# WINTERING RAPTORS and WATERFOWL

## on the MAURICE RIVER

**CUMBERLAND COUNTY, NEW JERSEY**

## *The 38th FIELD SEASON*

***of a Long-term Avian Use Study***

***and the Third Season of the new and revised <u>Volunteer</u> Count Protocol***

## Findings for the WINTER PERIOD: December 2024 through March 2025

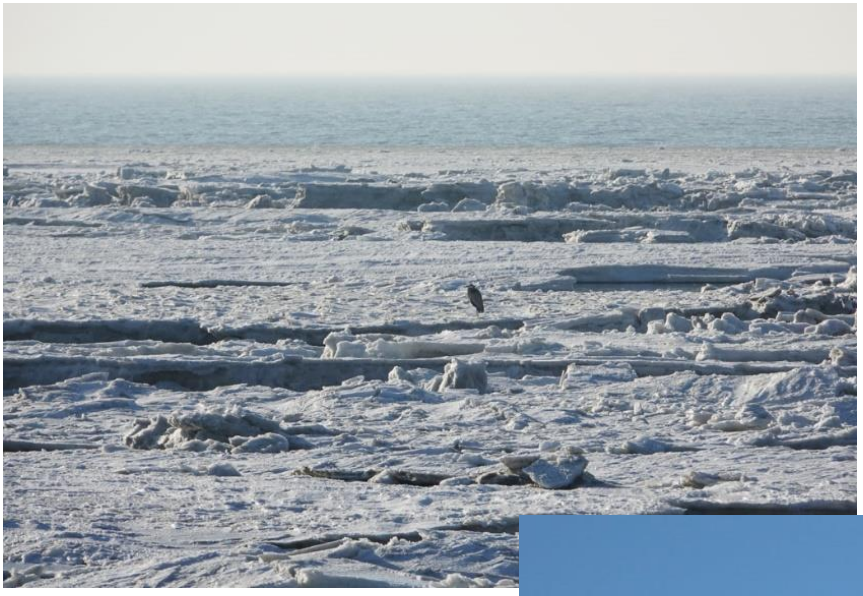
***Research and Monitoring Sponsored by:***

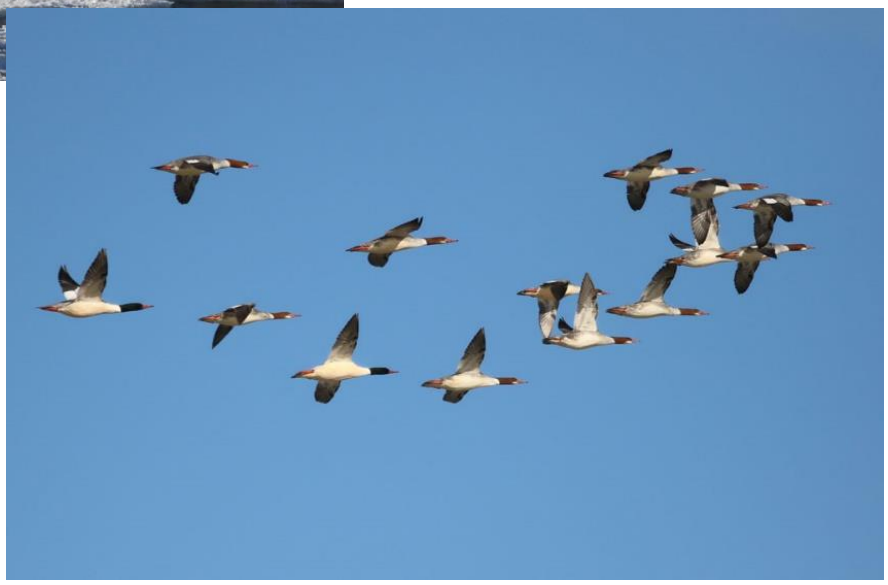
## CU Maurice River

The impressive high counts of **Bald Eagles** continue to be a major highlight of these studies, and a hallmark of the Maurice River. Shown here is a first-year immature Bald Eagle. *(photo by Clay Sutton)*


## Clay Sutton


**April 2025**





The Maurice River experienced true winter weather and icy conditions for the first time in a number of years. Here is a **Great Blue Heron** perched on the icy Delaware Bay near East Point in January (*top*). The wintry conditions pushed numbers of waterfowl south to our region, here a flock of **Common Mergansers** on the upper river in January *(middle)*. This was particularly true for diving ducks: shown here is a mixed flock of (mostly) **Greater Scaup** at Bivalve in late January (*bottom*). *(photos by Clay Sutton).*

The Maurice River's "sister river" (comparison river) on the Delaware Bayshore, the Cohansey River, saw the largest influx of **Snow Geese** in a number of years. Shown here are some of the 11,000+ Snows counted on the Cohansey in January *(top)*. This Snow Geese congregation contained a **Greater White-fronted Goose** on January 11 *(middle);* another White-front, a rarity for the South Jersey region, was found on the Maurice River in February. The enigmatic **Sandhill Crane** flock on and around the Cohansey continues to grow; a new high count of 72 was recorded on the Christmas Bird Count during winter 2024-2025 *(bottom)*. *(photos by Clay Sutton).*

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## *The 38th FIELD SEASON*
***of a Long-term Avian Use Study***

***and the Third Season of the new and revised Volunteer Count Protocol***

**Findings for the WINTER SEASON: December 2024 through March 2025**

**Introduction and Background:** ***"An old-fashioned winter?"***

Following the previous thirty-seven years of long-term winter raptor and waterfowl status and distribution studies on the Maurice River (a major Delaware Bay tributary), this current report presents the results from a continuation of these unique studies: the 38th consecutive winter-season monitoring of the regionally significant birds of prey and waterfowl populations that spend the winter on the tidal Maurice River. All previous seasonal summary reports, as well as the comprehensive 30-year report detailing long-term trends in raptors and waterfowl on the Maurice River, are available on the Citizens United to Protect the Maurice River and its Tributaries, Inc. (CU Maurice River) website at:

www.cumauriceriver.org/raptor-and-waterfowl-surveysstudies/

During the winter of 2024-2025, Maurice River raptors and waterfowl were monitored for the 38th consecutive season. However, for the third time in these 38 years, count protocols and techniques were changed somewhat dramatically. Due to the documented continuing decline of some raptors and most waterfowl on the river, and more importantly, changes on the river itself, the protocols used for the first 35 years were found to be no longer applicable or doable. Without going into all causes and effects (see previous reports referenced above), suffice it to say that continuing and emergent access issues, and associated declining views (viewability of birds) have combined to render original protocols no longer valid or usable. The major decline of wild rice acreage and the rapid and accelerating encroachment of *Phragmites* have resulted in fully half of prior point count sites being increasingly and severely compromised. With this the reality, and following consultation with CU Maurice River staff, it was deemed necessary and timely to revamp our studies, choosing new protocols for these studies as they go forward. In summary, as it became imperative to either change tactics or end the studies, we chose to continue.

The new methods/protocols, first used during Years 36 and 37, and again used during the current season, Year 38 (and to be used in subsequent future seasons as long as they are practicable), are as follows:

1. Instead of the two observers used for the first 35 years (the same observers: Clay Sutton and Jim Dowdell), **only one observer conducted the counts** (Clay Sutton). While the first 35 years were contracted by CU Maurice River, the Year 36-38 counts were carried out on a volunteer (*pro bono*) basis, and this will be the case going forward.

2. **One-half of the original point counts were used. Four sites** (East Point, Heislerville WMA, Bivalve, and the Galetto dock [on the upper river]), **were employed** in Years 36-38. By "half," that is to say that of the prior nine, the causeway Bridge North and Bridge South were in effect counted as a *single site* in recent past years as the *Phragmites* continued to impact views. Bridge North and Bridge South were dropped; also eliminated were Leesburg, the Sweet Meadow area, and the Peek Preserve.

3. Because of "half the observers" and "half the sites," **observation time was doubled** at the 4 remaining point count locations. Where previous protocol called for 45 minutes of observation at a site, the **new methodology required 90 minutes** (1.5 hours) per site. It was assumed that greater time spent in-part made up for the lack of the second observer and the fewer sites visited. It was theorized that additional time spent would increase the potential that hidden, distant, and itinerant birds would be spotted and counted.

