

# Innovation or Revival: Bald Eagles Nesting on the Merrimack in Historical Context with an Update

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## Background

April 2005 brought great joy to the Lower Merrimack River. A pair of Bald Eagles raised two female chicks in a near-shore nest in West Newbury, Massachusetts. The pair had established residence two to three years prior and attempted, unsuccessfully, to procreate in the two nests the pair had erected. The enthusiasm attendant to the successful hatch was sufficient that a regional newspaper with titular connection (*The Lawrence Eagle Tribune* — emphasis added) sponsored a naming contest by which the chicks were dubbed *Merrie* and *Mackie*. In mid-June the thriving offspring were evaluated and banded by MassWildlife biologists. (See Bob Pierce's article, "Eagles in the Back Yard," *Bird Observer* 34 (4): 234-38, August 2006.)

Excitement was such that the event was heralded as "the first successful nesting of Bald Eagles on the Merrimack River in at least 100 years." Such absolute declarations fairly invite verification — an undertaking which proved enlightening and interesting. In reviewing established authorities, Forbush (1927) notes: "The history of the Bald Eagle in New England is that of all our large birds. Formerly breeding in the primeval forest, this species has been greatly reduced in numbers, and in southern New England the breeding birds have been extirpated. Probably from fifty to one hundred pairs still nest and rear their young in the forests of Maine and along its coast." The author then gives historical anecdotal reports of nesting in the Connecticut River Valley and more numerous reports in Southeastern Massachusetts where the eagles were attracted by residual "wild country" and annual April alewife runs. The single report from the Merrimack is that of "Mr. F. B. Currier who has spent some time watching eagles in the winter near the mouth of the Merrimack River (who) says that the moment an eagle comes along, all the Black-backed Gulls, Herring Gulls and Crows leave the ice in a hurry."

A decade later, Bagg and Eliot (1937) weighed in. These authors confirm in some detail the sporadic nesting reports in the Connecticut Valley and west into the Berkshires. A single reference to northeastern Massachusetts states: "Eagles that winter at Newburyport, Mass., are believed by Ludlow Griscom to be 'Northern'."

In 1955, Griscom and Snyder, in an attempt at precision, may or may not have clarified the picture. They offered two Bald Eagle subspecies found in the Commonwealth: *Haliaeetus leucocephalus leucocephalus* — aka Southern Bald Eagle; and *Haliaeetus leucocephalus alascanus* — aka Northern Bald Eagle. The Southern Bald Eagle (the littler guy) was presented as "an irregular visitor throughout the state and regular transient in small numbers at Mt. Tom." It was additionally noted as "possibly nesting in the prehistorical [*emphasis added*] period (many traditions),

but most definitely reported on Mt. Tom and Mt. Tobey in the Connecticut Valley and at Cheshire in Berkshire County where the nest was found by T. Fisher.”

The Northern Bald Eagle (the larger race), dwelling in northern climes, was considered “an irregular visitor to coastal points, arriving in numbers on the Merrimack [*sic*] River and Newburyport Harbor (up to 6 in one day) after severe cold waves when harbors to the north freeze, departing after a heavy thaw.” This observation nicely reflects the bird’s annual seasonal visit to the Merrimack estuary before and after the near extirpation of the Bald Eagle in the Lower 48 from the mid-1940s to the mid-1980s attendant to DDT use nationally and the fouled status of the Merrimack River locally.

Indeed, it is interesting, if not instructive, to review Christmas Bird Count (CBC) data for the Bald Eagle in the Newburyport area. Conducted annually since 1900, the counts have accumulated 109 years of data. Yet Bald Eagle counts from the Lower Merrimack Estuary have been somewhat sporadic. The first report was in 1939, and eagles were seen for thirteen years thereafter (to 1952). Average numbers were 2.6/year, with a median of two birds per year and a range of one to ten. No data are recorded for the years 1953 through 1979, with four exceptions. Three birds were listed in 1955 and one bird per year in ’56, ’59 and ’64.

