

DATE: October 21, 1987  
TO: Lee Pfannmuller  
FROM: Madeleine H. Linck

SUBJECT: Blanding's turtle study at Kellogg-Weaver Dunes, MN

<u>DATES</u>	<u>MILES</u>
June 20, 1987	232 miles
August 16, 1987	260
August 19, 1987	261
August 23, 1987	260
August 31, 1987	265
Sept. 6, 1987	265
Sept. 14, 1987	<u>258</u>
TOTAL	1,801

SUMMARY OF KELLOGG-WEAVER DUNES FIELD WORK, MAY-JUNE, 1987

A total of (8) field trips were made to the Kellogg-Weaver Dunes ( Wabasha Co.) area during May and June, 1987. On May 4, 11, and 27, emphasis was on scanning and sampling (collecting by hand) wetland areas for Emydoidea and on marking individual turtles. Checks for turtles on land were also made; the first sightings of turtles migrating to nesting grounds were made on May 27, 1987. Thus, on May 31, June 3,5, and 11, emphasis shifted to marking turtles migrating to and from nesting grounds, locating turtles ( but not disturbing) in the nesting process and checking locations of raided (by mammal predators) Emydoidea nests. The June 20, 1987, field trip was done to meet with Mike Pappas and Bruce Brecke on the study site.

The attached table A shows that a total of 55 adult ( 48 females and 7 males) Emydoidea were collected. 15 of the 55 turtles were found to be previously marked by Pappas and Brecke. An additional 12 adult Emydoidea ( not recorded in Table A) were observed on land, but were not disturbed. 7 of these 12 were determined to be nesting. The other 5 turtles appeared to be resting in suitable nesting areas. A total of 44 turtles were observed on land between May 27 and June 11, 1987. The smallest Emydoidea found on land had a carapace length of 183 mm and a plastron length of 173 mm. The greatest number of adults (19) found on land was on June 11 . 12 adult turtles were found on land on June 5. The greater number of June 11 may reflect the fact that 2 people were searching the land area on that date. The attached zeroxed topo map shows sites of turtles found in the nesting process ( in red) and sites of raided Emydoidea nests ( in black). As can be seen on the map, many of the nesting sites were found to be on private property. On June 5, a striped skunk was observed searching for turtle nests on the rims of the dunes of the TNC property.

SUMMARY OF KELLOGG-WEAVER DUNES FIELD WORK, AUGUST-SEPTEMBER, 1987

A total of (6) field trips were made to the Weaver Dunes area during August and September, 1987, for the purpose of locating hatchling Emydoidea. As can be seen in Table B, a total of (57) hatchlings were found with the greatest number (20) of hatchlings collected on August 31, 1987. "Dead hatchlings" refers to <sup>those</sup> found dead on WCR 84. These turtles appeared to be all freshly killed specimens; it soon became obvious that crows ( and other scavengers? ) quickly removed road killed hatchlings. It is assumed that many other D.O.R. hatchlings ( as well as alive hatchlings) were missed inbetween field trips. Only (1) nest was actually found hatching and that nest was located on the property of Wayne and Cynthia Hammer ( off Prichard Rd.) Fresh tracks of hatchling Emydoidea were noted several times crossing onto Prichard Rd. and in the sandy driveway bordering the melon field directly east of Prichard Rd. However, despite numerous searches on the dunes of the TNC property and on other privateproperty south and east of TNC , hatchlings were not found actually out on the dunes.

For hatchlings found crossing WCR 84, notation of the closest telephone pole number was made. The farthest north crossing was at pole # 39 (near SNA sign) where (4) hatchlings were found. The farthest south crossing on WCR 84 was at Mary Burmeister 's driveway. However, the greatest number of hatchlings (9) were found crossing near pole # 68 which is close to the intersection of Prichard Rd. and WCR 84 (just north of Kelly 's farm house). The second greatest number of hatchlings (6) was at pole # 61 which is approximately .2 mile south of the TNC driveway. Hatchlings were picked up, checked for shell abnormalities, presence of caruncle, and yolk sac, and then either released on the west side of WCR 84 or directly into E. Kelly 's ponds or Snake Creek inlet pond (DNR property).

In talking with local residents, it seems that the peak of hatchling migration for 1987, most likely occurred between August 31 and September 6, 1987, which also corresponds to the dates of higher numbers in Table B.

## GENERAL RECOMMENDATIONS

### BURNING

Burning done prior to May 10 and after October 1 should not interfere with either adult or hatchling Emydoidea movements to and from nesting areas. It would be unlikely that Blanding's would nest earlier than the last week of May, but a May 10 date would make allowance for the three other species of turtles observed in the dunes area (Chelydra serpentina, Chrysemys picta, and Graptemys geographica).

While extensive pine growth would obviously destroy the open sandy areas preferred for nesting, some of the pine appears to be beneficial in providing protection from heat. One adult Emydoidea was found partially burrowed in a row of pines bordering a cropped field where nesting has been observed (on Wayne Hammer's land just south of TNC property). Although Blanding's prefer nesting at dusk or later, they often rest during their day-time searches for nesting sites.