4. The final change is less tangible. Because of fewer sites and one less observer, **the scope of the count (the "reach" of the observations) saw subtle changes and was broadened.** In past years, the nine point count sites gave ample geographic coverage of the river. Obviously, four sites give less coverage (viewability, or likelihood to observe all birds present). In the past, since there was closer proximity (and some possible overlap) of the sites, Sutton and Dowdell needed to be quite conservative at times to avoid any over-counting (counting the same individuals twice). An imaginary but real-world example might best illustrate this concept: perhaps at the Galetto dock site, 8 Red-tailed Hawks were observed. But 3 of those 8 were soaring far or very far to the north. Eight would be tallied, but we would make a note that at the next site, the Peek Preserve to the north, the first 3 Red-tails could *not* be counted. Any *more* than 3 and we could add them to the daily count. Conversely, any Red-tails seen from Peek soaring far to the south (over the Galetto dock) could not be added either – due to the likelihood that they had previously been counted. Now, with less geographical coverage, these issues are less of a concern. Currently, those three Red-tails over Peek *can* be counted because Peek is no longer employed as a count site. While overcounting is still a concern to be judiciously considered, monitored, and avoided, with the new protocols there is somewhat less concern of this than previously. The reach and scope (the "viewscape") of the coverage has changed, and will be somewhat more liberal than in the past, but I have confidence that the past 35 years of effort lends substantial understanding and credibility as to what should be recorded (or not recorded) at each site.

Based on the findings of the 36th and 37th seasons, and now the additional 38th field season, I can confidently say that it appears that the new protocols are working and lend good, substantial (if not perfect…) comparability and corroboration with the techniques employed during our first 35 winter seasons (see additional discussion in Summary and Conclusions section).

There is valid scientific precedent and cause for a long-term monitoring study to reduce the effort (if and when necessary) and include only a subset of original data points (in this case: count sites). When any study finds it difficult to carry out data gathering due to site changes, for example when some sites produce good data and other sites no longer contribute, there is good cause to downsize to a subset of points. Essentially, if a subset produces good results, comparable to the past, while others produce little, there is little need to continue to expend time and energy on those sites which have changed and are no longer applicable. Those point count sites eliminated

in Years 36-38 were no longer producing results due to changes in the habitat: primarily extensive *Phragmites* encroachment that was both reducing wildlife use (raptors and waterfowl) and the basic ability to see and count any birds in the event they were still present. (The Leesburg site loss of visibility was due more to land-use and access changes – the industrialization of the site). These changes and reduction to a subset of data can be reviewed and evaluated in a few years to see if our suppositions here are correct, but based on the preliminary findings of Years 36-38, the subset provided valid results that are surprisingly comparable to our past efforts, methodologies, and findings.

**Findings:**

Core winter raptor and waterfowl monitoring continued for the 38th consecutive winter season. The Maurice River was sampled on six dates between January 13, 2025 and March 31, 2025. These findings are presented in **Table 1**. Also shown in Table 1 are the winter 2024-2025 average counts and peak daily counts for key species. The six survey dates in this past winter season, "Year 38" of monitoring on the Maurice, bring our cumulative total of winter surveys to 356 over the 38 years, dating back to the study's inception in 1987. Such consistent coverage and methodology give us an unparalleled perspective on the changing avian resources of the Maurice River. (See 30-year report). Always remember and note however, that protocols were changed considerably in Years 36-38, in order to react to and accommodate changing physical conditions on the Maurice River.

As in past seasons, Cumberland County's other major Delaware Bay tidal tributary, the Cohansey River, was also sampled (albeit on only three occasions) during the winter period. For 35 years the Cohansey has been monitored as a "comparison river" or "control" to ascertain whether findings on the Maurice were representative; that is, whether they were either localized or more widespread on the Delaware Bayshore. Cohansey River results for winter 2024-2025 are shown in **Table 2**. The three survey dates on the Cohansey River during the current season bring the cumulative total to 62 winter surveys over the 35 years of this comparative study dating back to 1990. The depth of this effort and data set allows for strong comparisons, contrasts, and corroborations.

Cohansey River protocols over the years have been identical to the Maurice, but these too have been adjusted during the past three volunteer seasons, and for similar reasons to the Maurice: changing habitats, viewscapes (viewability), and access. I feel the comparisons remain as similar and valid as possible. While no sites have been totally dropped on the Cohansey, real-world conditions of tidal flooding blocking access were frequent. Also, increased acreage of Dix WMA is a good thing (!), but at the same time has led to increased hunting pressure and conflicts (several times I had to avoid point count sites due to active hunting parties). This, when combined with declining views due to *Phragmites*, as well as habitat changes due to accelerating conversion of cropland to ornamental nurseries, has meant that *de facto*, the Cohansey protocol has also been reduced to a smaller subset of sites, even if not done "officially" (geographically) as with the Maurice. All Cohansey River surveys were carried out on a volunteer basis by Clay Sutton.

**Table 3** shows peak and average numbers of key waterfowl species and all raptor species on the Maurice River during winter 2024-2025, shown in relation to the Segment VII summary (2017-2022) of this long-term study, as well as the individual single-season results from Years 31 through 37. (Note that Year 35 completed the seventh five-year segment of the study, segments that date back for 35 years to 1987). The findings for Years 36-38 are straight-forward and self-explanatory, particularly when viewed with and against: 1. The previous Segment VII; 2. The

discussion in the 30-year report submitted in February, 2018; 3. The recorded CU presentation, *35 Years on the Maurice*, presented to CU Maurice River at the members meeting on January 10, 2024, and available on the CU website.

When reviewing the data, I feel that in Table 3, for all species it is more applicable to compare Years 36, 37, and 38 *peaks* ("best") with the *averages* shown for Segment VII (as well as the *individual averages* shown for Years 31-35). Using Year 36-38 peaks in the comparison, somewhat mitigates the fewer observers, fewer sites, and the fewer surveys of Years 36 through 38. Given the new protocol and the inherent difficulties of comparing "new data" to the old protocol data, I feel that this perhaps counterintuitive method is the best logical representation for review and comparison of our findings.

**In summary and in brief, given the new protocols, the *Peaks* (or *Best*) of Years 36 through 38 are best compared to the *Averages* of the previous 35 years – years that saw more frequent and intensive coverage by two observers.**

**Discussion – Waterfowl:**

As with every winter season, the relative abundance and phenology of wintering waterfowl (and raptors) found on the Maurice River were in large part dictated by the weather. While there were indications, and hope, that an "old-fashioned" truly cold winter might bring the numbers of waterfowl and raptors that we saw in the early years of these studies, this was not to be. Cold temperatures in early to mid-January did cause limited freeze-ups and ice on the river, but such conditions were relatively brief and seemed to only push limited numbers of waterfowl into the region. In short, there was little stress to ducks and geese, and little lingering or staging on the Maurice in winter 2024-2025. Geese numbers saw modest increases over recent years on the Maurice, and the amazing 11,400 Snow Geese counted on the Cohansey River survey of January 17 was the best count in a number of years.

Diving duck numbers on the lower Maurice River (in Maurice River Cove and the Basket Flats area) were good throughout the winter, and better than in recent years if not exceptional. Two of the three former hallmark species of the Maurice, Mallard and Northern Pintail, were again virtually absent from the river, posting their second-lowest numbers ever. That said, we may have missed some Pintails, as Natural Lands staff reported "On a few days there were small flocks of Pintails" seen at the Peek Preserve (personal communication, Dustin Welch, Natural Lands Inc.). These Pintails apparently did not linger and were unrecorded on our official survey dates. Pintails were found regionally though, with "many hundreds" seen at Corbin City WMA in early March (personal communication, Brian Johnson). American Black Ducks on the Maurice did see a substantial increase over recent years, although numbers were at best modest compared to the early years of these studies. The relatively cold winter, with some ice, may have contributed to this increase in Black Ducks.

