REPORT
to the
KANSAS FISH AND GAME COMMISSION
on the
DISTRIBUTION, ABUNDANCE, AND HABITAT
PREFERENCE OF THE ALLIGATOR SNAPPING TURTLE
IN SOUTHEASTERN KANSAS
Kansas Fish and Game Contract #50 - 1984-85

by

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INTRODUCTION

The objectives of this field work were to identify new localities, define habitat preference, and attempt to determine abundance of the alligator snapping turtle (Macrolemys temminckii) in Kansas. This turtle has been previously recorded from two specific Kansas localities, one each in Cowley and Lyon counties (Collins, 1982). This is the only reptile officially designated by the State of Kansas as threatened. In addition, observation were to be made on other species of amphibians and reptiles as encountered.

METHODS

Field work was carried out from 14 August through 3 September 1984 along the lower Arkansas (Grouse Creek), Neosho, and Verdigris Rivers, and from 14 September through 16 September 1984 on the Neosho River. A total of 24 days were spent in the field, resulting in 2377 miles being driven, and 11 voucher specimens were collected for documentation. Field notes were kept for every day spent in the field. Specimens were collected by live trap, dip net, seine, and by hand. A total of ten live traps (a modified version of KPCC design) and six-funnel traps were used in this study. Traps were baited with either carp, liver, or roadkill rabbits. Traps were tended daily for rebaiting and removal of captured specimens. Main River channels and large streams were chosen as study sites for two reasons: 1) ease of access and 2) most viable source of deep water and undercut banks which is the preferred habitat of this turtle in other portions of its range. Traps were placed just upstream from such undercut and drift piles in deep water, with the mouth of the trap facing downstream.

MAIN SPECIES ACCOUNT

The following species account gives a history of previous Kansas data on this turtle, and summarizes results of my field work and presents conclusions and recommendations for the turtle studied.

Alligator Snapping Turtle (Macrolemys temminckii)

History of Kansas. Gragin (1886) was the first to publish on the
presence of *Macrolemys temminckii* in Kansas

"Professor Snow adds to the Kansas fauna the Mississippi Snapper *Macrochelys lacertina*, in the following note upon the largest turtle known to have been captured in the State: 'Captured by William Butler, May 1885, two miles above Erie, in the Neosho River. Weight 59 pounds, length forty-seven and one half inches. Length of carapace twenty inches, breadth of same sixteen and one half inches, -of narrowest part of neck fifteen inches.'

By his mention of its size we are reminded of the skull in the Washburn cabinet, presented by Dr. Newton, of a 34 pound turtle taken from the Neosho at Ossego, a year since. Seeing it to be a chelydroid, it was placed in the cabinet, to be examined later. With this interesting hint of Professor Snow, as 'motive power,' the director of the survey has now studied the specimen, which is *Macrochelys lacertina*, beyond a doubt."

The above localities are in Neosho and Labette counties respectively.

Thirty years passed without further mention of records of this species in Kansas. Householder (1917), in his unpublished thesis on lizards and turtles in Kansas, reported the shells of a 65 pound alligator snapping turtle with a sixteen inch carapace taken at Baxter Springs, Cherokee County, in 1895, from the Spring River, and another taken in 1897 with a twenty-one inch carapace and weight of 105 pounds from the Neosho River at Rocky Ford, Cherokee County. He states that he had personally taken this turtle at three different localities in the state—one in the Neosho River in the summer of 1911 at Neosho Park (Parsons), Labette County; a second in the Walnut River at Augusta, Butler County, in 1912; and a third in the Cottonwood River at Florence, Marion County, in the summer of 1912. None of the three specimens mentioned are extant. The presence of the Labette County specimen in the Neosho River would not be suspect, given its close proximity to earlier reports. The Butler and Marion County localities are plausible also because *Macrolemys* is known to migrate upstream Wickham (1922). Thirty years again passed before this turtle received attention in the literature. Hill and Smith (1947) reported an alligator snapping turtle weighing 402 pounds being taken one-half mile east of Chetopa in the Neosho River in Cherokee County about 1937. They also stated that one other specimen was taken at the same locality, but the history of both turtles is unknown. The size of the 402 pound example has been discredited by Pritchard (1979) and, to date, the heaviest authenticated weight for this species is 276 pounds (Minton and Minton, 1973). Hill and Smith (1947) also stated that the late Claude Hibbard had seen a photograph of this species in a Wichita newspaper. It had evidently been dredged from a canal off the Arkansas River in Wichita, Sedgwick County.

