

AUG 22 1996

WOOD TURTLE (*Clemmys insculpta*) SURVEY

1996 REPORT

Minnesota

For

Minnesota Department of Natural Resources
Nongame Program

Please note that all location information has been removed from this document.

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INTRODUCTION

The [redacted], Minnesota was surveyed for Wood Turtles (*Clemmys insculpta*) during May and June of 1996. This survey was a follow up of two conducted in 1994 and 1995 for the Minnesota Department of Natural Resources Nongame program. The two previous studies indicated the Wood Turtle population [redacted] may be in serious trouble.

During the 1996 survey period only one Wood Turtle was located with an input of 100 field hours. The results were similar to those of Oldfield (1994, 1995).

A study by Ewert (1985) estimated a population of 44 Wood Turtles on the [redacted] in 1969, and Oldfield found six Wood Turtles with an investment of 23 hours of field work in 1988. Taken together, these surveys indicate a decline in the Wood Turtle population on the [redacted] since the earlier surveys conducted by Ewert and Oldfield.

The goals of this survey were to:

- 1) Locate nesting sites
- 2) Map areas of potential and active nest sites
- 3) Survey and monitor [redacted]
- 4) Prepare final report, including maps & data

METHODS

The [redacted] Minnesota was surveyed for Wood Turtles (*Clemmys insculpta*) between May 15 and June 30, 1996. Approximately 100 field hours were invested on six days. An attempt was made to conduct the survey in late afternoon, when the air temperature was above 70°F.

A canoe was used to access potential nesting sites (PNS) along the stretch of river between [redacted] and the [redacted]. These sites, previously identified and mapped by Oldfield (1994), were extensively searched on foot. Three sites downstream from the [redacted] overpass, including the [redacted], were accessed by foot. Oldfield's maps and descriptions of potential nesting sites are included at the end of this report.

A variable power spotting scope and binoculars were used to identify turtles from a distance.

Amphibians and Reptiles Native to Minnesota (Oldfield and Moriarty, 1994) was used as a guide to identify turtles and nests.

Marking was done using a triangular file to make a 1/8" deep by 1/8" wide notch in the edge of the carapace according to the Cagle numbering system (Ferner, 1979).

RESULTS

One Wood Turtle was located on June 14 basking on a [redacted], in the northeast quarter of section [redacted]. It was tucked in the Reed Canary Grass (*Phalaris arundinaceae*), about ten feet from the water's edge. The individual was a female, and the scute growth rings were worn smooth, indicating that she was very old. The turtle was assigned the number two and a triangular file was used to notch the outer edge of its second marginal plate. Numbers were assigned according to the Cagle numbering system (Ferner, 1979).

Other turtle species observed on the [redacted], and a rough estimate of the number observed during each survey were: 30 Spiny Softshell (*Apalone spinifera*), 15 Common Map (*Graptemys geographica*), 5 Snapping (*Chelydra serpentina*), and 1 Painted (*Chrysemys picta*).

One Blandings turtle (*Emydoidea blandingii*) was observed nesting on June 19 along the [redacted], between [redacted].

No turtle activity of any kind was observed at the [redacted] site. No new potential nesting sites were located

Temperatures during the surveys ranged from 50-85°F, with mornings generally in the 60's. Skies ranged from clear to cloudy, and the wind speed was generally below 10 MPH. Unseasonably cool temperatures persisted throughout the survey period, and heavy rains in mid June caused flooding on the [redacted], submerging many of the potential nesting sites.

FIELD NOTES

[redacted], Minnesota

Mike Aho helped survey on 14 June. All other field work was conducted with David Dahl.

15 May, 1996

County. Area: [redacted]
Time: 1200-2000 Temp.range: 50-60°F Sky:
cloudy Wind: 2*

Saw one unidentified turtle which appeared to be a Wood Turtle. The turtle was on a log [redacted]

[redacted]
It lowered itself into the river as we approached and we were unable to get close enough for positive identification. We searched potential nesting sites (PNS) A, B, C, E, & H. Turtles observed: 5 Common Map, 2 Painted, 4 unknown.

29 May, 1996

County. Area: [redacted]
Time: 1000-1900 Temp.range: 65-75°F Sky:
clear Wind: 2

We canoed slower during this trip in hopes of not startling the turtles off their basking sites. Searched PNS B, D, E, & F. Turtles observed: 25 Spiny Softshell, 15 Common Map, 5 Snapping, 1 Painted, 10 unknown.

21 May - 8 June

this interval was unseasonably cold and wet. It rained almost every day with highs in the 50's. The weather was not conducive to finding Wood Turtles

8 June, 1996

Area:
Time: 1200-2100 Temp.range: 70-75°F Sky:
clear Wind: 2

Checked PNS-A-I, M, and [redacted] site. Two hatchling Spiny Softshells (size of silver dollars) were found in calm, shallow water on downstream side of PNS-E. No turtle activity was observed at the [redacted] site. This area is heavily used for recreation on weekends. Many people were fishing nearby and others were hitting rocks into the [redacted] site with golf clubs. Turtles Observed: 35 Spiny Softshell, 10 Common Map, 5 Snapping, 1 Painted, 10 unknown.