Once again, Green-winged Teal numbers were exceptional in late winter, with a peak of 2,105 tallied on March 11. The teal were most numerous at both the Heislerville WMA impoundments and the PSE&G Estuary Enhancement Program wetlands restoration site at Bivalve. Now anticipated, Common Teal (Eurasian Green-winged Teal) were again recorded, with two drakes on March 11 and one on March 31.

One highlight of the Cohansey River surveys was the exceptional raft of 300 Canvasback in the Delaware Bay just off Caviar on February 7. This was the first time this formerly regular

raft in that location had been found in a number of years. Also on the Cohansey, the Sandhill Crane flock peaked at a new high of 72 birds (on the Christmas Bird Count), while our survey counted a high number of 64 on January 17. (See last year's report for more details on the "Cohansey Cranes").

Although the expectations of an old-fashioned winter did not come to pass, for neither the cold weather freeze-ups nor anticipated waterfowl, there was an additional climatic factor that may have influenced Maurice River bird populations to an unknown degree. For much of the summer and fall, and continuing throughout the winter season, all of South Jersey was in an "extreme drought" condition. Severe droughts are known to have reduced waterfowl production in many regions of North America, but more localized drought can also impact wildlife in many ways. For example, drought conditions often result in poor seed and mast production by plants. This in turn means that rodents (raptor prey) are stressed and produce fewer offspring or fewer broods. With less food available, fewer raptors might set up territories. Drought can impact wetlands in various ways, and wintering waterfowl might find fewer food resources in dryer conditions. Dry wooded swamps and vernal ponds mean fewer frogs and salamanders, reducing food for Red-shouldered Hawks, for example. Even salt marsh vegetation such as *Spartina alternaflora* needs rainfall in order to flourish. These are all unknowns or even speculation, but it is not a reach to assume that our lengthy and ongoing drought is having resultant negative impacts on flora and fauna, including our raptors and waterfowl.

**Discussion – Raptors:**

While winter raptor numbers remained regionally significant, among hawks, once again, no American Kestrels were recorded during the past winter season. This is only the fourth time in 38 years that Kestrel have been missed during our survey efforts, but marks two years in a row with zero Kestrels present. As past reports have explored in-depth, this is undoubtedly linked to the loss of high marsh, and the loss and conversion (to ornamental nurseries) of former agricultural lands along the Maurice River survey route.

Two of the Maurice River's hallmark hawks, Northern Harrier and Red-tailed Hawk, continued to show extremely low counts compared to the earlier segments of the study. Year 38 tallies were well below long-term peaks and averages, and the alarming downward trend continued for these two Maurice River and Delaware Bay signature raptors. Both Harriers and Red-tails posted their lowest-ever averages. The long-term downward trends for Northern Harrier and Red-tailed Hawk continue to be significant, dramatic, and disturbing. When Year 38 is reviewed in relation to the findings of previous years, the entire 37 years of study, it is clear that things have changed drastically for these two keystone raptors of the Maurice River.

Although the three comparative Cohansey River surveys of winter 2024-2025 are inconclusive at best due to their limited number, the Year 38 findings and those of recent years show the exact same picture. Northern Harrier and Red-tailed Hawk numbers continued to be very low, and well below the long-term averages, on the Cohansey River as well. Importantly, see our discussion in the earlier reports to further understand how Cohansey River findings support and confirm Maurice River findings over time. Whatever is adversely impacting Northern Harriers and Red-tailed Hawks on the Maurice River is clearly happening on the Cohansey River also.

The issues of habitat change and sea level rise (and resultant prey availability) on the Maurice River have been discussed at length in previous seasonal reports. (For an update on regional impacts of sea level rise, see **Attachments 1 and 2**). While the rising waters of climate

change are clearly adversely impacting Harrier and Red-tailed Hawk winter numbers, other widespread factors are involved as well. It is now well-documented that these two species have declined at many hawkwatches (hawk migration monitoring sites) in the Northeast and Mid-Atlantic regions in recent years. For one example, at Hawk Mountain Sanctuary in Pennsylvania, the autumn 2023 Red-tailed Hawk count was 34% below average, and was the lowest count (989) in Hawk Mountain's 89-year history (*Hawk Mountain News*, Spring 2024). In autumn 2024, the Hawk Mountain season-long Redtail count rose slightly to 1,114, a count well below the most recent 10-year average of 1,393, and well below the long-term average (*Hawk Mountain News*, Spring 2025). The Cape May Point autumn hawk count conducted by the Cape May Bird Observatory has seen similar declines in Red-tailed Hawk migration.

The wide-spread declines of both Red-tails and Harriers were a consistent theme at the November 2024 50th Anniversary Meeting of the Hawk Migration Association in Duluth, Minnesota (where Clay Sutton was honored to give the invited Keynote/Plenary Talk at the opening session). At this meeting, Dr. Dave Brandes from Lafayette College spoke of how Red-tailed Hawks have seen a 40% decline at Hawk Mountain over the long-term, and that Northern Harriers have seen a 44% decline. He presented evidence that these declines are in-part related to changes in weather patterns and subsequent changes in migration routes. Other presenters made clear links between declining numbers and migration short-stopping due to the milder winters of climate change.

Dr. Brandes' report of the 40% decline in Red-tails at Hawk Mountain is remarkably similar to the 35% decline we have seen over the 35 years of our studies, (as computed and reported in 2023). Our Harrier decline of 26% over 35 years is thankfully less than the 44% decline witnessed at Hawk Mountain. For both of these species, these migratory studies may indicate that declining numbers on the Delaware Bayshore may have additional causes beyond the known bayshore and river habitat changes.

Without deliberating or intensively investigating this issue here, in summary most researchers at most watch sites consider climate change to be a major factor in declining raptor numbers. Simply put, warmer temperatures and the concomitant lack of snow cover are allowing many hawks to remain much farther north in winter. This distributional shift can be dramatic; at the Hawk Migration Association conference, researcher Neil Paprocki presented a paper documenting that Rough-legged Hawks winter ranges have shifted 200 miles to the north in the past 25 years. Remember that Rough-legged Hawks were once a prominent wintering bird on Delaware Bay marshes, and regularly recorded in small numbers by our Maurice River surveys during our first decade of study. Now, no Rough-legs have been seen by our surveys since Year 31 (2017-2018). This represents a complete absence for seven winter seasons.

**Discussion – Avian Flu:**

As we have frequently explored in past reports, there are many compounding variables at play when we look at population changes on the birds of the rivers and the Delaware Bay region. There are now emerging deep concerns at the population level for both raptors and waterfowl regarding the impacts of avian disease – West Nile Virus and Avian Flu – on our observed bird numbers. West Nile has been a factor for a number of years, yet the cumulative impacts on populations are yet largely unknown. The emergent and accelerating threat of avian flu is of immediate concern on the Maurice and Cohansey Rivers. Avian flu has been decimating raptor and waterbird populations across America. In Michigan in 2022, the number of occupied Bald Eagle nests declined 50%, with 38% of dead eagles confirmed to have died of avian flu. Similar

issues are documented in Minnesota. In New Jersey, Peregrine Falcons have been heavily impacted by avian flu, with nearly half of former known eyries now vacant (personal communication, Kathy Clark, DFGW). On the Maurice, notable was the complete absence of Peregrines at the Bayside Prison water tower eyrie during winter 2024-2025. This was a site they had occupied for over a decade.

During our winter 2024-2025 studies, dozens of dead Canada Geese were noticed along Route 47 in Leesburg (on the State Prison grounds). Many dead Snow Geese were reported to have washed up on the Delaware Bay Beaches of Cape May County. On the Cohansey, dozens of dead Snow Geese (and one dead Sandhill Crane) were seen during our surveys, and in many cases Bald Eagles were seen feeding on the carcasses (as well as a Northern Harrier and a Common Raven). Avian flu is a suspected yet unknown factor in the numerous failed Bald Eagle nests in South Jersey in early 2025; frequent extremely high winds could be a factor/cause as well (personal communication, Dustin Welch, Natural Lands, Inc.). Of note, our 2024-2025 count data shows only a slight Bald Eagle decrease on the Maurice compared to recent years. Bald Eagles continue to be a common wintering and nesting bird on the Maurice, Cohansey, and the greater Delaware Bayshore (see **Attachment 3**), but monitoring and vigilance is needed.

