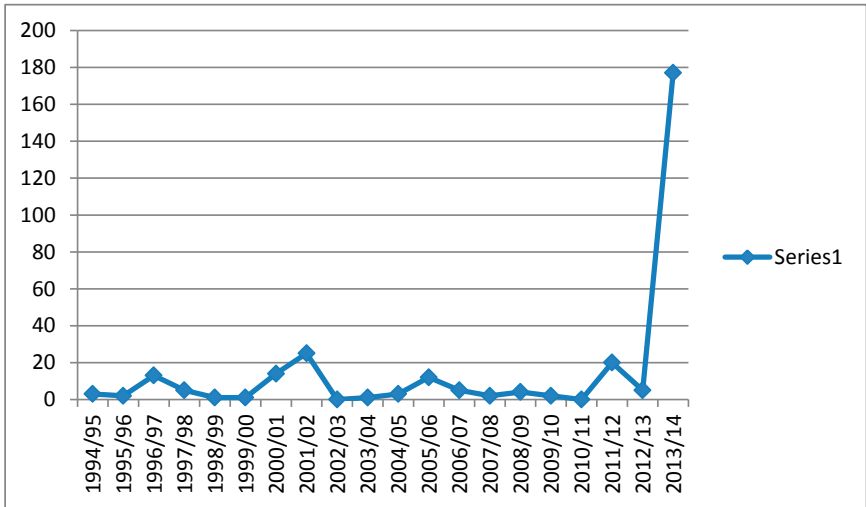


THE SNOWY OWL WINTER IRRUPTION Winter 2013–2014



By Jim McCormac

Birders, ornithologists, and the general public were shocked and amazed by the massive Snowy Owl (*Bubo scandiaca*) irruption of winter 2013-14. The flight was of historical proportions, eclipsing all other invasions, at least in eastern North America. Online birding groups and email listservs were awash in sightings, and many lingering owls became local celebrities. Numerous articles about Snowy Owls appeared in all media formats, and an operation to scientifically study the birds, Project Snowstorm, sprang from this unprecedented opportunity.

A major inkling that something was afoot came via the Canadian province of Newfoundland on 22 November 2013. Birder Bruce MacTavish posted an article on his blog (www.bruce-mactavish1.blogspot.com) entitled “Weekend Forecast – A Heavy Snowy Owl Fall Warning”. MacTavish reported that 18 Snowy Owls had been seen along Cape Race Road in southern Newfoundland on that date. On the weekend of 07 December, MacTavish and other birders documented about 300 owls in southern Newfoundland — the flight was in full force.

By early December, Snowy Owls were being reported in ever-increasing numbers in the northeastern U.S. and Great Lakes states. It was clear by this point that a major irruption was shaping up. The majority of birds were located

in the northeastern, Mid-Atlantic, and Mid-western states, but scattered individuals turned up in the coastal Carolinas, Georgia, and even northern Florida. Two wanderers even made it to Bermuda! Contributors to the Cornell Lab of Ornithology’s eBird program (<http://ebird.org>) recorded hundreds of owls, providing outstanding documentation of the largest irruption of Snowy Owls ever recorded in the east.

Ohio was in the thick of the owls’ irruptive corridor, and our first bird was discovered in **Trumbull** on 22 November – the same day that MacTavish broke news of the Newfoundland owl incursion. The Trumbull owl was the vanguard of what would morph into Ohio’s largest and most thoroughly documented invasion of Snowy Owls on record. Predictably, the shoreline of Lake Erie drew and held most of the early-arriving owls. On 26 November, one appeared at Cleveland and was soon joined by numerous others. Come December, the irruption was fully fledged and owls were turning up all along Lake Erie and far into interior Ohio. Slightly over half of all reports during the course of the irruption, which spanned from late November 2013 to 03 May 2014, occurred during December.

New reports dropped significantly during January 2014, and many of these probably pertained to owls that were attempting to overwinter but had just been discovered. By February, sightings had dropped off markedly — only about 14

new owls were reported that month. Most owls had departed by March; only three new reports were noted that month, and most of the established overwintering birds had left by this point. The last owl was reported on 03 May in **Wood**. When the dust finally settled, 177 Snowy Owls had been reported in 60 counties (Figure A). As Snowy Owls tend to frequent wide-open sparsely birded landscapes, one can only wonder how many others were in Ohio but went unnoticed or unreported.

