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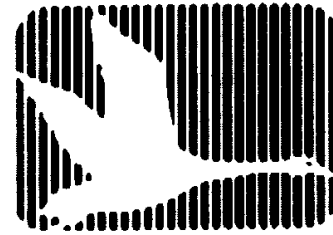
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**Cover:** First recorded Northern Saw-whet Owl nest in Maryland, Cranesville Swamp, Garrett County, 24 April 1993. Photograph by Kevin M. Dodge.



## **BREEDING BIOLOGY OF THE NORTHERN SAW-WHET OWL IN MARYLAND**

### **First nest record and associated observations**

DAVID F. BRINKER AND KEVIN M. DODGE

Although often considered rare, Northern Saw-whet Owls (*Aegolius acadicus*) are relatively common and widespread across southern Canada (Godfrey 1986) and much of the northern and western United States (Johnsgard 1988). For years the American Ornithologists' Union listed West Virginia and Maryland (Cumberland) as the southern extent of the Northern Saw-whet Owl's breeding range in the east (AOU 1957). Northern Saw-whet Owls are now known to breed south along the highest elevations of the Appalachian Mountains to North Carolina (Simpson and Range 1974) and Tennessee (Mayfield and Alsop 1992). However, as breeding birds, south of Pennsylvania Northern Saw-whet Owls are rare. The only accounts of nest records, all in nest boxes, are from Blackbird Knob, West Virginia during the West Virginia Atlas period, 1984-1989 (Buckelew and Hall 1994); far southwestern Virginia in 1989 (Ridd 1990); Brush Fence Ridge along the Yancey-Buncombe County line in North Carolina in 1989 (LeGrand 1990); and Unaka Mountain in Unicoi County Tennessee in 1992 (Mayfield and Alsop 1992). Through the completion of the Maryland and District of Columbia Breeding Bird Atlas project in 1987, there was no documented nest record for the Northern Saw-whet Owl in Maryland. In this paper we present an account of events leading up to, and documentation of, the first definitive Northern Saw-whet Owl nest record in Maryland.

### **PAST EVIDENCE OF BREEDING IN MARYLAND**

Northern Saw-whet Owl nest cavities are difficult to find, making nest records difficult to generate. Thus, to detect the presence of breeding Northern Saw-whet Owls, ornithologists have often relied upon secondary evidence such as singing owls and the observation of flightless or recently fledged juveniles. Until recently, evidence for breeding in the Appalachian Mountains south of Pennsylvania was of this latter type. The inclusion of Maryland in the AOU's described breeding range was based upon a juvenile Northern Saw-whet Owl captured near Cumberland on 6 July 1903 and brought to Eifrig (1904) for identification. Stewart and Robbins (1958) mention several breeding season records of adults and a juvenile plumage bird observed at Wolf Swamp on 16 June 1951. Another juvenile was found in the West Virginia portion of Cranesville Swamp on 22 June 1932 (Brooks 1933).

More recent records of juvenile Northern Saw-whet Owls include one found by F. Backham on the ground in a Frederick backyard on 15 July 1986 (Ringler 1986). This uninjured bird was rehabilitated, banded and released. George Durner found a road-

killed juvenile near Frostburg, Allegany County, in July 1990 (G. M. Durner, pers. comm.).

Since 1985, we have accumulated accounts of singing Northern Saw-whet Owls in Garrett County Maryland. These potentially breeding individuals occurred at the Big Shade Run in 1985 (G. Yoder, pers. obs.), Wolf Swamp in 1986 (D. F. Brinker and J. E. McKearnan, pers. obs.), Cranesville Swamp during 1987-1993 (D. F. Brinker, J. E. McKearnan, D. E. Walbeck, and K. M. Dodge, pers. obs.), near Cherry Creek during 1989-1991 (R. Teets, B. Taliaferro, D. F. Brinker and K. M. Dodge, pers. obs.), Finzel Swamp in 1990 (J. E. McKearnan, pers. obs.), Callahan Swamp in 1990 (J. M. McCann, pers. obs.) and near New Germany State Park (M. O'Brien and K. M. Dodge, pers. obs.).

## GARRETT COUNTY STUDIES

Despite the lack of a Maryland nest record, it was apparent from the above evidence that the Northern Saw-whet Owl was an uncommon but regular breeding species in Maryland. In 1991, we began developing a method to monitor distribution and relative population changes of Northern Saw-whet Owls breeding in Maryland. We will report on this ongoing effort in greater detail at a later date when more data are available.