Legler (1960) recorded a specimen from Timber Creek, between Atlanta and Burden, in Cowley County. The specimen (CU 46902) has a carapace length of twenty and one-eight inches (510mm) and was collected in July 1958. Clarke (1981) records a specimen (ISU 2237) that was collected 21 February 1907 on the banks of the Cottonwood River, at Emporia, Lyon County, (Sec. 22, R11E, T19S). It is an adult male which weighed 54 pounds when found dead. The specimen has a carapace length of twenty-two inches (558mm). Capron (1975) made the first courtship observation of this turtle.
in Kansas. In 1973 he observed breeding during late May in the Arkansas River at Oxford, Sumner County, involving a twenty inch male and an eighteen inch female. He also observed a twelve inch specimen evidently killed by fishermen in late May of the same year near this locality. In addition, Capron observed another large adult in the shallow of the river at this locality in August. He states that he had an eight inch individual in his possession, captured the following spring, but it escaped. Peter Gray (pers. com. 1983) reported an adult alligator snapping turtle which was collected below the dam of Toronto Reservoir (Verdigris River) in Woodson County. The specimen had a shell length of ca. twenty inches but nothing is known of the disposition of the specimen.

RESULTS

Locality 1: Grouse Creek, Cowley County (Sec. 8, R5E, T3S). A total of 5.5 days were spent sampling with 8 live traps, plus a trotline and eight limelines. Two common snapping turtles were caught on limelines, four red-eared sliders were taken in live traps. False map turtles and spiny softshells were also observed at this locality. No alligator snapping turtles were collected or observed.

Locality 2: Verdigris River, Wilson County, (Sec. 31, R16E, T2S). A total of 5 days were spent sampling with ten live traps, six funnel traps, a trotline, and eight limelines. One juvenile common snapping turtle was taken in a funnel trap and a large adult was observed basking. Two Missouri cooters were captured, one each in a live trap and funnel trap. This was the only locality where the species was recorded. Two painted turtles were captured, one each in a live trap and funnel trap. This species is normally considered a pond or prairie stream inhabitant, hence it was unusual to record this turtle from the main stream of the Verdigris River. The red-eared slider was the most common species captured; we took eleven in funnel traps, two in live traps, and one by hand. A single adult female Mississippi map turtle was captured in a funnel trap; this is a rare species in Kansas and represents the only individual of this turtle either observed or collected during the study. False map turtles were frequently observed, but only seven were captured, four in funnel traps and three by hand. Although only two spiny softshells were taken in funnel traps, this species was observed to be quite abundant (as many as 15 individuals in one observation period) in and around gravel bars and riffles adjacent to our sampling area. One stinkpot turtle was observed basking on a log in the river, adjacent to a backwater slough. This species is known to occur in rivers of southeast Kansas, yet we were unable to capture any. No alligator snapping turtles were collected or observed at this locality.

Locality 3: Neosho River, Neosho County, (Sec. 32, R21E, T29S). A total of three sampling days with ten live traps and six funnel traps yielded the following results. One large adult common snapping turtle was observed basking on a log in the river. The western painted turtle was observed in refuge pools adjacent to the river, yet none were observed or collected in the river proper. Again the red-eared slider proved to be the ubiquitous species with twenty captures, nine in live traps and thirteen in funnel traps. False map turtles were common, with seven captures in funnel traps of which four were removed from one trap after being untended for twelve days. Only one adult spiny softshell was captured in a live trap, although several individuals were observed basking on the banks and on log
piles in the river. This particular stretch of river, being located between two known localities of the alligator snapping turtle, failed to yield any observation of specimens of this species. However, during the museum specimen survey for this study, I was fortunate to find the skull of a specimen which was mentioned by Cragin (1886). It is the skull and mandible of a 34 pound turtle taken from the Neosho River at Oswego, Labette County. This specimen represents the third known voucher specimen of Macrolemys from Kansas, the first specimen from Labette County, and the earliest recorded occurrence of this turtle in Kansas. It is now deposited in the Museum of Natural History at the University of Kansas.

SUMMARY

This study failed to produce any wild caught specimens of the alligator snapping turtle, but this does not preclude its continued existence in the state. Ample habitat still exists in the rivers sampled. My lack of success in securing Macrolemys is puzzling. Possibly my trapping methods were inappropriate. For example, we captured no common snapping turtles in our live traps. This particular design of trap was proven to be effective in capturing this species in ponds. If we had captured adult common snapping turtles in our live traps, it would have shown that a comparably sized alligator snapping turtle could have been trapped. Several species of turtles were captured in our live traps, but they were able to pass through the 6"x6" wire mesh of the trap. Only one turtle was caught that was too large to pass through the wire mesh. It was a adult female Missouri cooter with a carapace length of 9 3/4 inches (250mm). Other methods of trapping have been used (ie., Duke nets) in other areas, but these proved to be too costly and bulky for the purpose of this study.