No Bald Eagles were seen again on the Newburyport CBC until 1980, and their presence has been constant through the present. Interesting findings include:

’80 – ’85 – no more than one eagle seen per year

’86 – ’96 – mean = 2/yr; range 1-5

’97 – ’08 – mean = 3.7/yr; range 1 – 9

Of course, census data may conflict wildly with local lore. Indeed, anecdotes from native residents further confuse the true prevalence picture. One of us (GP) picked up a “First Annual (2006) Eagle Festival” flyer at the Amesbury Stop & Shop check-out counter and was challenged by the mid-fortyish attendant: “What’s the big deal? I’ve lived by the Salisbury marsh all my life and eagles have been around forever.” An 88-year-old life-long resident, a recently retired local paper editor, who has been a steady observer and eloquent writer on the natural environment, vividly recalls that, while he was working pre-WWII at the present-day Shawmut facility, shore-side in Newburyport directly opposite the southeast-facing side of Carr Island (a favorite winter eagle roosting spot), “Bald Eagles were all over.” Yet no one has firmly established nesting of the Bald Eagle on the Merrimack prior to 2003.

What can we conclude from the CBCs, anecdotes, and other data?

1. CBCs are good indicators of a species’ winter presence, but inherently inaccurate, snap-shot estimates of actual numbers. One of us (GP) has lived the past six years shoreside on the Amesbury side of the Merrimack. Visual sightings from full-time observer residents on the river always exceed the official CBC numbers on Count Day.

2. There is reliable evidence that wintering Bald Eagles were not completely absent from the Merrimack during the mid-century near-extirpation, for there is reliable documentation that the Merrimack River's wintering eagles are open-water-seeking refugees from the frozen waters of far northern Maine and Canada. These areas escaped the widespread use of DDT which plagued the lower 48 from 1945-1972.
3. It appears clear that numbers of visitors declined from pre-DDT days (pre-1945) and subsequently rebounded following the DDT ban in 1972 and the mandated clean-up of the Merrimack (Clean Rivers Act of 1972) — a notable triumph of conservation efforts!
4. There appears to be no reliable evidence of Bald Eagle nesting (i.e., permanent residence) on the Merrimack since the European settlers arrived (*circa* 1635).

## Present

The resurgence of winter eagles in the past twenty years has been celebrated locally, and the establishment of a nesting pair in the Haverhill-West Newbury area has caused profound delight. The lower Merrimack Estuary communities have even established a “worship” ceremony to welcome the Bald Eagle as an almost spiritual presence. Witness the Merrimack River Eagle Festival, a now-annual rite (four years running), co-sponsored by Mass Audubon's Joppa Flats Education Center and its collegial federal partner, the Parker River National Wildlife Refuge (PRNWR), with assorted community entities and a horde of enthusiasts, worshippers, and the curious.

In October 2004, three state Division of Fish and Wildlife biologists, Ralph Taylor, Dave Fuller, and Pat Huckery, quietly established an eagle nesting platform in a sequestered White Pine (*Pinus strobus*) on the northwest corner of DFW's Carr Island Sanctuary in the lower Merrimack. The nest was a long-held dream of DFW's former Bald Eagle project director, Bill Davis. Its existence and site were kept quiet in order to encourage eagle interest. But no interest was shown for the next three years.

However, the spring of 2008 presented a notable variation in Bald Eagle migration routine. Usually, the eagles begin their northern migration in mid-March and have evacuated the area by the latter third of the month. This time, several eagles (adult and immature) lingered at least three to four weeks in the lower estuary, as observed at Joppa Flats and the Refuge as birders' attention turned to those two ‘hotbeds’ of spring migration north. Through April and early May, one of us (GP) noted an occasional adult perched in a favorite winter pine several hundred yards west of the I-95 (Whittier) Bridge. Not much significance was given to this happenstance because the West Newbury adults occasionally venture the two to three miles downriver for foraging; although, in retrospect, not during early nesting season.

Mass Audubon's annual Birdathon took place the weekend of May 16-18, 2008. As usual, Joppa Flats was a happening place. The festivities were capped Saturday evening (17<sup>th</sup>) with a packed reception at which one of us (SM) reported (*sotto voce*)

to the other (GP) that her weekly census of birds in the area was highlighted by rather frequent sightings of an adult Bald Eagle at the well-established sun perch on the southeast side of Carr Island, readily visible from the Newburyport shore.

Synapses clicked simultaneously in both crania resulting in a synchronized: “Do you suppose?” By mutual agreement, GP vowed to spring-launch his riverboat, *Goshawk*, forthwith. *Goshawk* entered the water the next day (18<sup>th</sup>); the 1.5 mile cruise to the north side of Carr Island took place on the 20<sup>th</sup>.