### ROAD-KILLS

(3) adult Emydoidea were counted dead on WCR 84 during May-June, 1987. The boat-trailer traffic increased greatly on weekends. Wayne Hammer ( who has lived in the area for 20 years) commented that with newer homes built on Prichard Lake, vehicle traffic has substantially increased. Also, the sport dog trials held in early June (in the McCarthy Lake area) brings additional traffic at a time when many Blanding's are out crossing WCR 84. The possibility of moving the trials to an earlier date or to another location should be considered. Several people have brought up the suggestion of turtle Xing signs , especially between the TNC driveway and E. Kelly's farm. As can be seen by Table B, 21 out of 57 hatchlings found were killed. In many cases, the hatchlings would have already come  $\frac{1}{2}$  a mile over dunes only to be killed on the road. Judging from the numerous mammal raided Emydoidea nests, only a small percent of nests come to hatching. The road traffic appears to take a great toll on those which do hatch. Two people driving slowly in opposite directions along WCR 84 could pick up many hatchlings just as they come onto the road. Bruce Brecke mentioned to me that this method

was very effective in his ( along with Mike Pappas) study in the area 10 years ago. Most effective, however, was the use of a drift fence which ideally would be placed along the east side of WCR 84. However, obviously intensive monitoring would be required over probably a 2 week period. With a small group of volunteers, it might be possible to save many more hatchlings from the human-induced mortality.

#### NESTING ON PRIVATE LANDS

While Emydoidea were found nesting on the rims of the dunes in section 7 (T109N--ALMA QUAD) of the TNC property and numerous raided Emydoidea nests were also located there, it is apparent that many Emydoidea cross private lands to nest on private lands. The attached topo map shows Emydoidea utilizing rims of sand dunes and cropped fields owned by M. Burmeister, W. Hammer, and K. Dubray, in section 18 of (T109N) of WEAVER QUAD. In addition to the collecting of Emydoidea within the fields east of WCR84, numerous Emydoidea tracks were seen crisscrossing throughout the plowed fields. The turtles were using land cultivated with melons and soybeans as well as the uncultivated dunes nearby. The effect of farming on nest success is unclear at this time. Several residents, especially Wayne Hammer, are very concerned with the Blanding's welfare and provide excellent observations on Blanding's movements. It might be helpful to prepare a short fact sheet about the Blanding's population to distribute to residents of the area; some of the landowners might come forward with further observations and suggestions of ways to protect the turtle.

#### FUTURE STUDY

Continued mark and recapture studies would help determine if the Blanding's are faithful to specific nesting areas, and also the size of the population. It would also be of great interest to sample the McCarthy Lake area--to see what kind of a population of Blanding's might be there and whether those Blandings also move east to the dunes east of WCR 84.

Another emphasis should be on searching for juvenile age classes in an attempt to assess hatchling survival. Bruce Brecke and Mike Pappas were most helpful in pointing out areas where they had located juvenile turtles 10-12 years ago. These same ponds should be sampled for juvenile Blanding's in May.

ADULT Emydoidea blandingi collected at Weaver Dunes, Mn., May, 1987-June, 1987

TURTLE NUMBER	SEX	MAXIMUM (mm)		DATE OF COLLECTION	GENERAL	
		CARAPACE	PLASTRON		LOCATION	PREVIOUSLY MARKED
1	F	163	159	5/4/87	Small pond, s.e. of WCR 84 (section 18)	NO
2	M	213	201	5/4/87	"	NO
1A	M	212	196	6/20/87	E. Kelly's pond (section 18)	YES
3	F	205	201	5/4/87	Small pond, s.e. of WCR 84 bridge (section 18)	NO
4	F	177	172	5/4/87	"	NO
4A	F	193	189	6/11/87	Crossing WCR 84, near telephone pole #69	YES
5	F	188	185	5/11/87	Snake Creek inlet, DNR property (section 18)	NO
6	M	206	192	5/11/87	"	NO
7	F	162	159	5/11/87	Small pond, s.e. of WCR 84 bridge (section 18)	NO
7A	F	199	192	6/5/87	Crossing WCR 84, near pole #69	YES
8	F (?)	154	147	5/27/87	Edge of Snake Creek (section 18)	NO
9	M	203	192	5/27/87	"	NO
6A	F	183	184	6/20/87	Kelly's pond (section 18)	YES
10	F	196	191	5/27/87	Snake Creek inlet, DNR property (section 18)	NO