Historically, this species has been infrequently reported from our rivers, suggesting it to be uncommon if not rare to begin with. Plotted localities (Appendix D) show the potential range to extend well into east central Kansas. Yet this range may reflect upstream migrants which are widely scattered along the course of many hundreds of miles of rivers and streams in southeastern Kansas. If this turtle has a low-density population, the probability of securing live specimens would be negligible with greatly extending trapping time.

This study did bring to light the Cragin specimen, thus increasing the total number of voucher specimens from the Kansas by a third. In addition, three county voucher specimens and the eighth known specimen of the Mississippi map turtle from Kansas were captured. In future attempts at surveying the Kansas population of Macrolemys, investigators are encouraged to adopt different approaches.

RECOMMENDATIONS

I feel that the alligator snapping turtle should be maintained at threatened species status, owing to its probable low population density and unknown reproductive potential within the state. The effect on natural dispersal of this turtle by the many small utility dams and major impoundments on the rivers in the study areas is unknown. These dams could possibly impede upstream migration and concentrate individuals just below
them. With this in mind, future projects to secure live individuals should concentrate on placement of traps below these dams. Also, different types of traps (i.e., file nets), in conjunction with the trap design I used, could possibly increase chances of success by funnelling the turtles from a larger area into the traps. To insure the continued optimal habitat for this species in Kansas, our rivers and streams should be kept free flowing, without further impoundments being developed in the drainages where this species occurs. Kansas Fish and Game personnel should be alert to secure specimens of exceptionally large turtles (any with uppershells greater than 18 inch straight line) taken from the Arkansas, Neosho, and Verdigris river drainages. These could prove to be Macroclemys. Even small creeks (i.e., Timber Creek, Cowley County specimen) may harbor this species as it moves upstream.

ACKNOWLEDGMENTS

This study would not have been attempted without the aid of many individuals. First, I wish to thank Joseph T. Collins, Museum of Natural History, the University of Kansas (KU), who encouraged me to undertake this study and gave unstintingly of his time and resources to ensure my readiness for the field. In addition, for his unparalleled abilities in the field and his enthusiasm, I am most grateful to Martin B. Capron (Oxford). For innumerable courtesies and assistance I thank, Dan and Steve Adams, Robert T. Davis, Evie Green, Kever and Karla Irwin, Jay Oyler, and Pat Wempe. To Frank Cross (KU) I am deeply indebted for the use of equipment in his care. For their hospitality and assistance in the field I thank Mr. and Mrs. Lawrence Capron, Larry Capron, John Fraser, and Chris Sherwood. To Robert Hartmann, Bill Havachick, Marvin Schwilling, and Dean Smith of the Kansas Fish and Game Commission, I extend my thanks for their efforts on my behalf. To Galen Gordon many thanks are due for his time, the use of his vehicle, and his valuable assistance. Thanks to Robert F. Clarke (ESU) for allowing me to examine specimens in his care. To Don Boyer (KU) a special thanks for the gift of a valuable specimen. For the privileged use of her exquisite photography I thank Suzanne Collins. To Kathryn R. Ash a special thanks for her help in so many ways. And last but not least, to my parents, for their patience, generosity, and understanding over the course of the years, go my heartfelt thanks.

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Map 1. A map of the state of Kansas. Solid dots show the localities of the three sites investigated during this study.
Map 2. A map of the state of Kansas showing the potential and actual range of the alligator snapping turtle (Macrolemys temminckii). Solid dots represent reports not verified by voucher specimens. Solid dots with stars are localities for which voucher specimens are available.
Figure 1. An alligator snapping turtle (Macrolemys temminckii) shell (KU 46902) found between Atlanta and Burden along Timber Creek, Cowley County, in July 1958; shell length 20 1/8 inches (510mm). Photograph by Joseph T. Collins.

Figure 2. An alligator snapping turtle (Macrolemys temminckii) shell and skull (ESU 2237) found along the Cottonwood River at Emporia, Lyon County, on 21 February 1967; shell length 22 inches (558mm). Photograph by Joseph T. Collins.
Figure 3. A view along Timber Creek between Atlanta and Burden, Cowley County, Kansas, where a single alligator snapping turtle (KU 46902) was found in 1958.

Figure 4. A view of the Cottonwood River (Sec 22, T19S, R11E) at Emporia, Lyon County, Kansas. A single specimen (ESU 2237) was found just below the dam at this site in 1967.
Figure 5. Skull of an alligator snapping turtle (KU 197329) taken along the Neosho River at Oswego in 1886. This is the first specimen of this turtle known from Kansas, and was reported by Cragin (1886). The skull was discovered at Hashburn University, Topeka, by the author during the course of this study. Photograph by Joseph T. Collins.
Figure 6. Vergigris River, showing the habitat at Locality 2 that was visited and worked during the course of this study.