The monitoring relied upon tape-playback surveys conducted in suitable habitat to locate breeding pairs. During the springs of 1991 and 1992 these surveys located 10 Northern Saw-whet Owl territories in Garrett County. Most of these territories were active both years.

Following the 1991 success in locating potential breeding pairs of Northern Saw-whet Owls, the Garrett County work was expanded to include an investigation of the basic breeding biology of Appalachian Mountain Northern Saw-whet Owls. As part of this effort we erected nest boxes during the winter of 1991-92. Twenty-seven boxes were erected in a wide variety of sites during mid-January 1992. All sites were locations where Northern Saw-whet Owls had been detected during 1991 tape-playback surveys. Several boxes were also erected at locations where Northern Saw-whet Owls had been found in the past, such as Wolf and Finzel Swamps. Inside dimensions of the boxes measured 30 cm tall, 15 cm X 15 cm at the base, with a 7.0 cm entrance hole centered 9 cm below the top of the box. Hereafter these are referred to as "short" boxes. A layer of coarse sawdust 5-10 cm deep was placed in the bottom of each box. Box placement and our first impression of suitable habitats are discussed later in this paper.

The boxes were checked for activity during March and June 1992. No owl nests were found and no other bird species used the boxes during 1992. Several of the boxes were used by Southern Flying Squirrels (*Glaucomys volans*) and Red Squirrels (*Tamiasciurus hudsonicus*).

Since the 1992 playback surveys demonstrated that Northern Saw-whet Owls continued to inhabit the locations where boxes had been erected, even though no boxes produced active nests that spring, we attempted to document breeding via an alternate method during the summer of 1992. On 28 June 1992 we erected two 12-meter mist nets at a location along the Casselman River where a Northern Saw-whet Owl had responded to tape playbacks on several nights during the springs of 1991 and 1992. As an attractant, an audiolure playing the primary advertisement song of the Northern Saw-whet Owl was used at the mist net. Around midnight an adult Northern Saw-whet Owl was netted. This owl, probably a male, (mass 74 g, wing cord 130 mm, flattened

wing 137 mm, tail 74 mm) was banded and released. He possessed two generations of primaries and secondaries. No primaries, secondaries or tail feathers had been recently molted and the owl had no evidence of a brood patch.

The following night, 29 June 1992, the Casselman River net setup was moved to a location near Cherry Creek and another identical setup was erected near Cunningham Swamp. Singing Northern Saw-whet Owls had been present on several nights during each of the previous two springs at both of these locations. Between approximately 22:00, 29 June, and 00:30, 30 June, two Northern Saw-whet Owls were netted near Cunningham Swamp, an adult, presumably a male (mass 82 g, wing chord 129 mm, flattened wing 138 mm) because of a relatively short wing chord measurement, and a juvenile, presumably a female (mass 92 g, wing chord 142, flattened wing 146, tail 77 mm) because of a relatively long wing chord measurement. The adult had molted all the primaries on both wings, secondaries 1 to 8 were new, while secondaries 9-12 were actively growing but still sheathed. All tail feathers appeared to have been dropped relatively simultaneously as all were growing in, approximately the same length and still sheathed. No evidence of a brood patch was present.



**Figure 1.** Second juvenile Northern Saw-whet Owl banded in Maryland. This owl was netted on 30 June 1992 near Cunningham Swamp, Garrett County, Maryland. The out-of-focus smudge in the lower left hand corner of the photograph is an adult Northern Saw-whet Owl, presumably the juvenile's male parent. (Photograph by David F. Brinker)

The two owls were caught within 2 meters of one another in the net (Figure 1) and had entered from the same side. We believe that this was part of the resident pair's family group. At the time, this represented the best evidence to date of breeding by Northern Saw-whet Owls in Maryland because of the location's distance from adjacent states (a compromising factor in previous records of fledged young) and the two years of consistent tape-playback response by adults during the March-June breeding season. Both birds were banded and released. This was only the second juvenile Northern Saw-whet Owl ever banded in Maryland.