As we go to press here, there are reports of a large avian flu die-off of Double-crested Cormorants and Black Vultures at Susquehanna State Park in Maryland. And there are many emerging reports of waterfowl die-offs throughout North America. A final local concern was a dead immature Red-tailed Hawk that was found during the February 24, 2025 Cohansey Survey; a seemingly robust bird, it showed no signs of predation or shooting. We suspect that it may have died of avian flu; following protocol we reported it, but do not know if NJDEP collected or analyzed the carcass. The impacts of avian flu are developing and unknown factors that may well be influencing declining Maurice River wintering numbers of both raptors and waterfowl. Given that many or most raptors sometimes resort to scavenging, particularly in winter, we can only wonder how far-reaching avian flu might be on the diminishing numbers of Red-tailed Hawks, Northern Harriers, and possibly other raptors on the Maurice and Cohansey Rivers. (For more general information on avian flu, see **Attachment 4**).

**Summary and Conclusions:**

It might be said that Years 36 through 38 of our long-term Maurice River winter raptor and waterfowl studies were watershed years. Drastically changing and accelerating conditions on the river dictated major changes to our approach. Protocols were changed substantially, including going to a subset of point count data that we hope will prove beneficial, accurate, and valid. While one cannot fully compare and contrast the findings of these three years with the former 35, there are certain "markers" in the data set that hint at the new protocol being quite valid. Even though the numbers of many ducks were down, high teal numbers compared favorably with recent (old protocol) segments. Although Red-tailed Hawk and Northern Harrier numbers were low, raptor diversity and numbers of low-density (and low detection-rate) species such as secretive Cooper's Hawks were similar to recent years. Vulture numbers continued high, and Bald Eagle peaks and averages were on par with recent high numbers. Guardedly, I can say that the new protocols allow for a favorable comparison with the old, allowing us to continue to compare, contrast, confirm and corroborate current findings with our past data. This should allow us to confidently observe, record, and evaluate long-term population trends.

Because of the fewer surveys of this volunteer effort, this probably means that peak numbers should be given greater weight and higher value than averages. With fewer surveys, there

is less likelihood to hit the true peak numbers present (those dictated by phenology, weather, cloud cover, wind, tide, etc.). Conversely, more surveys should yield higher averages as "better days" possibly occur weather-wise. Beyond the count protocol, we may have introduced a possible negative bias by carrying out fewer surveys, but a bias that can also be possibly minimized by using peak values (best count) rather than the average when comparing results to the former five-year segments. We of course will see where the next few years take us, and we will continue to evaluate the success of the new protocols. After our three fact-finding transition years, I will strive to evaluate both the validity of the new methods and the efficacy of the comparisons as we go forward to the coming five-year mark.

Given the above caveats, the results of our 38th winter season of raptor and waterfowl studies on the Maurice River have not only again verified and confirmed our observed long-term trends over the many years, but also have strongly supported and substantiated the alarming findings from the most recent decade. There is now little doubt that the compounding and cumulative effects of climate change and resultant sea level rise continue to accelerate and negatively impact the raptor and waterfowl populations of the river and the region. While this remains a hypothesis, it is a strong theory and a basis for extreme concern and needed action. Regional warming, sea level rise, increasing salinity, and the changing habitats – the initial loss of *Spartina patens*, the more recent loss of wild rice, and the rapid and accelerating encroachment of *Phragmites* in-turn eliminating *Spartina alterniflora* – will all be further addressed and evaluated in upcoming reports and planned papers. Avian flu remains an emergent and unknown factor in our region, but a threat that requires urgent attention, continued monitoring, and assessment.

To continue to document these disturbing changes and unsettling downward trends is today an important goal of this long-term project, even though this was not something even remotely considered at the outset of these conservation and protection-oriented studies 38 years ago, way back in December 1987. Such documentation is why long-term studies are highly important, and why we continue to monitor raptor and waterfowl populations in these times of great and rapid change. Much of what we have chronicled in recent years is not good news by any means, but it is critical news that needs to be reported.

The Maurice River continues to exhibit substantial avian ecovalues, and remains a regionally important bird area by all standards and barometers, but the documented declines in birds and the habitats on which they depend are real and need to be acknowledged and addressed by authorities. The findings of these CU Maurice River long-term monitoring studies join those region-wide, nation-wide, and indeed world-wide efforts in focusing us on the immediacy of the issues and the urgent need for real and comprehensive actions on sea level rise and associated habitat changes on both the Delaware Bayshore and beyond.

**Acknowledgements:**

I commend and thank CU Maurice River for sharing these concerns, and continuing to encourage and support this important work. I thank the officers, all of the staff, the volunteers, and the members of CU Maurice River for their yeoman efforts in protecting the river and its resources, and for their continuing vision and belief in the innate and deep values of this long-term research effort. I particularly recognize and thank Karla Rossini and Jane Galetto for their focused and ongoing concern for the changes on the river. I remain grateful to Jim Dowdell for his amazing 35 years of keen involvement and collaboration; these studies would be far the poorer without his great interest, efforts, and skill. I thank Pat Sutton for her insight and patience in helping me put the Year 36-38 reports together; I couldn't have done it without her. Nor could I do it without all of you CU Maurice River supporters!

I continue to be proud to represent CU Maurice River as we all learn together. And we can join together to celebrate the good news – that in winter season 38 we have continued the long-term data set, a continuous monitoring effort and consecutive data set with no breaks. Despite challenges, each year we continue to "take the pulse of the river." There is no other study like this in New Jersey.

**Dedication:**

I dedicate this year's work and report to the life and memory of **Joan Elizabeth Morton**, who passed away in February 2025. I unfortunately did not know her well, yet well remember her spirit, drive, and her love for all of nature and art. She is missed, but will always be remembered for a legacy that included her deep love for the Maurice River, a passion that continues to live on in the inspired and dedicated work of her daughter, Karla Rossini, and her sister, Jane Morton Galetto.

***– Clay Sutton***

April 2025

# TABLE 1
# Maurice River
# Winter Raptor and Waterbird Survey – Year 38
# December 2024 through March 2025

| Maurice River - Winter 2024-2025 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | 1/13 | 1/30 | 2/10 | 2/26 | 3/11 | 3/31 | AVG. |
| | | | | | | | |
| **LOONS to CORMORANTS** | | | | | | | |
| Red-throated Loon | | | 1 | | | | |
| Common Loon | | | | | | | |
| Pied-billed Grebe | | 1 | | | | | |
| Horned Grebe | | | | | | | |
| Northern Gannet | | | | | 2 | 2 | |
| Dbl-cr Cormorant | | | 8 | 1 | 22 | 677 | |
| **BITTERNS to VULTURES** | | | | | | | |
| Great Blue Heron | 3 | 3 | 7 | 6 | 10 | 5 | |
| Great Egret | | | | | | 8 | |
| Snowy Egret | | | | | | 4 | |
| Black Vulture | 15 | 38 | 30 | 15 | **73** | 18 | 31.5 |
| Turkey Vulture | 85 | 112 | 134 | **143** | 131 | 100 | 118 |
| **WATERFOWL** | | | | | | | |
| Gr. White-fronted Goose | | | | 1 | | | |
| Ross' Goose | | | | | 1* | | |
| Snow Goose | 0 | 786 | 0 | **1,750** | 600 | 0 | 523 |
| Cackling Goose | 1* | 1 | | | | | |
| Canada Goose | 672 | **769** | 251 | 335 | 182 | 206 | 403 |
| Mute Swan | 2 | 2 | 4 | 6 | 10 | 4 | |
| Tundra Swan | 9 | | | | | | |
| Wood Duck | | | | | 2 | 2 | |
| Gadwall | | | 5 | 36 | 8 | 66 | |
| American Wigeon | | 1 | | | 1 | | |
| Am Black Duck | 68 | **430** | 156 | 160 | 119 | 296 | 205 |
| Mallard | 9 | 3 | 8 | **13** | 4 | 10 | 8 |
| Blue-winged Teal | | | | | | | |
| Northern Shoveler | | | | 5 | | 35 | |
| Northern Pintail | 0 | 0 | 3 | **6** | 6 | 0 | 3 |
| Green-winged Teal | 30 | 4 | 728 | 579 | **2,105** | 1,932 | 896 |
| Common Teal | | | | | 2 | 1 | |
| Canvasback | | | | | | | |
| Redhead | | | | | | | |
| Ring-necked Duck | | | | | | | |
| Greater Scaup | 106 | 810 | √ | √ | √ | | |
| Lesser Scaup | 2 | 50 | √ | √ | √ | | |
| Scaup (sp.) | 250 | 8 | 422 | 284 | 176 | 201 | |
| Surf Scoter | 2 | 10 | | | | 2 | |
| Black Scoter | | 1 | | | | 1 | |
| White-winged Scoter | | | | | | | |

