STATUS OF THE LOUISIANA WATERTHRUSH IN ALLEGANY STATE PARK

Stephen W. Eaton
2596 Ten Mile Road, Allegany NY 14706
Richard H. White
1819 Rt. 305, Portville NY 14770

ABSTRACT — A census of Louisiana Waterthrushes (*Seiurus motacilla*) was conducted in Allegany State Park in 1996, where 37 km (69%) of 54 km of potential habitat was covered. Territory length was determined to be about 1 km. Seventeen territories were observed along 36 km of stream walked. The population was probably at a very low point due to unfavorable weather conditions over the past three years.

INTRODUCTION

The Louisiana Waterthrush (*Seiurus motacilla*) is a long-distance, nearctic migrant that breeds in eastern North America along moderate gradient, forested streams, which flow through hilly, deciduous or deciduous/coniferous forests. It winters in Central America, the West Indies and northern South America (Robinson 1995) and is the southern counterpart of a sibling species, the Northern Waterthrush (*Seirurus noveboracensis*). (Hereafter, when we refer to the Louisiana Waterthrush, we will simply write waterthrush). Both short and long term Breeding Bird Surveys in the east show the waterthrush is decreasing, but increasing in the central United States (Sauer and Droege 1992). It is considered threatened on its wintering grounds, particularly where

lumbering is occurring along freshwater, moderate gradient streams (Rappole and others 1983).

Allegany is the largest State Park in New York, approximately 25,600 ha (65,000 acres), and is administered by the New York State Office of Parks, Recreation and Historic Preservation. It is bordered by the New York / Pennsylvania state line on the south, by the Seneca Nation on the west and north/northeast, and by CSX Railroad right-of -way and the village of Limestone on the east (Anonymous 1992). Its location in New York is unique as the area was not glaciated during the Pleistocene, so it still shows its long history of erosion during the Tertiary Period, in its typical dendritic stream pattern (Tesmer 1975). This results in several main streams joined by many tributaries as they make their way to Tunungwant Creek to the east and to the Allegheny River along the east, north and west. These streams are the home for native brook trout and introduced brown trout and contain the largest concentration of wild brook trout streams completely in public ownership in western New York (Cornett 1996).

The character of today's forest in the park is primarily a result of logging activities which occurred up to the time of the park's creation in 1921. Since most of the park was clearcut, today's forest is predominantly second generation and a mixture of even-age stands of various age classes. Significant forest types include cherry, Allegany hardwoods, hemlock hardwoods, oak and plantations (Anonymous 1992).

The status of the waterthrush has changed since the establishment of Allegany State Park when Saunders (1942) described it as, "A fall migrant, found along Allegany Park brooks nearly every year, generally in the latter part of July." He makes no mention of a breeding population occurring in the park. Other birds which have invaded or returned to the park since Saunder's studies are Northern Goshawk, Broad-winged Hawk, Northern Saw-whet Owl, Yellow-bellied Sapsucker, Acadian Flycatcher, and Yellow-throated Warbler (Baird 1990). Between 1840 and 1920 the removal of the forest canopy from the stream banks allowed sunlight to penetrate, increasing water temperatures, increasing erosion of soils, and adversely affecting the aquatic insect life upon which the waterthrush fed (Eaton 1981).

By the 1950's the waterthrush had become established as a breeding species in the Allegany State Park region. This population increase was probably due in part to the regrowth of the park's forests and the clearing of the streambeds after the impact of the lumbering industry. One of the earliest records of the waterthrush nesting in the Allegheny River Valley was made in 1951 (Eaton 1953). Later it was confirmed as breeding in nine, 5 km^2 blocks in the Allegany State Park during the *Atlas* program (Eaton 1988). Today there are approximately 54 km of wooded stream border in Allegany State Park that can be considered potential waterthrush habitat (Table 1).

Table 1. Potential habitat for Louisiana Waterthrush (*Seiurus montacilla*) in Allegany State Park, NY. () = Evidence of territory, but no bird sighted.