The nest box effort was expanded during the winter of 1992-93. The existing boxes were cleaned and repaired during January 1993. In March 1993 an additional 16 boxes were constructed and erected for a total of 43 potential boxes. The new boxes were larger, with inside dimensions 46 cm tall and base 17 cm x 18 cm. The size of the entrance hole was decreased to 6.5 cm and the hole was positioned 8 cm below the top. Hereafter these boxes are referred to as "tall" boxes. Most of the new boxes were located in the Maryland portion of Cranesville Swamp. This brought the number of boxes erected in the Cranesville Swamp area to 21. In cooperation with an interested private landowner (who considers us "weird, but interesting"), one of the new boxes was erected just inside West Virginia. This location was near a tape-playback survey site where a Northern Saw-whet Owl would often respond by perching in nearby Eastern Hemlocks (*Tsuga canadensis*) and Red Spruce (*Picea rubens*) while singing back to the tape. The boxes were erected on 6 and 26 March 1993.

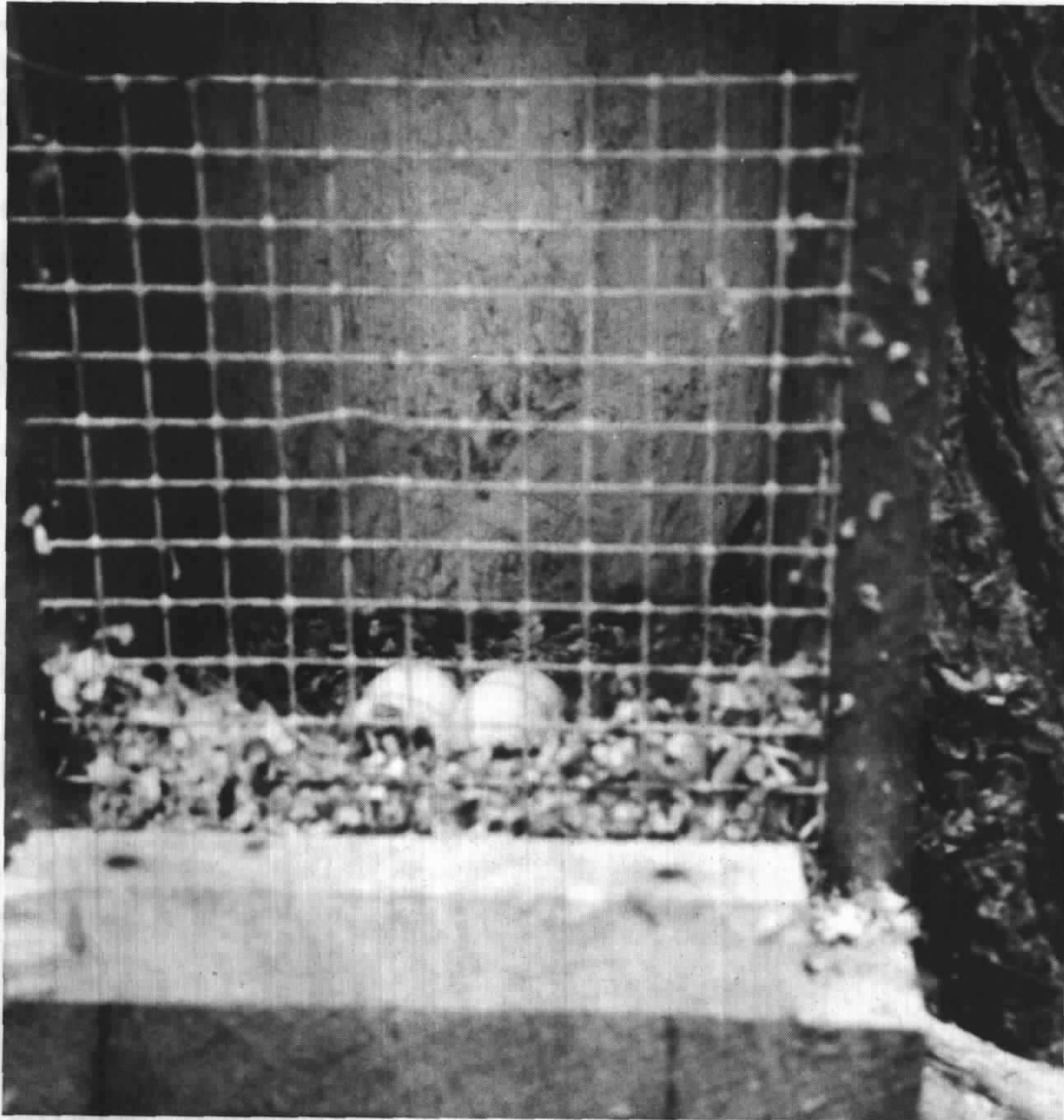
### FIRST CONFIRMED MARYLAND NESTING

The first nest box checked in 1993 was the single West Virginia box. Brinker checked this box during the early afternoon on 23 April, 7 weeks after this new tall box was erected. The remains of 3 Northern Saw-whet Owl eggs were found in the box. They had been preyed upon by a small mammal, probably a Red Squirrel. This represents the third Northern Saw-whet Owl egg record for West Virginia (J. S. Butterworth, pers. comm.). The 2 previous West Virginia records (unpublished) were also relatively recent and arose from nest box studies focusing on Northern Flying Squirrels (*Glaucomys sabrinus*). This nest box was located less than 300 meters west of the Maryland-West Virginia state line.

The next two boxes Brinker checked on 23 April were short boxes located less than 120 meters east of the Maryland-West Virginia state line (400-420 meters east of the box with the 3 depredated eggs). Upon approaching the second of these a Northern Saw-whet Owl was observed peering out of the entrance hole. Since it was well before sunset, the box was not disturbed. An additional 5 boxes checked that afternoon were not occupied.

On 24 April Brinker and Dodge checked 14 boxes, all unoccupied, before returning to the box containing the suspected nest just prior to sunset at 19:00. The owl was again present and peering out of the entrance. We flushed it from the box at 19:05. Upon opening the box we found 4 oval white eggs (Figure 2). The measurements of the eggs, all in mm, were 31.18 x 25.68, 31.01 x 25.61, 30.65 x 25.53 and 30.45 x 25.61. The