**Peak counts**
shown in **Bold Face**

*** Seen on date other than official survey date or by other observers**

## **TABLE 1** (page two)
## Maurice River
## Winter Raptor and Waterbird Survey – Year 38
## December 2024 through March 2025

| Maurice River - Winter 2024-2025 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | 1/13 | 1/30 | 2/10 | 2/26 | 3/11 | 3/31 | AVG. |
| | | | | | | | |
| **WATERFOWL (continued)** | | | | | | | |
| Scoter (sp.) | | | 1 | | 6 | | |
| Long-tailed Duck | 2 | 19 | 1 | | 2 | | |
| Bufflehead | 57 | 143 | 152 | **244** | 197 | 90 | 147 |
| Com. Goldeneye | 4 | 1 | 1 | 6 | | | |
| Hooded Merganser | 6 | 14 | 37 | 70 | 51 | 4 | |
| Com. Merganser | 19 | 20 | | | | | |
| Red-br Merganser | 5 | 62 | **82** | 26 | 18 | 5 | 33 |
| Ruddy Duck | 22 | | | 36 | 71 | 140 | |
| **DIURNAL RAPTORS** | | | | | | | |
| Osprey | | | | | | 59 | |
| Bald Eagle | 22 | 37 | 34 | **39** | 26 | 27 | 31 |
| Northern Harrier | 8 | **14** | 5 | 11 | 12 | 7 | 9.50 |
| Sharp-shinned Hawk | 0 | **2** | 0 | 1 | 0 | 0 | 0.50 |
| Cooper's Hawk | **3** | 1 | 2 | 2 | 0 | 1 | 1.50 |
| Northern Goshawk | | | | | | | |
| Red-shouldered Hawk | **6** | 1 | 2 | 1 | 0 | 0 | 1.67 |
| Rough-legged Hawk | | | | | | | |
| Red-tailed Hawk | **9** | 7 | 4 | 6 | 6 | 7 | 6.50 |
| Golden Eagle | | | | | | | |
| American Kestrel | | | | | | | 0.00 |
| Merlin | **1** | 1 | 0 | 0 | 0 | 0 | 0.33 |
| Peregrine Falcon | **1** | 0 | 0 | 0 | 0 | 0 | 0.17 |
| **GROUSE to CRANES** | | | | | | | |
| Ring-nk Pheasant | | | | | 1 | | |
| Wild Turkey | | | | 33 | | 7 | |
| Clapper Rail | 1 | | | 1 | | 1 | |
| **SHOREBIRDS** | | | | | | | |
| Sandhill Crane | | | | | | | |
| Black-bellied Plover | 1 | | 6 | | | 9 | |
| Killdeer | | | | 2 | 4 | 3 | |
| Am. Oystercatcher | | | | | | | |
| Greater Yellowlegs | 3 | 13 | 10 | 23 | 48 | 52 | |
| Lesser Yellowlegs | | | | | 1 | 12 | |
| Pectoral Sandpiper | | | | | | 3* | |
| Sanderling | | | 8 | | | | |
| Dunlin | 110 | 95 | 410 | 2 | | 6,400 | |
| Long-billed Dowitcher | | | | | | | |
| Wilson's Snipe | | | | | | | |
| American Woodcock | 1* | | | | | | |

**Peak counts**
shown in **Bold Face**

*** Seen on date other than official survey date or by other observers**

**TABLE 1** (page three)
**Maurice River**
**Winter Raptor and Waterbird Survey – Year 38**
**December 2024 through March 2025**

| Maurice River - Winter 2024-2025 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | 1/13 | 1/30 | 2/10 | 2/26 | 3/11 | 3/31 | AVG. |
| | | | | | | | |
| **JAEGERS to ALCIDS** | | | | | | | |
| Laughing Gull | | | | | | 289 | |
| Bonaparte's Gull | | 8 | | | 1 | | |
| Ring-billed Gull | √ | √ | √ | √ | √ | √ | |
| Herring Gull | √ | √ | √ | √ | √ | √ | |
| Iceland Gull | | | | | | | |
| Lesser Bl-backed Gull | | 1 | | | | 1 | |
| Glaucous Gull | | | | | | | |
| Gt Bl-backed Gull | √ | √ | √ | √ | √ | √ | |
| Forster's Tern | | | | | | 8 | |
| **PIGEONS to WOODPECKERS** | | | | | | | |
| E. Screech Owl | | | | | | | |
| Great Horned Owl | | | 1 | | | | |
| Snowy Owl | | | | | | | |
| Short-eared Owl | 1 | | | | | | |
| Belted Kingfisher | 2 | | 3 | 1 | 1 | | |
| Common Raven | | 1 | | | 2 | | |

**Peak counts**
shown in **Bold Face**

*** Seen on date other than official survey date or by other observers**

# TABLE 2
# Cohansey River
# Winter Raptor and Waterbird Survey
# 2024 - 2025

| Cohansey River - Winter 2024-2025 | | | | |
|---|---|---|---|---|
| **DATE** | 1/17 | 2/7 | 2/24 | Avg. |
| | | | | |
| **BITTERNS to VULTURES** | | | | |
| Great Blue Heron | 10 | 1 | 3 | |
| Black Vulture | 3 | 10 | **19** | 10.67 |
| Turkey Vulture | 67 | **90** | 80 | 79 |
| **WATERFOWL** | | | | |
| Gr. White-fronted Goose | 1 | | | |
| Snow Goose | **11,400** | 1,100 | 4,500 | 5,667 |
| Canada Goose | 221 | 885 | **1,250** | 785 |
| Mute Swan | 2 | 4 | 2 | |
| Am. Black Duck | 8 | **110** | 10 | |
| Mallard | 0 | **90** | 0 | |
| Northern Pintail | 0 | **8** | 0 | |
| Green-winged Teal | 0 | **208** | **0** | |
| Canvasback | | 300 | | |
| Ring-necked Duck | | 2 | 1 | |
| Bufflehead | 2 | 2 | 8 | |
| Hooded Merganser | 9 | 2 | | |
| Common Merganser | | 15 | 12 | |
| **DIURNAL RAPTORS** | | | | |
| Bald Eagle | 36 | 30 | **45** | 37 |
| Northern Harrier | **12** | 11 | 10 | 10.5 |
| Sharp-shinned Hawk | 0 | **2** | 1 | 1 |
| Cooper's Hawk | **1** | 0 | 0 | 0.33 |
| Red-shouldered Hawk | 0 | **1** | 1 | 0.67 |
| Red-tailed Hawk | **9** | 6 | 3 | 6 |
| American Kestrel | **2** | 1 | 0 | 1 |
| Merlin | **1** | 0 | 1 | 0.67 |
| **GROUSE to CRANES** | | | | |
| Wild Turkey | 68 | | 2 | |
| Clapper Rail | 1 | | | |
| Virginia Rail | 1 | | | |
| Sandhill Crane | 64 | 60 | 56 | |
| Killdeer | 3 | | | |
| Greater Yellowlegs | 2 | 4 | 1 | |
| Wilson's Snipe | 1 | | | |
| **JAEGERS to ALCIDS** | | | | |
| Ring-billed Gull | √ | √ | √ | |
| Herring Gull | √ | √ | √ | |
| Great Black-backed Gull | √ | √ | | |
| Short-eared Owl | 2 | | | |
| Belted Kingfisher | 1 | | | |
| Common Raven | 1 | | | |