STREAM	POTENTIAL HABITAT (Km.)	PAIRS	Km. WALKED	DATES WALKED
Limestone Run	2.00	1	2.00	8 May, 13 Jun
Rice Brook	3.00	2	4.50	6 May, 27 Jun
Irish Brook	1.00	1	1.75	6 May, 27 Jun
Carrollton Run	4.50	1	0.30	17 Jun
Christian Run	1.00	0	0.50	26 Jun
Bay State Brook	1.50	1	1.00	31 May
Cricks Run	2.50	1.(1)	2.50	10 Jul
Holts Run	1.00	1	1.00	7 Jun
Quaker Run (Main)	8.00	0	8.00	30 May;23,25 Jun;2 Aug
Fox Hollow	1.00	0	1.00	11 Jul
English Creek	3.00	2	3.00	30 May, 11 Jun
Coon Run	1.00	0	0.00	-
Stony Brook	3.50	1	2.00	14 Jun
Red House Brook	5.00	1	3.00	8 May; 16,23 Jul
Hardscrabble Ck	1.50	2	1.50	30 Jun
McIntosh Creek	1.50	0	0.70	1 Jun
Bova Creek	2.50	0	0.00	-
France Brook	3.00	0	0.50	17 Jun
Beehunter Creek	2.00	0	0.50	17 Jun
Stoddard Creek	2.00	0	0.80	14 Jun
Wolf Creek	2.00	1	1.00	25 Jun
Peters Creek	1.00	0.(1)	0.50	10 Jul
TOTALS	54.00	15.(2)	36.05	

METHODS

Starting on 4 May 1996 we began walking along the borders of waterthrush habitat in the park. These surveys continued until 2 August 1996 when most of the birds had migrated out of the area. The last bird seen in the region was on 14 August in Ten Mile Creek. Their presence along the streams was noted as "singing birds" or "sightings". Probable occurrence was indicated by fairly continuous deposits of dime-sized droppings on the rocks in the streams. One nest was discovered by looking carefully upstream of a point where fecal sacs had collected in a backwater near the nest site. We surveyed portions of 20 of the 22 streams or 69% of the potential waterthrush habitat. The spring of 1996 was late with the first waterthrush being sighted on 5 May, whereas they usually arrive about 15 April (Eaton 1981).

RESULTS

Observations in this study are contained in the following chronology. Streams surveyed and distance of stream course walked are included in Table 1. Stream temperatures in Ten Mile Creek (outside the park by 4 km) the forenoon of 5 May was 8 degrees centigrade. Names of streams were taken from Allegany State Park Fishing Guide Map and U.S. Geological Survey maps. Territories were in small headwater tributaries except for one in Red House Brook about 6 km above Red House Lake.

4 May: Limestone Run, upper Red House Brook, McIntosh Brook (and Ten Mile Creek, 4 km outside park near Eaton's home): No waterthrush heard or seen.

5 May: Ten Mile Creek: First waterthrush heard singing.

6 May: Rice Brook: 1 waterthrush 100 m above washed out bridge. Seen in tree approximately 7 m from ground.

8 May: Limestone Run: No waterthrush heard from road; Red House Brook above France Brook: No waterthrush seen or heard; Red House Brook below France Brook: 1 waterthrush flew up from feeding in the stream. Observed in a tree 3 m above ground.

30 May: English Brook to confluence with Quaker Run: 1 waterthrush chipping and 3-4 songs heard above Frecks, about 150 m upstream from the foot bridge to Ward Trail.

31 May: Bay State Brook: 1 waterthrush where road crosses stream, bird flew downstream; McIntosh Creek: No waterthrush.

7 June: Holt's Run: 1 waterthrush near road barricade.

11 June: English Brook: 1 waterthrush in vicinity of Bear Springs.

13 June: Limestone Run: 1 waterthrush in possible juvenal plumage, in headwater area.

14 June: Red House Brook from Bova cabins upstream to beaver dams: No waterthrush. Stoddard Brook above camping area: No sightings. Stony Brook above Bear Caves: 1 waterthrush flushed from feeding along stream.

17 June: Carrollton Run: 1 waterthrush seen and heard singing near access road. France Brook, upper end: No sightings.

25 June: Wolf Run above gate and tributary: 1 waterthrush singing. Family group of 4 birds; at least 3 juveniles nearly same size as adult being fed by an adult (probably female). Young birds catching some of their own food.

26 June: Christian Hollow and small hollow to the west: No sightings, but appeared to be good habitat.

27 June: Rice Brook: 500m above old bridge found waterthrush nest with 4 young approximately 6-7 days old. Watched adults feeding nestlings. Droppings on rocks in territory about dime sized. Located nest by observing fecal sacs collecting in a backwater just downstream from nest site. Nest 1.5 m above stream. Rice Brook above confluence with Irish Brook: Flushed a fledgling young and saw another bird, probably an adult. Irish Brook: 1 adult waterthrush.

30 June: Hardscrabble, west branch: 1 pair carrying food for young, another adult upstream.

4 July: Rice Brook: Young had left nest of 27 June. A stub-tailed waterthrush in juvenal plumage about 100 m above old bridge. Could have been from nest but 577 m downstream quite a long distance for such a young bird.

10 July: Peters Creek: Several dime-sized droppings along stream, as if by waterthrush, but no sightings or songs. Crick's Run: 1 waterthrush seen near head of west branch. No sightings along east branch, but observed dime-sized droppings.