eggs were floated in a small container of fresh water to determine stage of incubation and it was estimated that the oldest egg had been incubated 2-4 days and the youngest egg was freshly laid. The only prey remains found in the box were Swamp Sparrow (*Melospiza georgiana*) feathers. We took several photographs, closed the box, and departed the area by 19:25. During this time the owl, presumably the female, remained

nearby. We did not stay to determine when she re-entered the box, preferring to minimize additional disturbance. Brinker returned on 8 May to check the status of the box. The owl, once again observed peering from the entrance of the box, was not flushed, and he departed quietly.



**Figure 2.** First Northern Saw-whet Owl nest record for Maryland. This nest, with 4 freshly laid eggs, was found on 24 April 1993 in a nest box erected specifically for Northern Saw-whet Owls in the Maryland portion of Cranesville Swamp, Garrett County, Maryland. (Photograph by David F. Brinker)

We returned to the nest box to band the young at approximately 17:30 on 29 May, accompanied by two Garrett Community College students, Mr. M. Dene Wood and Ms. Rebecca D. Alexander. Upon our arrival an owl was again peering from the entrance of the nest box. It did not flush from the box, even when we stood directly below the box. We then captured the owl by placing a landing net over the nest box. The owl did not flush until the net was almost touching the box. This owl, a female, was banded, weighed, and measured (mass 118 g, wing chord 141 mm, flattened wing 149 mm, tail 69 mm). Since there was no active molt and only one generation of primaries and secondaries, she was probably only 1 year old and making her first breeding attempt.



She did possess obvious remnants of a brood patch. While holding the female, the box was opened to reveal 2 young (Figure 3) and 2 addled eggs. The mass of the smaller and younger of the 2 owlets was 76 g, its 4th primary measured 20 mm, this feather had not yet broken through the sheath, and its eyes were barely open. The mass of the older owlet was 105 g, its 4th primary measured 30 mm, and it had broken through the sheath. Based on primary measurements and mass, we estimated the age of the young to be 12 and 15 days (see Cannings 1987). Prey cached in the box consisted of 1 adult and 1 immature deer mouse (*Peromyscus* sp.) and 1 Red-backed Vole (*Clethrionomys gapperi*). Following measurement and banding, the owlets were returned to the box, it was closed, and the female was returned to the box. She did not flush from the box and, after a few moments, proceeded to watch us from the box entrance as we departed.