TURTLE NUMBER	SEX	MAXIMUM CARAPACE (mm)	MAXIMUM FLASTRON (mm)	DATE OF COLLECTION	GENERAL LOCATION	PREVIOUSLY MARKED
10A	F	221	220	6/3/87	Crossing Prichard Rd. into TNC	YES
11	F	226	216	6/3/87	Crossing Prichard Rd.	NO
12	F	196	195	6/3/87	Crossing cropped field adjacent to Prichard Rd.	NO
13	F	185	182	6/3/87	Crossing WCR 84, just south of TNC driveway	NO
14	F	191	185	6/5/87	Crossing WCR 84 near Kelly farm	NO
15	F	219	210	5/31/87	Crossing HWY 61, north-bound	NO
20	F	198	201	5/27/87	Snake Creek inlet, DNR property (section 18)	NO
21	F	183	173	5/27/87	Crossing tilled field, across from Kelly's farm	NO
22	F	187	182	5/27/87	Edge of tilled field, across from Kelly's farm	NO
23	F	204	193	5/31/87	Crossing WCR 84, just north of TNC driveway	NO
24	F	208	203	5/31/87	Crossing Prichard Rd.	NO
25	F	226	214	5/31/87	Sitting on edge of Prichard Rd.	NO
30	F	222	217	5/27/87	Snake Creek inlet, DNR property (section 18)	NO
31	F	183	180	6/5/87	Crossing WCR 84	NO
31A	F	182	178	6/20/87	Kelly's pond (section 18)	YES
32	F	202	200	6/5/87	Crossing WCR 84, near Kelly's farm	NO

TURTLE NUMBER	SEX	MAXIMUM CARAPACE (mm)		MAXIMUM PLASTRON (mm)	DATE OF COLLECTION	GENERAL LOCATION		PREVIOUSLY MARKED
		MAXIMUM CARAPACE (mm)	MAXIMUM PLASTRON (mm)			GENERAL LOCATION	PREVIOUSLY MARKED	
32A	F	196	191	191	6/11/87	DNR driveway, section 18	YES	
33	F	188	185	185	6/5/87	Crossing WCR 84, just north of TNC driveway	NO	
34	F	190	186	186	6/5/87	Crossing WCR 84, just south of TNC driveway	NO	
35	F	188	181	181	6/5/87	Crossing cropped field, north side of Prichard Rd.	NO	
40	F (?)	161	151	151	5/27/87	Snake Creek inlet, DNR property (section 18)	NO	
40A	F	201	196	196	6/20/87	Kelly's pond, section 18	YES	
41	F	198	188	188	6/5/87	Prichard Rd.	NO	
42	F	196	194	194	6/5/87	Crossing Prichard Rd.	NO	
43	F	195	193	193	6/11/87	Crossing WCR 84, north of TNC driveway	NO	
44	F	196	193	193	6/11/87	Crossing hayed field, west of WCR 84	NO	
45	F	202	198	198	6/11/87	Crossing WCR 84, just north of DNR driveway (section 18)	NO	
50	F	189	185	185	6/11/87	Sandy driveway, just north of DNR driveway, section 18	NO	
51	F	190	185	185	6/11/87	Crossing truck garden, east side of WCR 84, section 18	NO	
52	F	211	207	207	6/11/87	Crossing truck garden, east side of WCR 84, section 18	NO	
53	F	188	182	182	6/20/87	Kelly's pond (section 18)	NO	
54	M	208	197	197	6/20/87	"	NO	
55	M	208	196	196	6/20/87	"	NO	
80A	M	197	190	190	6/20/87	"	YES	

Adult Emydoidea blandingi collected at Weaver Dunes, MN., May, 1987-June, 1987

GENERAL

PREVIOUSLY MARKED

TURTLE NUMBER	SEX	MAXIMUM CARAPACE (mm)	MAXIMUM PLASTRON (mm)	DATE OF COLLECTION	LOCATION	PREVIOUSLY MARKED
100	F	201	194	6/20/87	Kelly's pond, section 18	NO
111A	F	197	195	6/11/87	Hammer's cropped field, section 18	YES
300A	F	----- Not measured because of poor light	-----	6/11/87	Sitting on rim of dune, TNC property	YES
400A	F	216	206	5/31/87	Crossing cropped field, west of Prichard Rd.	YES
440A	F	209	197	5/27/87	Tilled field, across from Kelly's farm	YES
460A	F(?)	153	153	6/20/87	Kelly's pond, section 18	YES
700A	F	203	202	6/6/87	Crossing truck garden, east side of WCR 84	YES

Total collected= 55

F= 48 M= 7

Range= 153-226

Range= 147-220

Dates found on land= 5/27/87-6/11/87

# found on land= 32

Total marked by Pappas & Brecke= 15

KELLOGG-WEAVER DUNES EMYDOIDEA STUDY: AUGUST-SEPTEMBER, 1987

DATE	NUMBER OF LIVE HATCHLINGS FOUND	NUMBER OF DEAD HATCHLINGS FOUND
August 16, 1987 *	8	3
August 19, 1987	1	3
August 23, 1987	0	1
August 31, 1987	9	11
September 6, 1987 **	12	2
September 7, 1987 **	5	1
September 14, 1987	1	0
TOTAL	<u>36</u>	<u>21</u>

\* Includes observations by John Moriarity

\*\* Includes observations by Bruce Brecke