 12-Feb. 9 (FM, AKi et al.); and at Kellogg Environmental Center in Derby on Jan. 31 (CL, MV). Birds pushing

the late vs. early limits were at Raymond Brook Marsh in Hebron on Feb. 11 (AP, MPr) and Feb. 16-20 at Connecticut College in Waterford (LA et al.). A flight of Northern Shrikes, centered mostly in the east, produced reports on Dec. 1 from Pomfret (RD) and Ashford (SMO), and on Dec. 13 in Berlin (EM) and Tolland (AS). Presumably the same Pomfret bird was seen again on Dec. 17 (fide PCo) and Feb. 6 (DPr). One was at Quinebaug Fish Hatchery in Central Village on Dec. 31 (RD), and a dead one was found Jan. 15 in Lebanon (fide MB). A final report came Feb. 9 at Wyntham Land Trust (PR). A single Bohemian Waxwing provided a seasonal highlight Jan. 2 at Trout Brook Valley Conservation Area in Easton (BM).

The high counts of Evening Grosbeak were 25 on Dec. 2 in Colebrook (KW) and 15 on Dec. 1 at Marvelwood School in Kent (LD). A modest flight of Common Redpolls produced a high count of 15 on Feb. 16 in Thompson (DPr). Single Red Crossbills were at Barn Island in Stonington on Dec. 9 (DPr) and at Quinebaug Fish Hatchery on Jan.

23 (RD). These were topped by six at Allen's Meadow in Wilton on Jan. 26 (JBe). Three more turned up at Pachaug State Forest in Sterling on Feb. 5 (NB). One White-winged Crossbill was reported from Bent of the River Sanctuary in Southbury on Dec. 3 (KE). A moderate flight of Pine Siskins brought 42 to a Barkhamsted feeder on Dec. 26 (FZ), and 47 each in Greenwich on Jan. 21 (ACu) and in Sterling on Feb. 24 (RD).

A **Lark Sparrow** was a good find Dec. 6 near Simsbury Airport (PDe). It was present to at least Dec. 10. One was present at the same location in November 2016. A late Nelson's Sparrow found Dec. 24 at Sherwood Island State Park in Westport was present to at least Jan. 2 (TG et al.). In a good season for White-crowned Sparrows, a flock of 17 was found Jan. 22 at Short Beach in Stratford (FM, SMa). This climbed to a remarkable 26 on Feb. 1 (TM). Yellow-breasted Chats were at HBSP on Dec. 7 (HB) and at the DEEP marine headquarters in Old Lyme on Jan. 6-17 (C&PT).

A Jan. 1 **Yellow-headed**



Bruce Finnan photo
These two male Redheads, shown here with a female Lesser Scaup, were part of a mixed *Aythya* flock on Lake Zoar in Southbury in February.

Blackbird at Horsebarn Hill in Storrs was a great way to start the year (PR). Another was in Preston on Feb. 11 (DPr). An Eastern Meadowlark was found at Silver Sands State Park in Milford on Jan. 2 and remained into March (FM, et al.). Another was at Great Island, Old Lyme, on Jan. 4 (TG, SZ). Following a period of snow, ice and bitter cold a flock of eight was a surprise find Jan. 23 at Gouveia Vinyards in Wallingford (CM). A Baltimore Oriole visited a jelly feeder in East Lyme on Dec. 10 (LV). Another visiting a feeder in Old Saybrook on Dec. 24 was present

throughout the season (JS). An elusive wintering flock of 28 Boat-tailed Grackles appeared on Dec. 22 in Stratford (FM).

Two Orange-crowned Warblers on Dec. 9 at Harkness Memorial State Park in Waterford topped several seasonal reports of singles (DPe, et al.). A Cape May Warbler was found in Noank on Dec. 29 (JRe), and Gorham Island in Westport supported an interesting winter flock consisting of a Cape May Warbler (Jan. 1-30), an Orange-crowned Warbler (Dec. 30-Jan. 3) and several Yellow-rumped Warblers

(DA, TG, et al.). Common Yellowthroats were found Dec. 3 in Cheshire (SB) and Jan. 6 in Durham (SB). Jan. 18 produced two late warblers, a Pine Warbler at Northwest Park in Windsor (PDe) and a Palm Warbler at Silver Sands State Park in Milford (FM). A Rose-breasted Grosbeak was a surprise visitor Dec. 2 at a feeder in Preston (DPr). Totally unexpected was an Indigo Bunting on Jan. 1 at a feeder in Wallingford (JRi). A male **Painted Bunting** was found Dec. 16 during count week of the Greenwich Christmas Bird Count (fide BO). A late **Dickcissel** was in Waterford Dec. 14 (DPr).

Observers: Dave Alpeter, Tim Antanaitis, James Asmuth, Bill Asteriades, LJ Averill, Holly Bauer, Joe Bear (JBe), Matt Bell, Allison Black, Nick Bonomo, Steve Broker, Joseph Budrow (JBu), Jason Calabrese, Chris Chinni, Paul Cianfaglione (PCi), Richard Chmielecki, Al Collins (ACo), Patrick Comins (PCo), Annette Cunniffe (ACu), Peter DeGennaro (PDn), Paul Desjardins (PDe), Robert Dixon, Laurie Doss, Patrick Dugan (PDu), Cynthia Ehlinger (CEh), Ken Elkins, Chris

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PHOTO CHALLENGE

By Greg Hanisek

Identifying birds in flight requires practice, but things other than the appearance of an individual bird can help. Hawk watches are a great place to gain experience with a wide variety of species, not just hawks.

One of the best general clues involves flocking behavior. Not all birds migrate in flocks, and an even smaller number do this during daylight hours. Fall migration is an especially good time to observe the flocking behavior of diurnal migrants at places of heavy passage such as Lighthouse Point in New Haven and Quaker Ridge in Greenwich.

Different species favor different formations, such as the tight, bounding flocks of small finches and the diffuse (almost standoffish) flocks of Eastern Kingbirds. In our Challenge photo, we see birds flying in tight formation. They're slender, mid-sized passerines and they have a (mostly) uniform buffy-yellow coloration. Seasonal timing is always an important clue, and these birds are passing overhead in the early part of the southbound migration.



With a bit of experience these clues will help with a quick identification, but often diurnal flocks announce themselves vocally before they're seen. In this case these birds probably would have identified themselves as Bobolinks with a series of somewhat spaced out "bink" calls before they were found overhead.

Knowing the calls allows you to study the birds carefully without a lot of puzzling over them – a good way to lock their physical features into memory. With Bobolinks, the very uniform yellow-buff appearance of the males, females and juveniles as they pass overhead – often in substantial flocks – makes them an easy ID at their early September peak.

But look at our Challenge birds. They're not uniform. One is showing some rather asymmetrical dark wing markings. That's because these birds are among the portion of Bobolinks that start to move early, some even on July cold fronts, while the adult males are still molting out of breeding garb into the more uniform buffy-yellow basic plumage.

These were photographed by Bruce Finnan on Aug. 28, 2018, at Lighthouse Point Park.



Photo Challenge No. 106

THE CONNECTICUT WARBLER

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Send manuscripts to the Editor. Please type double spaced with ample margins, on one side of a sheet. Submit a copy on a computer disk, if possible. Style should follow usage in recent issues. All manuscripts receive peer review.

Illustrations and photographs are needed and welcome. Line art of Connecticut and regional birds should be submitted as good quality prints or in original form. All submitted materials will be returned. We can use good quality photographs of birds unaccompanied by an article but with caption including species, date, locality, and other pertinent information.

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