14 June, 1996

County: Area:
Time: 1100-1700 Temp.range: 80-85°F Sky:
clear Wind: 1

Extensively searched brush on PNS-A-F. A female Wood Turtle was found on the east end of PNS-B (NE quarter of section [redacted]). The individual was basking in the Reed Canary Grass, about ten feet from the water. Barney Oldfield had previously assigned and marked a female 01, so we assigned this one 02 and notched her marginal with a triangular file according to the cage numbering System (Ferner, 1979). The growth rings were worn smooth, indicating that she was very old. What appeared to be a wood turtle was observed swimming off the south shore [redacted], near PNS-N. It was moving too fast to positively identify. The water today was running clear. During no other survey was the water clear enough to observe turtles in the water. Turtles observed: 5 Spiny Softshell, 2 Common Map, 2 Snapping, 1 Wood, 3 unknown.

19 June, 1996

County. Area:
Time: 1200-2130 Temp.range: 75-78^oF Sky:
cloudy Wind: 1

Much of the sand and gravel areas of the PNS' were submerged due to high water. Explored PNS-B,D,E,F,H,K,M,N,P & _____ site. This was the first day we saw signs of nesting. Found one predated nest on PNS-C, two on pns F and one on a sandbar east of F. All were either Snapping or Spiny Softshell nests. Many predated nests were observed at PNS-P. A Blandings Turtle was observed nesting along the bike path between PNS-O and P. It didn't appear to be disturbed by the passing bikers, but was having difficulty digging in the gravel substrate. There were many predated nests along that stretch of bike path. There was no sign of turtle activity at the _____ site. We looked for pns O but didn't find it.

20 June, 1996

County. Area:
Time: 1400-2130 Temp.range: 75-80^oF Sky:
clear Wind: 2

We briefly checked gravel pit, no signs of nesting were observed. We thoroughly searched all PNS's. Much of the good nesting areas were submerged. PNS-G, J and L were completely submerged. There were newly predated Spiny Softshell nests on PNS-F and E.

* Beaufort Wind Scale:

<u>Scale</u>	<u>MPH</u>	<u>Description</u>
0	<1	smoke rises vertically
1	1-3	wind direction shown by smoke
2	4-7	wind felt on face, leaves rustle
3	8-12	leaves, small twigs in constant motion
4	13-18	raises dust and loose paper

DISCUSSION

The results of this survey were similar to those of the last two surveys by Oldfield (1994, 1995), and back his conclusion that the Wood Turtle population

may be in a serious decline. Further Studies and intensive management may be necessary to ensure the continuation of the Wood Turtle population.

Cool weather and high water may have been a factor in the results of the 1994 and 1996 surveys. Wood Turtles are most likely to be found on warm mornings, 70-80°F, in late May and throughout June. These conditions were rare this year, as May and June were unseasonably cool and wet. Morning temperatures did not rise into the 70's until mid June, when heavy rains submerged much of the potential nesting sites. All turtle species were behind on nesting this year, according to Bob Hay of the Wisconsin DNR.

Bob Hay, who conducts Wood Turtle surveys for the Wisconsin DNR, offered invaluable advice on Wood Turtle search methods, including where, how and under what conditions to search. I spoke with Bob after having conducted three surveys and regret not talking with him earlier, as he offered detailed information I was unable to find in the literature. I also received valuable survey information from Barney Oldfield. Their techniques differ somewhat. Oldfield stated in his 1994 report that he found the Wood Turtles to be elusive and difficult to approach on foot, and therefore he relied more heavily on river travel for searching. Hay suggested that Wood Turtles are, in general, not elusive and are best found by searching the brush by foot, especially areas dominated by willow brush, and along sandy inside meanders. I would suggest that further surveys use a combination of the two techniques.

Recreational use of [redacted] is low on weekdays and moderate on weekends. We encountered three canoes on the one Saturday we surveyed, and about six canoes total. Fishing is popular at a couple sites accessible by automobile. Use at this level wouldn't be likely to pose a threat to the Wood Turtle population. It seems that the main threat to the turtles [redacted] comes from predation.

Potential Nesting Sites

- PNS - A A sand and gravel bar with willows
- PNS - B Sand bar
entrance. During high water became separated from the bank and formed two small islands.
- PNS - C A small bar formed behind a large uprooted tree, primarily gravel substrate.
- PNS - D Large level sand bank with abundant nesting area. Use of this site by various turtle species is high. Used by canoeists for picnicking and camping.
- PNS - E A large sand bank. Appears to be a good turtle nesting area.
- PNS - F Large sand bank. Various turtle species frequently seen basking at this site. Two large downed trees.
- PNS - G Sand bank. Appears to offer good turtle nesting areas.
- PNS - H sand bank. Used by Wood Turtles in past years. Numerous turtle tracks and several destroyed nests found this year.
- PNS - I Small sand and gravel bank. Turtle track observed.
- PNS - J Small sand island behind log jam
- PNS - K Small sand bank with heavy vegetation. No turtle activity observed.
- PNS - L Small sand bank where a female *Clemmys insculpta* was observed nesting. By 11 June this site was underwater.
- PNS - M Steep sandy hillside frequently utilized by nesting turtles, especially *Chelydra serpentina* and *Graptemys geographica*.
- PNS - N Sandbar difficult to get to by water due to current. Observed a raccoon eating turtle eggs.
- PNS - O Steep sandy south bank used heavily by nesting turtles of all species. Historically, one of the best *Clemmys insculpta* nesting sites
- PNS - P Steep south facing sandy bank on a hill just below a housing development. Heavily used by turtles for nesting.