Figure 7. Neosho River, showing the habitat at Locality 3 that was visited and worked during the course of this study.
Figure 8. John Fraser and the author checking a large live trap on the Verdigris River during the study. Live trap dimensions are 3x3x5 feet.

Figure 9. Martin B. Capron removing red-eared sliders (Chrysemys scripta elegans) from a funnel trap on the Verdigris River during the study.
Table 1: Number of each species either collected or observed at all three study sites.

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<th>Loc. 2</th>
<th>Loc. 3</th>
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<td>4</td>
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<td>2</td>
<td>0</td>
<td>2</td>
</tr>
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<td>2</td>
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<td>Chrysemys scripta</td>
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<td>0</td>
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</tr>
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<td>10</td>
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<td>Trionyx spiniferus</td>
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<td>1</td>
<td>3</td>
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<tr>
<td>Total</td>
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<td>30</td>
<td>24</td>
<td>60</td>
</tr>
</tbody>
</table>

1 Species observed, but not trapped.
Table 2: Sampling methods showing number of specimens of each species of turtle collected at all three sites during this study.

<table>
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<th>Species</th>
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<th>Funnel trap</th>
<th>Limbline</th>
<th>Hand</th>
<th>Total</th>
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<td>Chrysemys scripta</td>
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<td>1</td>
<td>38</td>
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<tr>
<td>Graptemys kohni</td>
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<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Graptemys pseudo-geographica</td>
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<td>7</td>
<td>0</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Trionyx spiniferus</td>
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<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>35</strong></td>
<td><strong>2</strong></td>
<td><strong>5</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>
Table 3: Number of specimens of each species of turtle taken in each type of trap at all three sites during this study.

<table>
<thead>
<tr>
<th>Species</th>
<th>Live trap</th>
<th>Funnel trap</th>
</tr>
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<tr>
<td>Chelydra serpentina</td>
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<td>1</td>
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<tr>
<td>Chrysemys concinna</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Chrysemys picta</td>
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<td>1</td>
</tr>
<tr>
<td>Chrysemys scripta</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>Graptemys kohni</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Graptemys pseudogeographica</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Trionyx spiniferus</td>
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<td>2</td>
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</table>

Total: 18, 35
APPENDIX A

Voucher specimens collected during fieldwork under Kansas Fish and Game Contract # 50 — 1984/85. KU = deposited in the collections of the Museum of Natural History, University of Kansas, Lawrence, 66045.

Fishes

2 Golden Redhorse (Moxostoma erythrum) Cowley County (KU 21034)
5 Freckled Madtom (Noturus nocturnus) Wilson County (KU 21036)

Reptiles

Common Snapping Turtle (Chelydra serpentina). Wilson County (KU 199734).
Western River Cooter (Chrysemys concinna). Wilson County (KU 199735).
Mississippi Map Turtle (Graptemys kohii). Wilson County (KU 199736).
False Map Turtle (Graptemys pseudogeographica). Neosho County (KU 199737).
APPENDIX B

During this study several other species of turtle were collected, one of them is rare in Kansas and the others represent the first voucher specimens for certain counties in southeastern Kansas.

Common Snapping Turtle (Chelydra serpentina). A single specimen (KU 199734) was collected in Wilson County (see field note — Appendix E) and represents the first record for the county (Collins, 1982).

Western River Cooter (Chrysemys concinna). A single specimen (KU 199735) was collected in Wilson County (see field notes — Appendix E) and represents the first record for the county (Collins, 1982).

Mississippi Map Turtle (Graptemys kohni). A single specimen (KU 199736) was collected in Wilson County (see field notes — Appendix E), it is the first example collected in 25 years and is the eighth known specimen from Kansas.

False Map Turtle (Graptemys pseudograptemys). A single specimen (KU 199737) was collected in Noesho County (see field notes — Appendix E) and represents the first record for the county (Collins, 1982).
APPENDIX C

Voucher specimens of the alligator snapping turtle (*Macrolemys temminckii*) available from Kansas. KU = Museum of Natural History, University of Kansas, Lawrence; ESU = Emporia State University, Emporia, Kansas.

Cowley County (1 specimen)

R. Lewis

Lyon County (1 specimen)

ESU 2237 - Sec. 22, T19S, R11E, Cottonwood River. 21 February 1967.
R. Christie and J. M. McDaniel

Labette County (1 specimen)

KU 197329 - Oswego, Neosho River. 1856. W.S. Newton
APPENDIX D

Tues 14. Aug 1964

Left Topeka at 7:00 a.m. for Creston, arrived uneventfully at 11:31 a.m. Met up with Marty Capron, he will assist me in all phases of the field work. The purpose of this field work is to attempt to get snapping turtles and alligator snapping turtles that are for a new lake contract. Spent first day working on traps, setting of body, and purchasing last minute items.