**Peak counts** shown in **Bold Face**

***Seen on date other than official Survey date or by other observers**

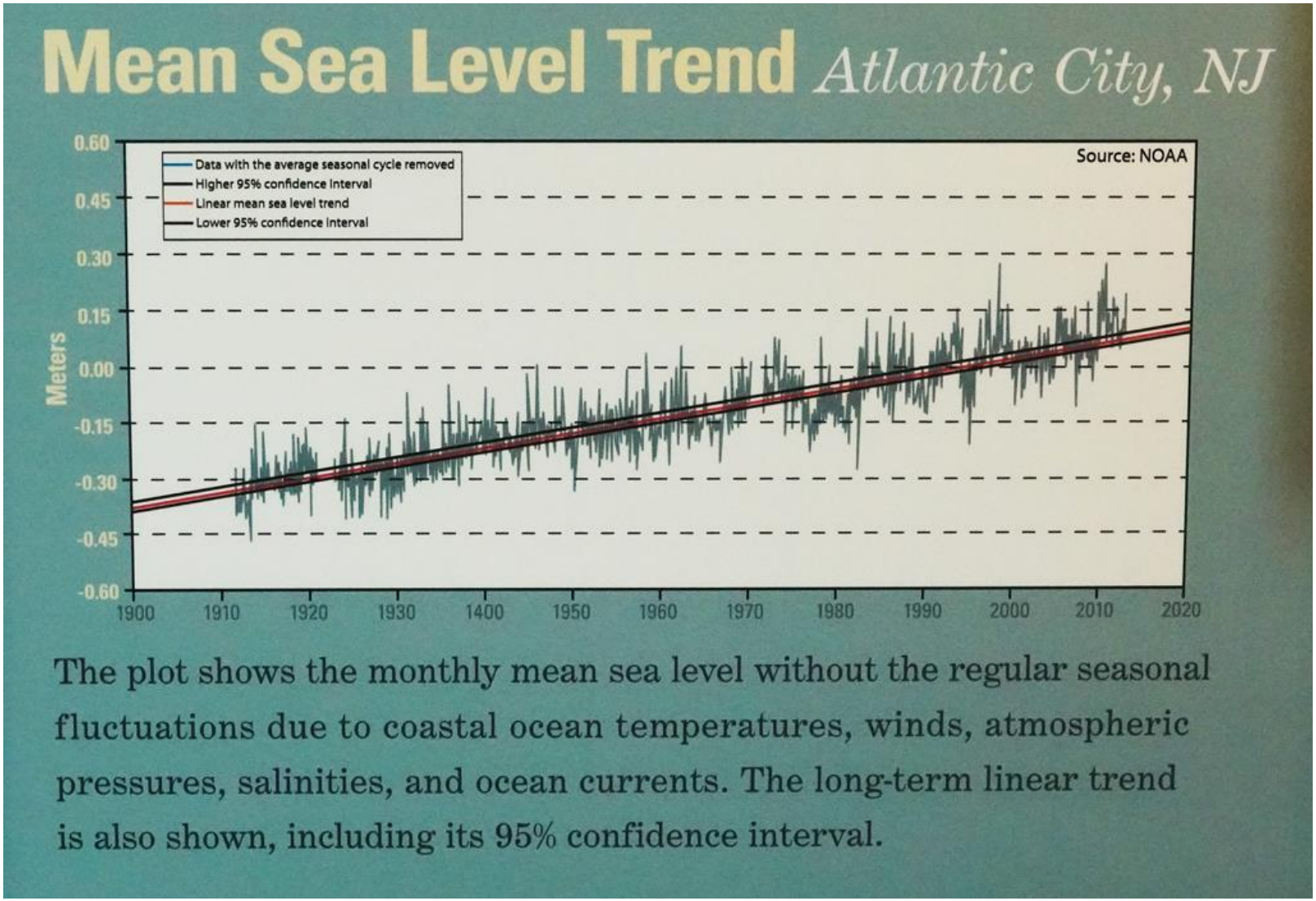
## TABLE 3
## Wintering Waterfowl and Raptors on the Maurice River 2017–2025
## Comparison of Year 38 to Segment VII (2017-2022)* and to Individual Years 31 to 37

| | Year 31 2017 - 2018 | | Year 32 2018 - 2019 | | Year 33 2019 - 2020 | | Year 34 2020 - 2021 | | Year 35 2021 - 2022 | | 2017-2022 Segment VII | | | YEAR 36 2022 - 2023 | | YEAR 37 2023 - 2024 | | YEAR 38 2024 - 2025 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Best | Avg | Best | Avg | Best | Avg | Best | Avg | Best | Avg | Best | Avg Peak Count | Avg of Average Counts | Best | Avg | Best | Avg | Best | Avg |
| Snow Goose | 3,800 | 1,053 | 3,000 | 1,410 | 3,100 | 854 | 2,000 | 320 | 2,000 | 616 | 3,800 | 2,780 | 851 | 1,000 | 350 | 200 | 59 | 1750 | 523 |
| Canada Goose | 1256 | 498 | 291 | 215 | 361 | 243 | 703 | 300 | 538 | 324 | 1,256 | 630 | 316 | 296 | 234 | 344 | 179 | 769 | 403 |
| Am. Black Duck | 635 | 440 | 357 | 209 | 400 | 263 | 241 | 128 | 423 | 220 | 635 | 411 | 252 | 64 | 48 | 110 | 59 | 430 | 205 |
| Mallard | 509 | 266 | 311 | 142 | 427 | 197 | 132 | 63 | 353 | 180 | 509 | 346 | 170 | 12 | 7 | 44 | 15 | 13 | 8 |
| Northern Pintail | 300 | 90 | 324 | 130 | 320 | 87 | 68 | 16 | 63 | 24 | 324 | 215 | 69 | 42 | 13 | 10 | 2 | 6 | 3 |
| Gr-winged Teal | 2,317 | 890 | 1,426 | 405 | 569 | 260 | 1,018 | 483 | 2,113 | 703 | 2,317 | 1,489 | 548 | 1,240 | 881 | 2355 | 909 | 2105 | 896 |

| | Year 31 2017 - 2018 | | Year 32 2018 - 2019 | | Year 33 2019 - 2020 | | Year 34 2020 - 2021 | | Year 35 2021 - 2022 | | 2017-2022 Segment VII | | | YEAR 36 2022 - 2023 | | YEAR 37 2023 - 2024 | | YEAR 38 2024 - 2025 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Best | Avg | Best | Avg | Best | Avg | Best | Avg | Best | Avg | Best | Avg. Peak Count | Avg of Average Counts | Best | Avg | Best | Avg | Best | Avg |
| Black Vulture | 57 | 32 | 73 | 54 | 61 | 43 | 68 | 42 | 84 | 39 | **84** | 69 | 42 | 71 | 36 | 46 | 25 | 73 | 32 |
| Turkey Vulture | 196 | 135 | 185 | 159 | 216 | 155 | 180 | 146 | 318 | 234 | **318** | 219 | 166 | 161 | 131 | 156 | 137 | 143 | 118 |
| Bald Eagle | 59 | 44.14 | 53 | 38.88 | 53 | 42 | 58 | 39 | 57 | 36.25 | **59** | 56 | 40 | 42 | 38 | 36 | 28.6 | 39 | 31 |
| Northern Harrier | 21 | 15.57 | 18 | 13.13 | 25 | 14.57 | 18 | 12.25 | 21 | 13.63 | 25 | 20.6 | 13.83 | 13 | 10.25 | 18 | 12.8 | 14 | 9.5 |
| Sharp-sh. Hawk | 6 | 2.71 | 4 | 1.63 | 6 | 1.71 | 3 | 1.13 | 4 | 2.13 | 6 | 4.6 | 1.86 | 1 | 0.75 | 2 | 1.4 | 2 | 0.5 |
| Cooper's Hawk | 7 | 2.71 | 4 | 2.00 | 4 | 1.71 | 3 | 1.50 | 6 | 3.63 | 7 | 4.8 | 2.31 | 3 | 1.75 | 2 | 1.4 | 3 | 1.17 |
| Am. Goshawk | | | | | | | | | | | (0 total) | | | | | | | | |
| Red-sh Hawk | 7 | 2.00 | 5 | 1.75 | 1 | 0.14 | 3 | 1.50 | 2 | 0.75 | 7(41 total) | 3.6 | 1.23 | 2 | 1.50 | 1 | 0.4 | 6 | 1.67 |
| Red-tailed Hawk | 40 | 23.14 | 41 | 27.88 | 27 | 13.57 | 30 | 19.50 | 27 | 18.75 | 41 | 33 | 20.57 | 16 | 14.25 | 16 | 12 | 9 | 6.5 |
| Rough-leg. Hawk | 1 | 0.14 | | | | | | | | | 1 (2 total) | | | | | | | | |
| Golden Eagle | 1 | | | | | | | | 1 | | 1 (2 total) | | | | | | | | |
| American Kestrel | 1 | 0.71 | 1 | 0.25 | 1 | 0.29 | 1 | 0.25 | 2 | 0.75 | 2 | 1.2 | 0.45 | 2 | 0.50 | 0 | 0 | 0 | 0 |
| Merlin | | | 1 | 0.25 | 1 | 0.14 | 1 | 0.25 | | | 1 (5 total) | | | 1 | 0.25 | 0 | 0 | 1 | 0.33 |
| Peregrine Falcon | 2 | 1.14 | 3 | 1.25 | 2 | 1.14 | 3 | 2.13 | 2 | 1.50 | 3 (55 total) | 2.4 | 1.43 | 1 | 0.75 | 2 | 1 | 1 | 0.17 |