**(5/20, 1400-1430h)**

Upon arriving waterside of the nest, fifty yards from shore in the tall pine, we noted that the nesting platform had been elaborated into a proper nest, and its creators were in residence: one adult Bald Eagle in the nest in brooding posture, the other posted on a snag nearby. The logical extrapolation was that the couple was incubating an egg(s).

**(5/28, 1000-1130h)**

To minimize disturbance, we kept this nest activity quiet except for an e-mail to Pat Huckery, Northeast District Manager of DFW, a member of the wishful trio who constructed the platform in the fall of 2004. The nest was monitored from the water every few days, and on May 28, Ms. Huckery and two DFW staff biologists were ferried downriver in *Goshawk* for a look. Again, one bird remained in the nest (in what we came to designate “incubating posture”), while the other, initially present, flew north, likely on a food run.

**(6/1, 1100-1130h)**

One of us (GP) boated to the nest site. One adult eagle was standing on the nest edge dipping its head in repeatedly in apparent feeding posture for twenty minutes before settling into the nest in its usual brooding posture. Interestingly, the adult’s back protruded about six inches above the nest edge, unlike previous brooding sightings. Telephoto digital shots of the adult on the nest were highly suggestive of food in its beak.

**(6/20, 1200-1230h)**

Other commitments precluded nest monitoring for the ensuing three weeks. However, on Friday June 20<sup>th</sup>, one of us (GP) boated downriver and initially found one adult perched on a limb some six feet from the nest. Some minutes later, the second adult was located well-hidden in a favorite pine-perch about 150 yards from the nest. After a 15-minute wait, a small gray head peered over the edge of the nest. Soon the chick rose, stretched, and settled down into the nest with its eight-inch downy back protruding above the nest brim.

The evidence was secure. We had at least one chick! Estimated date of hatch was between 5/29 and 5/31 [bracketed by the nest monitorings of 5/28 and 6/1].

By this time, we were familiar enough with our two adults to permit some interesting observations. We should point out that plumage assessments were significantly abetted by the excellent observational study of McCollough (1989.)

1. By frequently observing the parenting behavior of the two adults we were able to discern that the female was, indeed, the larger bird.
2. The female's head was distinguished by bilateral, symmetrical superciliary gray markings, joined by a gray bridge above the base of her beak. (*McCollough*: Adult eagle "individuals up to 8 1/2 years of age were observed with gray [*emphasis added*] or brown flecking in the head plumage.")
3. The male, who spent much time standing on the nest limb, six to seven feet east of the nest, exhibited distinctive white salting on his mantle and slight brown flecking on the rectrices. (*McCollough*: "Body plumage varies among individuals and was not a reliable aging characteristic.")

**(6/25 1000-1400h, 3.5 weeks)**

Based upon a presumed May 29-31 hatch date, a decision was made to attempt banding of the Carr Island chick(s) on June 25 (at an estimated age of three and a half weeks). We ferried to the nest site with DFW's Pat Huckery and a trained, designated climber, Bridgett McAlice, on board. We reached the nest-site shore at low tide and were joined by two DFW biologists who had set out from the public launch site at Cashman Park in Newburyport.

The adept Ms. McAlice roped up to the nest in short order and found a single chick and an unhatched egg. The egg was retrieved for toxicological analysis and the largely compliant chick was lowered in a bag to the ground team. In rapid fashion the chick was assessed and weighed (five pounds, four ounces); it then received a band on each leg. The distinctive marker was a right-leg orange band (orange = Massachusetts identifier in 2008) with the designation C8 (photo); the left leg received a USFWS stainless steel band with further identifying data.

Upon our arrival, the parents had circled overhead expressing their displeasure and alarm, and after about five minutes headed east downstream, disappearing from view. After our intrusion, we were anxious to document their return, which occurred about four hours after our departure.

Upon our return to the dock in Amesbury, there happened one of those almost magical coincidences that punctuate life and can cause goose bumps. As we arrived dockside, two handsome adult Bald Eagles approached from the west; almost wing-to-wing, they circled over us before departing northward. The most logical origin of these birds was the West Newbury nest where the two early spring-hatched chicks had been practicing their fledge in recent days and completed same on July 11. Make of it what you will, the banding team was deeply moved.