Wed 15. Aug 1964

Spent morning finishing details on traps and working on trap. 20 traps, went fishing for sunfish at noon for boating out. Picked up to load traps at 3:30 p.m. We hope to get them set by this evening in conjunction with limbline sets. Took photo's et. seq. at 4:45 p.m. Near South and East of Ark City. Observed the following.

Ks. : Cowley Co. : Cresse Creek : Sec. 5 RSE; 7354., also Sec. 6 NW4, N4.

Graptemys pseudogeographica – Semi Bridge
Trionyx splendens – “ ”

27
15 Aug 1984

10:00 PM
Have just returned to access point after placing 3 traps and 16 limblines in Grouse Creek. From setting the 3 traps it appears that more styrofoam is needed for the door return. The channel is good and deep, with riffles of gravel bars separating the pools. We will run the lines at midnite and again at sunrise.

Thurs 16 Aug 1984

11:36 AM
Caught at 12 lb. Flathead and 5 lb. channel trout before midnite last night. Checked lines this morning nothing but one Cheydra on tretline. Returned to Oxford for shower, supplies, and sleep. Arrived back at Grouse Creek at ca 5:30 PM, added styrofoam to doors and am setting 5 more traps, for a total of 8 traps set. Set lines then returned to camp at Jet of Grouse and Otter Creeks. Went snake hunting at 10:15 PM using headlamps along rocky slopes, got the following.

Ks.: Cowley Co.: Sec. 8, RSE, T35S

Cheydra serpenina - on tretline; dead sunfish but Nereid synhrogaester - on drift pile 7:30 PM

2 Agkistrodon contortrix - actively baying 10:30 PM along old RR cut
Fri 17 Aug 1964

8:30 AM

Fish tally:
2 Flathead 12 lbs.
4 channel 1.5 lb.
Longnose gar 5-8 lb.

Ran lines this morning, decided to leave traps unchecked until this afternoon, will return to Chico by noon.

Captured:
K.S.: Cowley Co. : Sec. E, R5E, T3S S

Chelydra serpentina - on Limbline
Agkistrodon contortrix - active on hillside 10:45 AM

Sat 18 Aug 1964

11:00 AM

Ran trips and lines this morning.

K.S. : Cowley Co. : Sec. E, R5E, T3S S

Chrysemys sexpuncta - 3 adults in traps
Acris crepitans - active on bank

Reserved the following:

K.S. : Summer Co. : 1 mi. S of Chico 4 mi. Last Chico

JTC 1731 Arizona elegans - record length, 46 in. : 17 June 1964
Sec No. coll. M. Capron
Sun 19 Aug 1984

Checked traps at 5:30 PM, nothing in them but some fish, carp, crappie, channel cat. Observed the following

**Ks. Cowley Co.: Sec. E; RSE; T35S; Grease Creek**

*Acris crepitans* - active along banks
*Nerodia sipedon* - active along riffle
*Grypnemys pseudogeographica* - basking on drift pile
*Crotaphytus collaris* - under rock at night
*Aegisthodon constrictor* - active at night on hillside

Mon 20 Aug 1984

Fish tally
- 2 Flathead cat.  Elbs
- 4 channels
- 3 5 lbs.
- 1 1.5 lbs.

Nothing in traps today, rebaited this evening with carp. We are pulling out tomorrow for the Verdigris, hopefully we will have better luck there.

**Ks. Cowley Co.: Sec. E; RSE; T35S**

*Rana blairi* - along stream
*Acis crepitans* - **"**
*Crotaphytus collaris* - DCR
*Terrapene ornata* - AOR
*Lacustris flagellum* - DCR
*Chelydra serpentina* - shell on bank
*Chrysemys scripta* - floating on top of trap
Mon 20 Aug 1964

Observed some interesting fish today while sieving for bait fish in isolated pools along Cotton Cr.

Largemouth & spotted bass
Sunfish - orange-spotted and longear
black striped topminnow
KU
shorthead redhorse
mesquite fish
Brooks's silverside
stoneroller
Notropis sp.

Tues 21 Aug 1964

4lb channel
No fish on lines, picked up traps and loaded up. Went and sampled Cotton Creek also. Left Silverdale at noon and arrived at John Fraser's in Fredonia at 3:15 PM.

KS: Cowley Co.: Sec. E, RSE, T35S

Chrysemys scripta - sub-adult in trip
KU
Moxostoma microlepidotum - County record
erythromystus - 2 specimens
Tues. 21 Aug 1964

After supper John took us to a point on the Verdigris River east of town. There are many road crossings during the summer, but after a half inch rain we also did some setting below the power dam on the Fall River at Frederick.