An unresolved question regarding irruptive Snowy Owls, nearly all of which are juveniles, at least at the latitude of Ohio, regards their survivorship rate. It is frequently stated that many of these young owls will starve. However, data from Project Snowstorm showed that survival of irruptive owls was high. Most of their study subjects occurred along the Atlantic seaboard, though, where food abundance is probably much higher than Ohio's biologically depauperate corn, soybean, and wheat fields. Long-term wintering

FIGURE A



owls tend to be along the Lake Erie shoreline, where there are many gulls and ducks to prey on. Large airports, which can sustain populations of meadow voles (*Microtus pennsylvanicus*) and other rodents in their grassy expanses, also frequently host owls for extended periods. One such airport was Cleveland Hopkins International Airport, which held owls for most of the winter. As many as eight birds were seen simultaneously.

At least six juvenile Snowy Owls were found dead in Ohio during this irruption, and all of them showed evidence of severe malnutrition. Most of these birds were hit by vehicles, including one very lucky owl in **Wood**. It was struck by a pickup truck on 29 December 2013 and became wedged in the vehicle's grill. The owner promptly stopped, extricated the owl and set it on

the passenger seat. After a few minutes, the owl took flight and was seen in the area over the next few days, apparently none the worse for the wear.

The winter 2013-14 Snowy Owl irruption broke all previous Ohio records. Prior to 1950, there were large documented incursions, such as during the winter of 1941-42 when at least 150 birds were documented (Williams 1950). Another large flight took place in winter 1926-27, when 138 owls were tallied statewide (Thomas 1928). The winter of 1930-31 brought at least 126 owls (Hicks 1932). There were several other documented flights prior to 1950, but none of these eclipsed 70 birds (Peterjohn 2001). Sizeable irruptions certainly occurred prior to the 20th century, but only one was documented, and sparsely at that. Kirkpatrick (1859) stated: "In the winter

of 1858-59 a great many were shot in the neighborhood of Cleveland, and this is the case almost every year." Post-1950 irruptions diminished greatly in frequency and the numbers of birds involved. The graph at the head of this article shows Snowy Owl patterns for the past 20 years.

Two major overarching questions about the 2013-14 irruption are: 1) Why did the flight occur, and 2) Where did the birds come from? Evidence gathered by researchers working in the northern tundra of the province of Quebec, Canada documented an enormous explosion of lemmings in that region. They also noted large numbers of Snowy Owls, and a high rate of nesting success. One famous photo that made the Internet rounds showed an owl nest occupied by four unhatched eggs and ringed by 70 dead lemmings and eight voles. Such was the abundance of rodents that the owls could stockpile food in advance of eggs hatching, and survivorship of nestlings was apparently very high. It is well established that Snowy Owls are very nomadic and will quickly colonize areas of abundant food availability (Parmelee 1992). As many as 11 eggs will be laid under optimal conditions (Kaufman 1996) and the percentage of nestlings that successfully fledge also typically increases when food is plentiful. It seems almost certain that a lemming explosion in the Canadian Arctic of northern Quebec produced the bumper crop of Snowy Owls that irrupted into the eastern U.S. and adjacent Canada.

Snowy Owl reports came from many sources, including the Ohio Birds Listserv, the Facebook Birding Ohio group, reports submitted to various media outlets such as the Columbus Dispatch and Ohio Outdoor News, eBird, the Ohio Division of Wildlife, and direct reports made to the author and *The Ohio Cardinal*. The ready availability of online resources now makes it quite easy for people outside the birding community to make reports, and a significant percentage of these included photographs, often taken with a camera phone but nonetheless perfectly identifiable. To the degree possible, I attempted to vet sight records by talking to or emailing the observer, if the reports did not include photos or

were otherwise unverified. Fortunately, Snowy Owls are easily identified and are typically well seen. Nonetheless, at least two reports proved to be highly leucistic Red-tailed Hawks. The wide reach of the Internet has created an environment in which distinctive, conspicuous biological phenomena such as an irruption of Snowy Owls can now be tracked more thoroughly and with greater precision than ever before. I offer thanks to the dozens of observers who shared their reports.

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