**Figure 3.** Two Northern Saw-whet Owl chicks from Cranesville Swamp nest box on 29 May 1993. Chicks are approximately 15 and 12 days old. (Photograph by Kevin M. Dodge)

On 6 June 1993 we returned, along with Mrs. Frances B. Pope and Mrs. Connie S. Skipper, to photograph the owlets one last time before they fledged. When we arrived we were surprised not to see the female peering out of the box entrance. Upon opening the box we discovered that neither chick was present. At that time the owlets would have been an estimated 20-23 days old and should still have been in the nest box or very close by. While searching the immediate area for perched young Mrs. Pope found the remains of a chick, including the leg band, on the ground. Continued searching resulted in location of the remains and bands of both chicks. From measurement of the remaining remiges that we found, the owlets were estimated to have survived about 7 days after banding and may have been depredated the previous night. Additional prey remains found in the nest box included more Swamp Sparrow feathers and the tail of



a Woodland Jumping Mouse (*Napaeozapus insignis*). Among the remains of one of the chicks we also found the skull of a Smoky Shrew (*Sorex fumeus*). We assume that this skull was either from a prey item that the predator also removed from the box, or that it had been recently ingested by the owl and somehow dropped by the predator along with the discarded portions of the owl. We found no evidence that the female had met the same fate as her offspring. We could not find any evidence useful for identification of the predator, but speculate that it was a Raccoon (*Procyon lotor*).

## PHENOLOGY

Although the end result was disappointing, this represents the first documented nest record for the Northern Saw-whet Owl in Maryland. We assume that this female was also the one that laid the 3 eggs in the nearby West Virginia box and, to recycle or continue laying, she simply switched to a nearby box. Backdating from 24 April and 29 May, assuming a 2-day laying interval and a 27-day incubation period (Cannings 1987), and assuming an immediate switch between boxes, two conservative first egg dates can be estimated, 17 April (Maryland box) and 11 April (West Virginia box). We suspect that this is either normal or slightly late for the central Appalachians, but will have to wait for further nest records for verification. For New York and New England, Bent (1938) lists extreme egg dates of 19 March through 3 July with a peak in mid-April. Cannings (1987) reported a mean first egg date of 12 March for 9 nests between 280 m (919 ft) and 615 m (2018 ft) in British Columbia, Canada. In Maryland, singing Northern Saw-whet Owls have been heard as early as late February in Finzel Swamp (J. E. McKearman, pers. obs.), and we have frequently heard singing while conducting surveys during March warm spells.

## HABITAT

The single most apparent component that seems to unify habitats used by Northern Saw-whet Owls that we have located in Maryland during the breeding season is the presence of evergreen cover. Singing Northern Saw-whet Owls have been located in conifer swamps containing stands of Red Spruce and Eastern Hemlock, riparian areas where hemlock is abundant along with an understory of Rosebay Rhododendron (*Rhododendron maximum*), and in plantations of Norway Spruce (*Picea abies*) and Red Pine (*Pinus resinosa*). Both of the nest boxes used during 1993 were located in forested areas characterized by coniferous species. The Maryland box was located near the edge of, but within, a thick stand of Eastern Hemlock and Red Spruce where light penetration was so restricted that photography was usually difficult. The West Virginia box was located on the edge of a small opening along a stream in an area of hemlock, spruce, and a larch (*Larix* sp.) plantation with a patch of rhododendron in the clearing below the box (Figure 4). The single adult owl netted along the Casselman River in June 1992 was in an area characterized by hemlock and rhododendron. During the spring, an owl, presumably the same individual, was also heard singing from a stand of old Red Spruce over a half kilometer away. A family living near this spot on the Casselman River has heard Northern Saw-whet Owls calling nearby for many years. The owls netted at Cunningham Swamp were in a clearing surrounded by a mature plantation of Norway Spruce (Figure 5).

In all of our work with tape-playback surveys we have yet to locate a singing Northern Saw-whet Owl away from evergreen cover. We have never located a calling Northern Saw-whet Owl in an area of strictly hardwoods even though we have conducted surveys in several hardwood areas with an understory of rhododendron



**Figure 4.** Tall nest box in West Virginia portion of Cranesville Swamp, Preston County, where depredated Northern Saw-whet Owl nest was found. (Photograph by David F. Brinker)



**Figure 5.** Habitat where adult and juvenile Northern Saw-whet Owls were netted near Cunningham Swamp in June of 1992. (Photograph by David F. Brinker)

and/or Mountain Laurel (*Kalmia latifolia*). In most cases our impression has been that singing owls were located in evergreen cover, or in dense shrub swamp thickets of such species as Speckled Alder (*Alnus rugosa*) adjacent to evergreen cover. Whether this affinity for evergreen cover reflects thermal constraints (see Ligon 1969), and/or a need for this small owl to conceal itself from larger owls, or some other factor(s), is currently uncertain.

