

# EVALUATION OF CHANGES IN ILLINOIS RIVER TURTLE COMMUNITIES OVER TWO DECADES

## INTERIM REPORT

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To determine how the composition of Illinois River turtle communities has been affected by alternations of the physical and chemical environment of the river over the last two decades, turtle communities of the river were scheduled for sampling in 1997, 1998 and 1999. Results will be compared with collections made on the river in 1975 and 1976 by Don Moll (1977, Ecological investigations in a polluted ecosystem: The central Illinois river and adjacent flood plain lakes, Ph D Dissertation, Illinois State University). Surveys in 1997 and 1998 have now been completed. However, data collection was hampered by high water throughout the entire 1998 trapping season which restricted most sampling to lentic habitats. Results of the 1998 field season and preliminary findings of the project to date are summarized below and in Tables 1 - 5.

In summer 1998, 198 traps were set for 573.5 hours or 113,553 trap hours in four of the six sites sampled by Don Moll in 1975/76. The sites sampled were a backwater of the Illinois River at Havana; Quiver Creek at its merger with Lake Chautauqua, Honey Point at Meredosia Lake, and Spring Lake. Two sites could not be sampled due to high water: the Illinois River at Kingston Mines and Woodford County Conservation Area but two spiny softshell turtles were obtained from fishermen at Kingston Mines. A total of 95 turtles representing five species were collected at these sites (see Tables 1-5): 8 common snapping turtles (Chelydra serpentina), 23 painted turtles (Chrysemys picta), 9 common musk turtles (Sternotherus odoratus), 44 common slider turtles (Trachemys scripta), and 11 spiny softshell turtles (Apalone spinifera).

The results to date suggest two disparities between the present data and Don Moll's findings in 1975/1976 which we will seek to confirm during the 1999 field season.. The first disparity involves the collections from the Illinois River near Kingston Mines (Table 4). In 1975/76 the collection of 35 turtles comprised only two species of map turtles (Graptemys geographica and G. pseudogeographica). Out of 13 turtles collected in 1997 and 1998 at this site, no map turtles were collected or seen. Instead spiny softshell turtles, common slider turtles, and snapping turtles were taken at the site. The second significant difference noted (Table 2) concerned the collections made at Honey Point in Meredosia Lake. Don Moll's collection of 350 turtles in 1975 and 1976 contained 20% (70) false map turtles (Graptemys pseudogeographica). In 1997, no G. pseudogeographica were seen or collected but a half dozen Ouatchita map turtles (G. ouachitensis) were observed basking on logs and one was captured in a hoop net. Again in 1998, a few Ouatchita map turtles were observed basking but none were captured. These observations suggests that Ouatchita map turtles may have replaced false map turtles as the predominate type in this lake over the last two decades.

Steve Paglia's dissertation will be submitted as the final report of this project following its completion after the 1999 field season.

**TABLE 1.** Percentage composition of turtle catch with baited hoop traps and trammel nets from Quiver Creek/Chautauqua Lake in three trapping periods (1975/1976, 1997, 1998). Abbreviations are As - *Aspideretes spinifera*, Cs - *Chelydra serpentina*, Cp - *Chrysemys picta*, Gg - *Graptemys geographica*, Go - *G. ouachitensis*, Gp - *G. pseudogeographica*, So - *Sternotherus odoratus*, Ts - *Trachemys scripta*.

SPECIES							
Date	Total Coll.	As	Cs	Cp	Gg	So	Ts
75/76	322	7%	0%	30%	1%	12%	50%
97	12	33%	0%	42%	0%	0%	25%
98	68	16%	6%	12%	0%	6%	60%

**TABLE 2.** Percentage composition of turtle catch with baited hoop traps and trammel nets from Meredosia Lake in three trapping periods (1975/1976, 1997, 1998). Abbreviations as in Table 1.

SPECIES									
Dates	Total Coll.	As	Cs	Cp	Gg	Gp	Go	So	Ts
75/76	350	5%	2%	20%	5%	20%	0%	13%	35%
97	9	0%	0%	56%	0%	0%	11%	0%	33%
98	9	0%	0%	33%	0%	0%	0%	33%	33%

**TABLE 3.** Percentage composition of turtle catch with baited hoop traps and trammel nets from Spring Lake in three trapping periods (1975/1976, 1997, 1998). Abbreviations as in Table 1.

SPECIES						
Dates	Total Coll.	As	Cs	Cp	So	Ts
75/76	285	2%	3%	62%	5%	28%
97	1	0%	0%	100%	0%	0%
98	9	0%	0%	78%	22%	0%

**TABLE 4.** Percentage composition of turtle catch with baited hoop traps and trammel nets from the Illinois River at Kingston Mines in three trapping periods (1975/1976, 1997, 1998). Abbreviations as in Table 1.

Dates	Total Coll.	SPECIES					
		As	Cs	Cp	Gg	Gp	Ts
75/76	35	0%	0%	0%	64%	36%	0%
97	11	55%	9%	0%	0%	0%	36%
98	2	100%	0%	0%	0%	0%	0%

**TABLE 5.** Percentage composition of turtle catch with baited hoop traps and trammel nets from the Illinois River at Havana in three trapping periods (1975/1976, 1997, 1998). Abbreviations as in Table 1.

Dates	Total Coll.	SPECIES						
		As	Cs	Cp	Gg	Gp	So	Ts
75/76	178	16%	3%	14%	15%	8%	8%	36%
97	2	0%	50%	50%	0%	0%	0%	0%
98	9	0%	44%	56%	0%	0%	0%	0%