Ks. Wilson Co.: Sec. 22, R14E, T19N, S:

Linear & ACR

Mild. with 5 color - ACR

 הצריף תוקס - ACR

Bass aequicarinus - ACR

Tigl. bluets - ACR

(Lit. 1970a)

SCC 1732

Cheyenne snail - in river, County Record

Nicola slimps - along bank

Wed. 22 Aug 1964

We had heavy rains this morning ca. 2 inches which makes getting to the point in point rather difficult until the road dries, so we will check out the Alcona and Neodesha dams. Also work on some funnel traps and do some shopping. Checked out Alcona and Neodesha, there were lots of Graellius and Chironomus, snails at Alcona so we set funnel traps there tonight, also set a funnel trap below the dam here in Frederick in hopes of getting Neodesha. With luck we can get all of the Verdigris tomorrow with the Chironomus traps and set our lines.
Wed 22 Aug 1984

We observed the following today.

Heliothis, caledonia - active in dry wash, E. Phoenix

Eumenes fasciatus - active around stone work of dam, Alamo

Graptodyspys sp. - in river at Alamo

Chrysomus consolida - " " "

Chrysomus piceus - in pond just S. Alamo

Ulyca versicolor - ACA at night

10:00AM We're going to go try our hand at fishing for carp to bait the traps with.

Thur 23 Aug 1984

Checked trap below mill dam at Fredonia ca. 9:00AM found the following.

Graptodyspys proximus - active on bank

Graptodyspys pseudogeographica - in funnel trap, near bit

We loaded up and set all ten Microdon traps from 11:30AM - 5:00PM, in Verdigris River, Sec. 31, T2S, R16E. Observed the following.
Thur 23 Aug 1964

Ks. Wilson Co.: Sec. 31, R16E, T24S, Veedigus River
KJI, MBC
Chrysemyx concinna - hatching on legs in river
Chrysemyx scripta - " " " "
Graptemys sp. - " " " "
MBC 2 Sternotherus cedarius - " " " "
1 Nerodia sipedon - " " " "
Rana catesbeiana - on bank

Went to Altona to check tunnel traps and get bait. Caught or observed the following:

Ks. Wilson Co.: Sec. 16, R16E, T24S: Altona, Veedigus.
(KU-19735) KJI, MBC
JTC 1733 Chrysemyx concinna - in trap, county record
(KU-19736) JTC 1735 Chrysemyx scripta - " "
Graptemys kohls - " 1st specimen in 20 yrs
Trionyx spiniferus - " "
Rana catesbeiana - in some haul
Graptemys pseudogeographica - active below drain

Fri 24 Aug 1964

We plan on setting all limb lines and tunnel traps today along the Veedigus R. Went fishing at Altona for carp, got 14 of them. Then went to our locality and set 5 tunnel traps, baited 10 more traps with carp and placed limb lines. Returned to
Fri 24 Aug 1984

Fredonia and scouted more crayfish. We plan on
baiting limblines and setting a trotline tonight.
Collected and observed the following today:

**Ks. : Wilson Co. : Sec. 31, R16E, T2 & S; Verdigis R.**
KJI, MBX, KRA

*Not* a crayfish

- *Nerodia erythrogaster - on log*
- *Graptemys pseudogeographica - thirty caught from bank*
- *Graptemys sp. - basking*
- *Chrysemys sp. -*
- *Rana klairi - on log in river*

Sat 25 Aug 1984

- ca. 20lb flathead
- ca. 1.5lb channel

**Ks. : Wilson Co. : Sec. 31, R16E, T2 & S; Verdigis R.**
KJI, MBX, KRA

- *Chrysemys scripta - in funnel trap*
- *Chrysemys picta - in iTunes trap*
- *large 9*
- *Chrysemys constricta - " " "*
- *Rana catesbeiana - on bank*
- *Trionyx spumiferus - observed from bridge, on rattle*
Sun 26 Aug 1984

Went fishing at Altona, got 6 fish, then ran traps, found the following:

Ks: Wilson Co: Sec 31, R16E, T28S, Verdigris R.
KJI, MBC, KRA, JCF

1 Chrysemys picta - in funnel trap
5 Chrysemys scripta - 3 in funnel, 1 in trap, 1 by hand
80 Graptemys pseudogeographica - 4 in funnel, 2 by hand
Chelydra serpentina - adult, basking, ca. 2 meters above, near
Neosho erythrogaster - DCR 9:00 AM, 3 mi E Frederick

We plan on running lines tonight.

12:05 PM Mon 27 Aug 1984

Ran lines this morning nothing but one
1.5 lb channel cat, the fish were well fed last night. Checked
all funnel traps and one place trap found the following.