## BOX DESIGN AND LOCATION

Appropriate nest box design for Northern Saw-whet Owls has never been investigated experimentally. When a design is found in popular or other publications it is usually one for a generic "small owl" nest box. The first design we used, the short box, was a combination of dimensions taken from one of these popular publications and that being used for Northern Flying Squirrels in West Virginia and Maryland. We now feel that the short box is probably too shallow to be strongly preferred and certainly to be relatively safe from predators. Thus, we have switched to box dimensions similar to those used by Cannings in British Columbia. These boxes have been successfully used by Northern Saw-whet, Boreal (*Aegolius funereus*), Western Screech (*Otus kennicottii*) and Flammulated (*Otus flammeolus*) Owls (R. J. Cannings, pers. comm.). The entrance hole on Canning's boxes is 7.5 cm to permit entrance by the larger Boreal Owl. We decreased the entrance diameter to 6.5 cm to restrict box access by larger animals while still permitting use by Northern Saw-whet Owls. Continuation of our nest box effort may eventually provide a crude test of cavity size preference since we plan on placing both types of boxes at all locations that currently have short boxes.

It is interesting to note that, while short boxes had been in place in several known Northern Saw-whet Owl territories for approximately 15 months, the first box used for nesting was a tall box that had been erected less than 7 weeks prior to its selection as a nest site. The secondary selection of a short box approximately 420 meters away upon failure at the first site may indicate that the short design is less desirable. There are at least 3 boxes within the breeding territory of this pair, 2 short boxes and 1 tall box. If the area of this pair's breeding territory is substantially larger than that immediately surrounding the 2 boxes used in 1993, there may be as many as 4 short and 7 tall boxes available. The only other evidence of box use by owls during 1993 occurred in the most distant of these 11 boxes, also a tall box. Upon checking this box on 24 April, Brinker found the bottom pulled off by a Black Bear (*Ursus americanus*). The box contents, spilled to the top of the snow below the box, contained 2 fresh prey items, a half-consumed Red-backed Vole and a whole deer mouse. No cached prey items have ever been found in a short box, although short boxes appear to have been occasionally used as roosting and feeding sites by unknown owls, probably Eastern Screech-Owls (*Otus asio*). While it is possible that Northern Saw-whet Owls might use boxes as day roosts, they are not known for this behavior and are generally considered foliage roosters (Hayward and Garton 1984; Swengel and Swengel 1992).

In reaction to the unfortunate fate of our first nest and to reduce the possibility of future predation, all boxes have had a predator plate placed over the entrance holes. The predator plate consists of a 3.5 cm thick piece of wood with a 6.5 cm diameter entrance hole. Thus, the entrance holes on all boxes are now 6.5 cm and the depth of the entrance tunnel is 6.0 cm. We hope that this will be sufficient to deter larger predators such as Raccoons. However, the predator plate will not deter weasels (*Mustella* sp.), Red Squirrels, and other small predators.

As secondary cavity nesters, it is difficult to determine the preferred characteristics of Northern Saw-whet Owl nest sites and there is little published information on this aspect of their life history. Published nest records demonstrate wide variation, including snags in open situations in conifer swamps, snags in regenerating hardwoods (Bent 1938), Ponderosa Pine (*Pinus ponderosa*) savannas and riparian areas (Hayward and Garton 1988), riparian woodlands in shrub-steppe (Cannings 1987), a utility pole in a right-of-way through Jack Pine (*Pinus banksiana*) forest in Massachusetts (L. H. MacIvor, pers. comm.), a variety of nest box locations, and even a nest box in coastal shrub and sand dune meadows (Schaeffer 1968).

Since the literature provides no clear direction for appropriate nest box placement, we have erected nest boxes in a variety of situations. All boxes are at elevations between 766 m (2320 ft) and 895 m (2710 ft). Some boxes are on snags, mostly old Eastern White Pines (*Pinus strobus*), Eastern Hemlocks and Red Spruces along the edges of small clearings or shrub swamps, although some are within forest stands. Other boxes are on live hemlocks and spruces, both along edges and inside stands. Several boxes are on hardwood snags and some are on live hardwoods, primarily Yellow Birch (*Betula lutea*), Black Cherry (*Prunus serotina*), and Red Maple (*Acer rubrum*). Boxes face all directions and are generally mounted so that entrance holes are between 2.2 and 4.0 meters above the ground. The entrance holes of three boxes are between 4.1 and 5.3 meters. Flight paths to nest box entrances vary from unobstructed across open fields to nest boxes erected on snags, through those that are substantially obstructed by overhanging tree limbs, especially within coniferous forest stands. The box used in West Virginia (elevation 835 m) was mounted facing south, 3.4 meters above the ground on a 43 cm diameter breast height (dbh) Yellow Birch with a relatively unobstructed flight path to the box entrance. The Maryland box (elevation 837 m) was mounted facing northeast, 2.9 meters above the ground on a 43 cm dbh Eastern Hemlock with the flight path to the box entrance partially obstructed by overhanging limbs and adjacent Eastern Hemlocks.