11 July: Fox Hollow: No sightings.

25 July: Lower Quaker Run: No sightings

2 Aug.: Quaker Run: From start of Black Snake trail to Coon Run near Frecks: No sightings.

DISCUSSION

Territories of the waterthrush are unusual in that they are essentially linear along stream courses. Near Ithaca, NY, they average 400 m in length, in CT 358 m and in southern IL 930 m (Robinson 1995). Mean length of territories in the Delaware Water Gap National Recreation Area was 297 m (Rilling and others 1996). In Allegany State Park we estimated the territories to be a minimum of 1000 m. The unusually long territories may have been the result of several factors. On 13 June 1994, a severe rainstorm occurred in the park. The timing of this storm probably had a severe impact on nests and young waterthrushes. Since waterthrushes nest relatively close to the stream, they are susceptible to flooding. In the summer of 1995, there were drought conditions until early August. The drought probably decreased the aquatic insect populations. On 18 - 19 January 1996 there was severe flooding, caused by a combination of heavy rainfall and snowmelt in western New York. This flood scoured the stream bottoms and must have reduced the aquatic insect larvae. In the summer of 1996 there were few defoliating insects. In June and July, the diet of the waterthrush changes from aquatic insects to larvae of defoliating insects, so food supplies were again at a minimum. These extremes in weather and food supply have undoubtedly had a negative impact on the local waterthrush population.

The total number of colonies of beaver in the park has increased over the last twenty years. This increase has resulted in the damming of the streams and the opening of the streamside canopy. This also has probably had an adverse effect on the waterthrush population.

Territories of the waterthrush are most vigorously defended early in the season (April and May) and most of our censuses were done in June and July (Table 1). So the territories of the birds observed were more difficult to determine and probably less accurate than if done in April and May. If censuses

are done in the future. territory length would best be determined only in April and May.

CONCLUSION

From our observations. we determined that the population of waterthrushes in Allegany State Park was approximately 17 pairs with the average territory extending 1 kilometer along a wood bordered stream. Approximately 32% of 54 kilometers of potential habitat appeared to be occupied and it is thought that a series of destructive weather events may have severely reduced the population. This pilot study will provide basic data. at a low point in the population. from which a long term study may be developed.

ACKNOWLEDGMENTS

We thank Timothy H. Baird for help in the census of Hardscrabble Brook.

LITERATURE CITED

Anonymous. 1992. *Allegany State Park Draft Master Plan and Draft Environmental Impact Study. Executive Summary.* Albany. NY: New York State Office of Parks. Recreation and Historic Preservation. p 8.

Baird TH. 1990. Changes in breeding bird populations between 1930 and 1985 in the Quaker Run Valley. Allegany State Park. NY. *New York State Museum Bulletin* No. 477. p 41.

Cornett SC. 1996. *Trout Streams of Allegany State Park.* Olean. NY: NYS - DEC. Bureau of Fisheries. Region 9. p 33.

Eaton SW. 1953. Birds of the Olean and Salamanca Quadrangle. *Science Studies* [Saint Bonaventure University] 15: 1-27.

Eaton SW. 1981. Birds of Cattaraugus County. New York. *Bulletin of the Buffalo Society of Natural Sciences.* 29: 91.

Eaton SW. 1988. Louisiana Waterthrush. In: Andrle RF. Carroll JR. eds. *The Atlas of Breeding Birds in New York State.* Ithaca. NY: Cornell University Press. pages 410-411.

Rappole JH. Morton ES. Lovejoy TE. Ruos JL. 1983. *Nearctic Avian Migrants in the Neotropics.* Washington. DC: US Fish and Wildlife Service. p 324.

Rilling J. Terranova F. Master TL. 1996. Habitat selection and population status of the Louisiana Waterthrush (*Seiurus motacilla*) in the Delaware Watergap National Recreation Area. Abstract of Poster Presented at Wilson Ornithological Society 77th Annual Meeting.. 11-14 Apr. Cape May. NJ. p 823-824

Robinson WD. 1995 Louisiana Waterthrush (*Seiurus motacilla*) In: Poole A. Gill F. eds. *The Birds of North America* #151. Philadelphia. PA: The

Academy of Natural Sciences and Washington. DC: American Ornithologist's Union. p 20.

Sauer JR. Droege S. 1992. Geographic patterns in population trends of neotropical migrants in North America. In: Hagan JM. Johnston DW. eds. *Ecology and Conservation of Neotropical Migrant Landbirds.* Washington. DC: Smithsonian Institution Press. p 26-42.

Saunders AA. 1942. Summer Birds of Allegany State Park. *New York State Museum Handbook* 18. Albany. NY: The University of the State of New York Press. p.313

Tesmer IH. 1975. Geology of Cattaraugus County. New York. *Buffalo Society of Natural Sciences Bulletin* 27: p 105.