Ks: Wilson Co: Sec 31, R16E, T28S
KJI, MBC, KRA

3 Chrysemys scripta - 2 in funnel traps, 1 in trap
Chelydra serpentina - juv. in funnel trap
8 Graptemys pseudogeographica - by dip net

We plan on bailing up once more today
before moving on to the Neosho R. tomorrow.

Ks: Wilson Co: 5 mi W of Ceyville
Mon 27 Aug 1964
KJI, KRA
Chamaesyce aestivus - DCR

Tue 28 Aug 1964

Pulled in all lines and traps today, will move on to the Kooshe first thing in the morning. Found the following today:

Ks. Wilson Co.: Sec. 31, R16E, T26S
KJI, MBC, JCF
Chrysogonum scripta - in funnel trap
Graptoveria pseudoeuphorbia - " " "
Tricyrtis spathulata - " " "

Wed 29 Aug 1964

5:00 PM

Truck would not start had to find a jump.
Left Eideonia at 9:15 AM. Arrived St. Paul 10:15 AM after one stop to release unneeded turtles. Drive around refuge looking for area manager until 11:30 AM couldn't find anyone, so we unloaded the boat trailer at main building and went to lunch. Picked up some bait and returned to refuge. Found boat ramp, went and got trailer, got stuck on gravel bar at 12:45 PM with truck and trailer in tow. Dean Smith, Area Manager, pulled us out at 3:45 PM. Day shot as far as getting traps set. Set up camp at refuge HG, will start first thing in the morning. Saw the following today.
Wed 29 Aug 1964

Ks.: Neosho Co.: Neosho Watertown Refuge

Rana blairi - along river, under log
Rana catesbeiana - in drying peck on refuge
Acris crepitans - active along river bank
Graptemys sp. - in creek
Chrysemys sp. - in refuge peck
Triturus sp. - in river
Chelydra serpentina - in creek
Thamnophis sirtalis - ACR large adult

We are planning on running lines with Ray Wiechert tonight, a renowned Flathead fishermen. Holder of Kansas record weight.

Ks.: Neosho Co.: Neosho Watertown Refuge, HG

KST, MBC
Elaphe obsoleta - under plywood, 5' nice animal

Thur 30 Aug 1964

Set all funnel + cage traps finished at 3:00 PM. Found the following.

Ks.: Neosho Co.: Sec. 32, R21E, T21S, Neosho.

KST, MBC

Rana blairi - on river bank
Rana catesbeiana -
Thur 30 Aug 1964

Ks.: Neosho Co., Sec. 32, R. 21 E., T. 29 S., Neosho R.
KJI, MBC
Aeris crepitans - on river bank
Chrysemys sp. - basking on logs in river
Graptemys sp. - " " " "
Trionyx sp. - " " " "
Graptemys pseudogeographica - in funnel trap, current
Chelydra serpentina - basking on log, large individual
Chrysemys scripta - in refuge pool

Fri 31 Aug 1964

Pan-traps this morning found the following:

Ks.: Neosho Co., Sec. 32, R. 21 E., T. 29 S.
KJI, MBC
8 Chrysemys scripta - 4 in funnel, 4 in muzzle traps
Graptemys sp. - basking on logs
Cultrifer constrictor - dead in grass at HG

Sat 1 Sept 1964

Went to town for breakfast.

Ks.: Neosho Co., Sec. 19, R. 21 E., T. 29 S., KJI, MBC, KRA
Ophiodrys aestivus - AOR; 6:30 AM
Sat 1 Sept 1984

Ran traps this morning, found the following.

**Ks. Neosho Co. : Sec. 32, R2E, T29S**
**KSI, MBC, KRA; 10:06 AM**
**Chrysemys scripta** - 2 in funnel traps.

**Ks. Neosho Co. : Sec. 32, R2E, T29S**
**KSI, MBC, KRA, JTC, S.Cupp 4:30-5:30 PM**

7 **Chrysemys scripta** - 4 in funnel, 3 in Plano traps
7 **Chrysemys picta** - basking in sun
7 **Graptambly pseudothyris** - 2 in funnel traps
7 **Tritonax spilifer** - in Plano trap

Sun 2 Sept 1984

Ran traps after seeing with Ray Wencheit, S.Cupp, JTC, MBC, KRA, KSI 11:30 AM

**Ks. Neosho Co. : Sec. 32, R2E, T29S**

7 **Nerodia rhombipinnata** - 2 in refuge pool
7 **Nerodia sipedon** - 2 in refuge pool
7 **Chrysemys scripta** - 3 in funnel; 2 in Plano traps

Began to remove traps at 1:00 PM; a
terrestrial rain and lightning storm hit at 1:15 PM.
We abandoned all traps, broke camp at HG, and
headed for Oxford. Left St. Paul at 2:00 PM, arrived
Sun 2 Sept 1984

in Oxford at 7:00 PM after a stop in Fredonia
for specimens and some hot food. Will attempt to
remove traps within next two weeks.