*Segment VII summarizes (combines) Years 31-35

**ATTACHMENT 1**




**Source: Display at Forsythe NWR, January 2025**

**ATTACHMENT 2**

Monday, July 8, 2024 • PressofAtlanticCity.com
WHERE **YOUR STORY** LIVES
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# Rising seas will swallow climate research center

**FRANK KUMMER**
**The Philadelphia Inquirer**

The only way to visit Ken Able's office is to traverse Great Bay Boulevard, a narrow, five-mile-long road in Tuckerton that crosses a network of brackish tidal marshes via a series of wood bridges.

The boulevard, nominally protected from erosion by a border of reeds and groundsel shrubs, had flooded on a recent day.

Undeterred, a woman in a truck plowed through, donned waders, and tossed a crab trap into a channel.

Dozens of diamondback terrapins negotiating the road tucked their heads as an occasional vehicle approached.

Able's office at the Rutgers University Marine Field Station lies at the end of the very tip of the boulevard, linked by a long boardwalk at the very edge of New Jersey. Flooding has become more common.

"We're losing our marshes, and that's very obvious," said Able, 79, a Rutgers professor emeritus and marine scientist who retired as the station's director in 2019 but continues conducting research. "We've lost 140 feet at the edge of the marsh channel, and it's getting closer to the station all the time."

Able has one of the most unique vantage points in the eastern United States to measure and experience climate change firsthand: The Atlantic Ocean is slowly swallowing the peninsula on which the station rests.

## Sea level rise

New Jersey has experienced 8.2 inches of sea level rise over roughly the last 40 years. That's twice the global average because not only is the ocean rising, but the land is sinking from natural geological forces and groundwater withdrawal to feed sprawl. So each inch of rising ocean is met with a

Please see **CLIMATE**, Page A2

**MONICA HERNDON**, PHILADELPHIA INQUIRER

The Rutgers Marine Field Station sits on the edge of a marsh in Tuckerton.

## Climate

From A1

July 8, 2024-Press of AC

compounding effect of collapsing ground.

The 87-year-old, three-story field station is on the precipice of it all.

The station was built in 1937 for the U.S. Coast Guard. In 1972, Rutgers took over the building and uses it as a base for the department of Marine and Coastal Sciences. The rambling building's pilings are sunk 33 feet deep into the peat.

On a busy day, dozens of scientists, students, researchers and volunteers pop in and out. Flooding of Great Bay Boulevard, known locally as Seven Bridges Road, is more frequent these days, so staff exchange emails if the road is passable.

In recent years, so-called sunny day flooding, or nuisance flooding, has increased in the area. Sunny day flooding occurs when high tides push water into low-lying areas without a storm — a signal water levels are increasing.

In the 1950s, Atlantic City experienced sunny day flooding about once a year. It averaged eight times a year between 2007 and 2016, according to data compiled by Rutgers and the New Jersey Department of Environmental Protection. By 2050, there's a 50% chance it could flood 120 days a year.

Able ran the Rutgers station for decades. He says the peninsula will be inundated at every high tide with another foot of sea level rise.

"Is that going to be 2050, 2070, 2100? We don't know," Able said. "There are projections out there, but they are just that, projections."

Small standing pools of water have formed in normally dry patches of marsh. Some have become permanently pond-sized, Able notes.

By 2050, there is a 50% chance that sea-level rise will meet or exceed 1.4 feet from the base year of 2000. Those levels increase to 3.3 feet by the end of the century under a scenario of moderate greenhouse gas emissions, according to the state's Scientific Report on Climate Change.

Concrete pads from a defunct meteorological tower sit just off the dock behind the field station, marking the current edge of the surrounding marsh system. A picture dated from 1998 that hangs in Able's office shows the marsh's edge 140 feet farther out than now.

Able has written multiple books with the station as a backdrop, including "Station 119: From Lifesaving to Marine Research," a history of the field station's building, and "Beneath the Surface: Understanding Nature in the Mullica Valley Estuary," about the surrounding 365,000-acre ecosystem.

### 'Literally watching our coasts change'

The field station sits where the Mullica River-Great Bay estuary meets the ocean. Windows in the building's peak gives expansive views of the Edwin B. Forsythe National Wildlife Refuge. Long Beach Island in Ocean County is just to the north, and Brigantine in Atlantic County just to the south.

Atlantic City's casinos loom in the distance.

The station is so exposed that waves from Superstorm Sandy in 2012 slapped against its sides.

As a result, the station is a near perfect site for studying marine life and sea level rise as it impacts the coast.

The Great Bay is fed by the Mullica River as it emerges unpolluted from the massive Kirkwood-Cohansey aquifer that lies under the Pine Barrens.

"The reason that it's such a valuable place is that it's on one of the most pristine watersheds in the entire Northeast United States," said the field station's current director, Oscar Schofield, who chairs Rutgers' Department of Marine and Coastal Sciences.

Schofield said that as the ocean has warmed, the state is seeing some traditional fish species move north, and fish from traditionally warmer waters take their place.

"We know that we're literally watching our coasts change, and they're changing really dramatically at the field station," Schofield said.

### 'Heart of the storm'

A tide gauge installed in Atlantic City in 1910 shows sea level has risen 18 inches since then.

The Rutgers marine station also has its own gauge, though much newer, as part of a national network of gauges. Schofield said other instruments are used to record wind and map changes to the land.

"We've got this field station right in the heart of the storm," he said. "So we said let's use it as a research base in the field to document everything."

At the field station, Rutgers studies various species of fish and blue crabs, and habitats. Researchers use sonar, which uses sound for sensing, and lidar, which uses light from a pulsed laser, to map the ocean floor and measure distances.

Lisa Auermuller, administrative director for Rutgers' Megalopolitan Coastal Transformation Hub, said scientists who work at the station open it to the public for a day each September so residents can see the work that's done there.

At the annual open house, staff present data, set up microscopes, display larval fish collected nearby, and bring in students to speak about their research.