**(7/13 1345-1400h, 6.5 weeks)**

Following a brief summer vacation, GP and spouse, Nancy, boated to the nest. Initially, no eagles were evident. After ten minutes, an adult was spotted, perched in a pine some 150 yards southeast of the nest. Soon, the chick, now some six and a half weeks old, arose and stretched its wings. The dark bill seemed huge, and the down was almost completely replaced with dark brown juvenal plumage.

**(8/03 thru 8/27, 9.2 – 12.6 wks – prep for fledge)**

On August 3, the chick was noted to be standing, stretching, and spreading its wings, all in the nest. On August 6 (11+ weeks), it was flapping its wings while jumping up and down in the nest. On August 22 (12 weeks), the bird was observed, initially in the nest, in the shade of the tree trunk; soon, it walked out to the end of the nest limb to the shade afforded by needle foliage. On August 25 (12.4 weeks), the chick was found perched on the small stump of a broken limb that projected about nine feet above the nest. After forty-five minutes in this posture, the bird effortlessly floated down to the nest. On August 27 (12.6 weeks), the nest was empty: one adult was perched about 110 yards east of the nest; the other was perched on a favorite upstream white pine on the south shore opposite our home in Amesbury.

**(Subsequent follow-up, September 2008 to January 2009)**

On September 30, (SM) observed the two adults and “our” chick (now dubbed “C-8”) on the Salisbury Marsh. She also saw various gatherings of parts or all of our family on other occasions on the marsh during the fall.

In time, during a scheduled Joppa Flats birding outing in early February 2009, GP spotted two young eagles on the Salisbury marsh some 300 yards from the Salisbury Beach boat ramp. One of the two clearly had an orange band on its right leg.

Immediately upon returning home, GP e-mailed his excitement to Pat Huckery at DFW. Shortly thereafter came the “I didn’t want to have to tell you” deflation. The carcass of C8 had been retrieved from the Salisbury marsh by an environmental officer in December. Orange had been the distinctive color assigned to all Massachusetts chicks banded in 2008. Folks in the Merrimack estuary were heartbroken. Chick C-8 had taken on a special significance. Yet nature had simply imposed her immutable law. Ninety percent (90%!) of raptors do not reach adulthood. Forty percent of eaglets perish in their first year. Most victims of these harsh statistics starve, unable to find sufficient prey or unable to develop effective foraging skills.

However, documentation demonstrates that the census of nesting pairs of Bald Eagles in the lower forty-eight has surged from a nadir of 417 in 1947 to over 7000 currently. Such numbers are testimony to the reproductive tenacity of these birds virtually throughout their adult years (25 – 30), during which they persist in the energy-sapping challenge of procreation. The ability of animals to succeed in reproduction despite such striking attrition of offspring calls to mind Dr. Jared Diamond’s (1997) thesis that the biological *raison-d’etre* of life is simply the compelling drive to propagate one’s gene pool.

Meanwhile, we in the Lower Merrimack are optimistic that the Carr Island pair will succeed again, as have their West Newbury cousins. We await the spring launch of our boat to confirm that the species-sustaining cycle will begin anew. 🦅

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**Ganson Purcell, Jr.:** *Following a 40-year career in clinical, academic, and administrative medicine as an obstetrician/gynecologist, Dr. Purcell retired with a goal to assist the critical goal of natural resource preservation. Scene of effort has been the Joppa Flats Education Center, Newburyport, MA. At Joppa, it is impossible to escape the allure of birding, although a particular personal focus of interest is why birds do what they do and how they manage to do it. In that regard, following the activities of the first year of Bald Eagle nesting on Carr Island, Merrimack River, has been a fascination. Sue McGrath is a Newburyport resident and founder of Newburyport Birders, an organization that conducts environmental education programs. She has been observing birds for over thirty years and has great interest in bird behavior. Sue is President of the Essex County Ornithological Club. She is an environmental activist and was involved in designing the Essex County Birding Trail. Her weekly bird columns appear in three Essex County newspapers. Sue is a past contributor to Bird Observer Vol. 35 (2).*



WEST NEWBURY EAGLET ON BANDING DAY BY DAVID LARSON