Mon 3 Sept 1984

9:00 AM

We plan on leaving Oxford as soon as we have
repacked, will stop and photograph known localities
at Macoalemys m Kansas along the way.

Ks.: Cowley Co.: Timber Creek; Sec. 3, R6E, T31S

KJF, KRA

Chrysemys sp. - basking on log
Chelydra serpentina - active in water around submerged log

Left Oxford at 1:50 PM arrived in
Topeka at 8:30 PM. Ending mileage 25644; total
mileage, 26600 mi.
Fri 14 Sept 1984

Left Tooele at 8:00 PM with Galen Garden and Kate R. Ash, arrived at the Neosho Wildlife Refuge HQ at ca. 10:30 PM. The purpose of this trip is to retrieve all the traps from the river which were left here two weeks ago.

Sat 15 Sept 1984

We proceeded to retrieve the traps this morning and found the following:

Ks.: Neosho Co.: Sec. 32, RA1E, T29S; Arroyo R.
KWI, KRA, G.G. clear, sunny, cool

5 o'clock
Grapeleaf's pseudogeragnostica - in funnel traps; 4 in one
Chrysemys scripta - 2; 1 ACR; 1 DIT
Chrysemys sp. - 2 remains in funnel trap
Grapeleaf's sp. - 1 remains in funnel trap
Acris crepitans = on river bank
Rana blairi = " "
Rana catesbeiana = " "

8:00
Chrysemys sp. = basking on logs
Grapeleaf's sp. = " "

Triopha splendidus = " "

Ks.: Neosho Co.: Sec. 29, RA1E, T29S; HG

Elaphe obsoleta - 4', under plywood
Sun 16 Sept 1984

Spent morning looking at birds and cruising perimeter roads around refuge. Packed up and left by 3:40 pm, arrived home ca 7:00 pm. Ending mileage: 68113; total miles 377 mi.
Marvin Schoffling  
Speeds Investigations Office  
932 E. 44 St.  
Emporia, KS. 66801  

Dear Marvin,

I have enclosed the original and one copy of my final report to the Commission in fulfillment of the requirements of contract #50.

I would appreciate the forwarding of this report to the Pratt office so they can facilitate final payment to me at the following address:

Kelly J. Irwin, Box 128, Wakarusa, KS., 66576.

It was good to see you at the conference on 2 March. I felt that it was a great success and should be held again in the future.

Thank you again for all of your help on my project; I do appreciate it. I can now concentrate on the HARP poster. If I can be of help in any way in the future please feel free to contact me.

Sincerely, Kelly
APPENDIX D

Tues 14 Aug 1964

left Topeka at 7:00 AM for Exeter, arrived unexpectedly at 11:11 AM. Picked up with Marty Copenh, he will assist me in all phases of the field work. The purpose of this field work is to attempt to use trap method trapping methods that he has helped come contact. Spent last day setting up trips, housing of boy, and purchasing last minute items.

Wed 15 Aug 1964

Spent morning finishing 10 sets on trips and making of trip. 20 trips were set using the sinker at night. Trip is baited with ground nuts 1000x1000. We hope to get them set by this evening in conjunction with the sinker.  Set each trip 000 000  000 000 00000000

Ks.; Cowley Co.; Grimes Creek; Sec 5; R5E; T35S; also Sec 6; R7T; N8W.

Graptomys pseudogmaphica - Semi-bush
Trinca sp. lisusus - " 

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APPENDIX D

Tues 14 Aug 1964
Start Mileage: 736.4

Left Topeka at 7:00 A.M. flush, arrived unsuccessfully at Hill 41A. Met up with Marty Capron, he will assist me in all phases of the field work. The purpose of this field work is to attempt to catch Allegator snapper turtles in Bakers creek. (Pond # 52) Spent rest of day setting up traps, making repairs & oiling, and purchasing last minute items.

Wed 15 Aug 1964

Spent morning finishing details on traps and making of trap 10A inspector for sunfish at noon the alligator hunt. Preparing to load traps at 3:30 P.M. We hope to get them set by this evening in conjunction with the alligator sets. Took pictures of ray & 4 Extant at 4:45 P.M.

New south end east 3/16th mile. Observed the following:

Ks. Cowley Co. Cree Creek Sec 5 R5E
7355, also Sec 6 R5T N8C

Graptemys pseudogeographica - from bridge
Trionyx splintius - " " ""