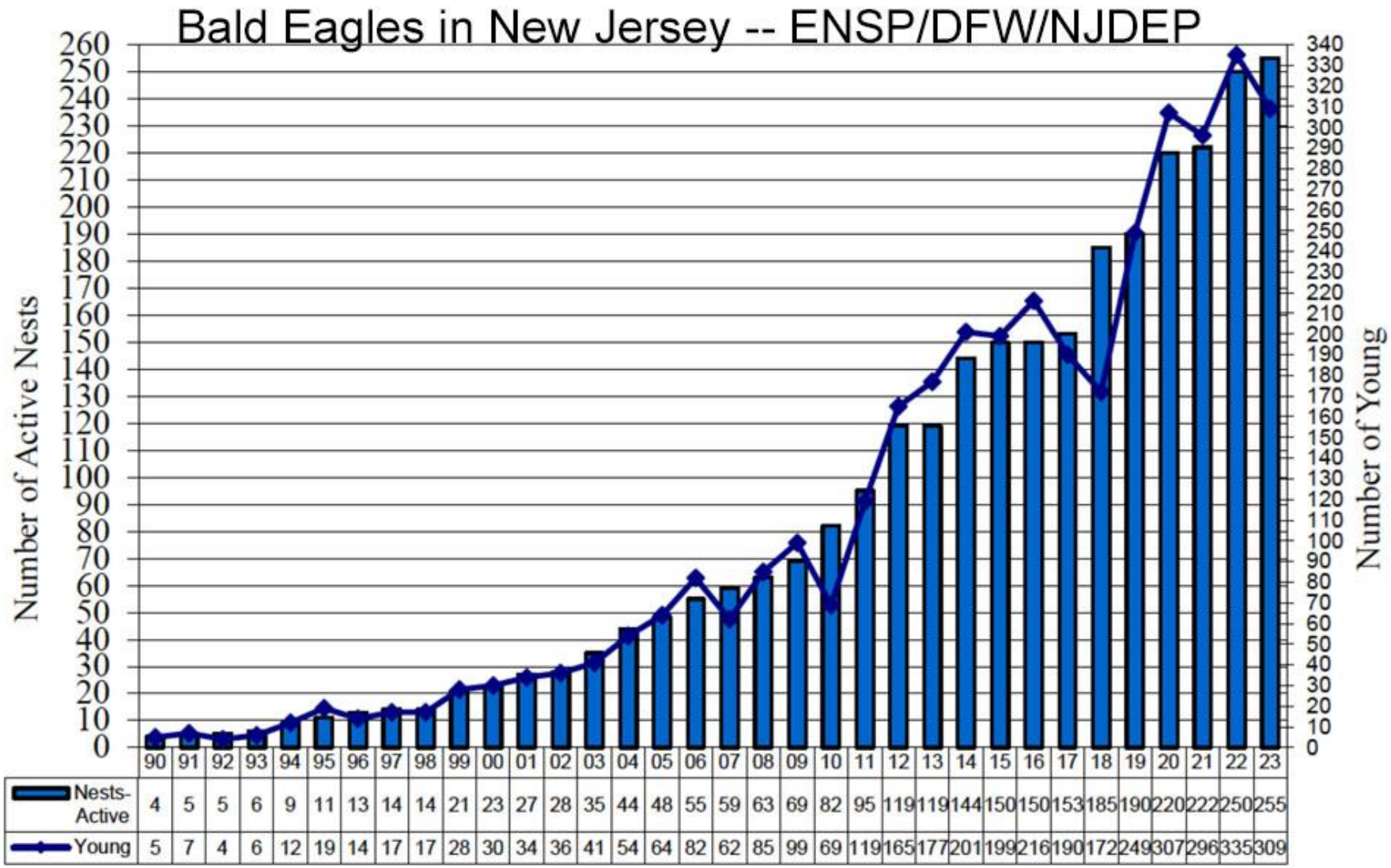
One year, the open house drew 800 people in five hours, so the station began issuing tickets for subsequent events.

"There's a specialness to this place that you won't be able to replace anywhere else," Auermuller said, noting that a local band, The Moon Sisters, recently released an ode to Seven Bridges Road.

Auermuller said the eventual loss of the station to the sea will be heartbreaking to staff and locals.

"This is an icon," Auermuller said of the station. "People are interested in what happens out here."

**ATTACHMENT 3**



**ATTACHMENT 4** (source: Press of Atlantic City, April 3, 2025)

Experts say bird feeders generally are safe and aren't a notable source of spreading bird flu.

TED S. WARREN, ASSOCIATED PRESS

# VIRUS TAKES TOLL ON WILD BIRDS

## Experts urge caution but say you don't have to take down feeders

CHRISTINA LARSON
Associated Press

Bird flu has devastated poultry and dairy farms, and sent the price of eggs soaring in the United States since it was first detected in North America in late 2021.

More than 170 species of North American wild birds — including ducks, geese, gulls, owls, eagles and others — also were infected with bird flu.

Take precautions around sick or dead wild birds, experts recommend, but you can keep your bird feeder up. Despite the spread in birds and other wild animals, scientists say the threat to the general population is currently low.

### Which birds can get flu?

More than 12,000 individual birds tested positive since the virus began spreading, according to the U.S. Agriculture Department.

The count is a "gross underestimate" because most dead birds are never taken to a lab for testing, said Bryan Richards at the U.S. Geological Survey's National Wildlife Health Center in Madison, Wisconsin.

Dabbling ducks, such as mallards and blue-winged teal, can carry the virus with few symptoms because "these viruses co-evolved in waterfowl," Richards said. Ducks can shed the virus in their feces or saliva, sometimes infecting other birds or mammals like foxes.

Birds without natural immunity that migrate or roost together in large flocks, such as geese, are most likely to die in large numbers. A recent bird flu outbreak among migratory eared grebes in Utah killed between 15,000 and 25,000 birds near Great Salt Lake, state wildlife officials said in early February.

Seabirds, which tend to roost in large numbers, also are greatly affected.

Songbirds such as Northern cardinals, like the one pictured, and other kinds of birds that often visit bird feeders can become infected and die.

HOLLY RAMER, ASSOCIATED PRESS

A critically endangered California condor takes flight at the Los Angeles Zoo.

RICHARD VOGEL, ASSOCIATED PRESS

Songbirds such as Northern cardinals, blue jays or chickadees — the kind of birds that often visit bird feeders — also can become infected and die, but their populations appear to fare better since they don't gather closely in large groups where the virus could spread, said Michael J. Parr, president of the American Bird Conservancy.

### What are the symptoms?

Symptoms vary but may include lack of coordination, inability to fly and respiratory distress.

"If people see a wild bird acting weird, the best thing they can do is call their local wildlife rehabilitator" and avoid handling it directly, said Dr. Dana Franzen-Klein, a veterinarian and medical director at the University of Minnesota's Raptor Center.

If you must handle an infected bird, it's best to wear gloves and a mask as a precaution.

### Are feeders safe?

Experts say bird feeders generally are safe and aren't a notable source of spreading bird flu. However, if you keep backyard chickens, Parr of the American Bird Conservancy recommends taking the bird feeder down to prevent possible transmission to poultry. Birdfeeders and nesting boxes also should be cleaned regularly. The risk of spread to people from bird feeders "is very, very low," Parr said.

### Are species at risk?

In the case of critically endangered California condors, scientists organized a vaccination program after some birds became infected. That's not a realistic option for most wild bird species.

Instead, experts recommend giving wild birds the best chance by taking other steps to protect habitats and reduce risks that species face, such as exposure to pesticides or lead ammunition.

Bald eagles, which are federally protected but no longer endangered, are scavengers that will eat dead animals. "That first year, we lost a lot of eagles" likely from bald eagles eating infected ducks or bringing them to their nests, Richards said.

Scientists also documented an unusually high number of eagle chicks that didn't survive into adulthood during the first breeding season after the virus appeared in North America, likely because the chicks got the virus or sick parents weren't able to adequately feed and care for them.

Over time, the number of confirmed infections in eagles nationwide declined from 427 in 2022 to 48 last year. That may mean eagles that survived the first year now have some acquired immunity, Franzen-Klein said. This past migration season, researchers counted a record number of bald eagles migrating through northern Minnesota.

"There are good signs of hope" that eagles in the region are rebounding, she said.

Ducks, such as the mallard pictured, can shed the virus in their feces or saliva, sometimes infecting other birds or mammals such as foxes.

J. SCOTT APPLEWHITE, ASSOCIATED PRESS

**For More Information / Literature Referenced:**

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*This Report Prepared for:*

**CU Maurice River**
(Citizens United to Protect the Maurice River and its Tributaries, Inc.)
P.O. Box 474
Millville, NJ 08332
www.cumauriceriver.org

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*This Report Prepared by:*

**Clay and Pat Sutton LLC**
129 Bucks Avenue
Cape May Court House, NJ 08210
609-465-3397
claysutton@comcast.net
www.patsuttonwildlifegarden.com