## CONCLUSION

The Northern Saw-whet Owl is a rare nesting species in Garrett County, Maryland. Although Northern Saw-whet Owls have been nesting in Garrett County for many years, it was not until 24 April 1993 that the first nest was found. Two of the four eggs in the nest hatched, but the young were eaten by an undetermined predator before they were old enough to fledge. The nest was in a nest box erected specifically for Northern Saw-whet Owls. The documentation of this nesting was the result of three years of effort toward improving our understanding of the breeding biology of the Northern Saw-whet Owl in Maryland. We plan on continuing this effort. It is our hope that over a period of years we will accumulate additional nest records and be able to monitor their success. From these future observations we will be able to better describe the basic breeding biology of the Northern Saw-whet Owl in Maryland. This increased understanding is crucial to maintaining Northern Saw-whet Owls as an element of Maryland's biodiversity.

## ACKNOWLEDGMENTS

This ongoing study would not be possible without the help and cooperation of many people and we offer our sincerest thanks to all. The locations of several of the breeding pairs of Northern Saw-whet Owls that we are monitoring were provided by Garrett County residents and this information has been an important part of our

success. Tape-playback surveys have been supported by the Chesapeake Bay and Endangered Species Fund, administered, in part, by the Maryland Department of Natural Resources' (DNR) Wildlife Division, Nongame and Urban Wildlife Program. The DNR's Savage River State Forest has donated lumber for the nest boxes. The Maryland Chapter of The Nature Conservancy, Salem Childrens' Trust, Rock Lodge Trust, University of Maryland's Western Maryland 4H Center, Savage River State Forest, and several private land owners have allowed us to erect nest boxes on their property. The students of the Natural Resources and Wildlife Technology Program, and students participating in the Job Training Partnership Act construction class, both at Garrett Community College (GCC), constructed the nest boxes. From near its inception, M. Dene Wood, a GCC student, helped in most aspects of this effort. Other GCC students assisted by helping conduct tape-playback surveys and check nest boxes. Finally, Chandler S. Robbins, Elwood Martin and Jay M. Sheppard provided useful comments that improved this paper.

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*Maryland D.N.R., 580 Taylor Ave., Annapolis, MD 21401  
Garrett Community College, P.O. Box 151, McHenry, MD 21541*

## THE SEASON



### FALL MIGRATION, AUGUST 1 - NOVEMBER 30, 1992

DANIEL R. SOUTHWORTH AND LINDA SOUTHWORTH

The fall season resembled the summer, rather cool and frequently wet. Ocean storms were numerous. Many observers commented once again about the lack of good flights of neotropical migrants, although with the late summer breeding activity, the number of lingering birds was higher than usual.

*Observers:* Henry and George Armistead, Scott Atkinson, Maurice Barnhill, John Bjerke, Rick Blom, Larry Bonham, Connie Bockstie, Ed Boyd, Carol and Don Broderick, Gwen Burkhardt, George Chase, Martha Chestem, John Churchill, David Czaplak, Lynn Davidson, Fritz Davis, Margaret Donald, Jeff Effinger, Gerald Elgert, Ethel Engle, Jane Farrell, Roberta Fletcher (reporting for Caroline County), Ralph Geuder, Inez Glime, Jim and Patricia Gruber, Marvin Hewitt, Robert Hilton, Mark Hoffman, David Holmes, Marshall Iliff, Ottavio Janni, Kye Jenkins, Simone Jenion, George Jett, Harry Krueger, Doug Lister, Gail Mackiernan, Tom McIntyre, Nancy Magnusson, Mike and Grazina McClure, Stauffer Miller, Carolyn Mills, Dotty Mumford, Carol Newman, Paul Nistico, Mariana Nuttle, Michael O'Brien, Beth Olsen, Peter Osenton, Bonnie Ott, Jim