

POPULATION STATUS AND HABITAT PREFERENCE
OF THE
THREATENED NORTHERN CRAWFISH FROG
IN THE BAKER UNIVERSITY WETLANDS

BACKGROUND

Rana areolata circulosa, the northern crawfish frog, inhabits moist lowlands in the Osage Cuesta and Cherokee plains regions of southeastern Kansas. In 1978 it received the designation of threatened species in the state. That same year the last known specimen from Baker University Wetlands was collected. This critical habitat represents the northern-most range of the species in Kansas.

Very little is known about this amphibian. The absence of data is a result of insufficient field study and of the frog's secretive nature, presumably spending most of their lives in underground burrows.

An impending trafficway, proposed to lie along the northern perimeter of the Baker Wetlands makes the status of this threatened amphibian of immediate concern. Information of the local population is necessary in order to make judicious decisions about the trafficway, and in order to have a local baseline species evaluation with which to compare future species census. (Future censusing might serve to assess the effects of such a project on the species, or simply to monitor the continuing status of a threatened animal.)

OBJECTIVES

1. To conduct population status studies of the Northern Crawfish Frog at the Baker University Wetlands.
2. To determine the habitat preference within Baker Wetlands of the frog.
3. To provide recommendations for future management of the species.

Such studies are to be conducted during late March, April and May, 1987.

METHODS

An intensive preliminary survey of Baker Wetlands was initiated March 16, 1987, to locate areas of potential Rana areolata activity. Thompson (1915) reported that 3" diameter crawfish burrows serve as retreats for this frog, and that flattened mud platforms are often constructed near the burrow entrance by the inhabiting frog. The focus of the initial survey was the location of such modified burrows as well as rain filled pools and ditches that could serve as breeding sites.

These ditches, shallow pools and crawfish holes were subsequently inspected during nocturnal visits with the aid of a flashlight. Five volunteers assisted with this procedure for a total of 33 volunteer hours in the field, in addition to the time spent by the primary investigator.

Critical to this investigation was the constant monitoring for the breeding chorus. According to Smith (1948) breeding activity requires minimum ambient temperatures of 8°-10°C. Monitoring was therefore not normally conducted on nights cooler than 8°C. On suitable nights, monitoring was done after dark by automobile around the perimeter of the Baker Wetlands, and on foot within the wetlands. Smith (1934) states that the song of Rana areolata has a carrying power in excess of a mile. A routine route was followed at the conclusion of each visit which assured that every portion of the wetlands was monitored from no further than one-fourth mile distance, and in most cases much less.

A pre-recorded tape of the call of Rana areolata was played on alternate visits at predetermined listening stations in an effort to stimulate a chorus.

Road kills were inspected nightly. Road killed snakes were examined for stomach contents to detect the ingestion of any Rana areolata.

Additional study, undertaken independently by this investigator will proceed throughout the summer. Two approaches will be followed. The first involves sampling of tadpoles to determine the presence of the species. The second will be an effort to live-trap adult frogs by setting wire mesh funnel traps at burrow entrances. The frogs, emerging at night to feed might thus be caught. Traps would be set in the evening and checked the following morning. Captured Rana areolata would be immediately reported to Kansas Fish and Game Commission.

Records of vertebrate animals seen or heard were kept (see species list), with special attention given to amphibians. The following chart illustrates the times and relative intensity of the frog species heard singing during the study.

Smith, H.M., 1934. The amphibians of Kansas. American Midland Naturalist. 15(4):377-528.

Smith, H.M., C. Wm. Nixon, and P.E. Smith, 1948. A partial description of the tadpole of Rana areolata circulosa and notes on the Natural History of the race. American Midland Naturalist. 39(3):608-614.

Thompson, Crystal, 1915. Notes on the habits of Rana areolata. Occasional Papers of the Museum of Zoology, University of Michigan. Number 9.

RESULTS

No Rana areolata were seen or heard during the course of the study. Because the wetlands were monitored on all potentially productive nights, it is extremely unlikely any chorusing or mating occurred. Rana areolata requires heavy rainfall and warm temperatures to breed. This year below average precipitation levels coincided with their prime breeding period, which is the month of April. According to the University of Kansas Weather Service, the official weather monitoring agency for Lawrence, the mean precipitation for April is 3.27". April of this year received only 2.71". Furthermore, the individual showers were generally meager and not adequate to stimulate breeding. While March and May had sufficient precipitation accumulation, the individual showers again were inadequate to provide the opportunity to establish the presence or absence of a frog population.

Crawfish burrows of adequate size were found in all sections of the wetlands. They were normally scattered among smaller crawfish burrows under tall grasses and were difficult to locate. However, the east half of the southeast section appeared particularly favorable to the presence of the frog (see map). Because the Baker Wetlands are 3' lower at the north end than the south end (Roger Boyd, pers. comm.) this area is basically dry, even though it is closer to the Wakarusa River. However, the "corrugated" effect of this area results in a series of shallow east-west ditches, running from Haskell Road to the tree line which bisects the eastern half of the wetlands. These ditches do not remain wet in dry periods but the groundwater is close to the surface. The crawfish holes, abundant along the edges of the ditches are predominantly large in diameter (2"-3") unlike other areas of the wetlands in which smaller holes prevail. These holes appear to be the burrows of the crawfish, Procambarus gracilis. (There are four crawfish species in Baker Wetlands, according to the unpublished work of Hank Guarisco, although only two, Procambarus gracilis and Orconectes nais, were discovered in the present study.) The temporary water in the ditches might serve as breeding pools, as could the deeper, more permanent ditch along Haskell Road, or the prairie wetlands in the north end of the wetlands. The proximity of suitable breeding pools would be a convenience to the frog, making long mating journeys unnecessary. Finally, this area is adjacent to the road (Haskell) on which a road-killed frog provided the last recorded Rana areolata circulosa specimen in 1978.

While all areas of the wetlands were monitored, this area received special attention as burrows and ditches were routinely inspected for signs of the frog. It is also in this area that live-trapping will be conducted this summer.

The results of this study are inconclusive. In the decade since the frog was last found in the wetlands no known perturbations have occurred which would have adversely impacted an amphibian population. Furthermore, the absence of weather conditions conducive to breeding prohibited the opportunity to assess the presence or absence of the species. Finally, its secretive nature renders this frog "invisible" to the casual observer. Only by intentional extensive searching would this amphibian

be detected. Therefore, while there is no indication that Rana areolata still resides at Baker Wetlands, there is likewise no evidence which would indicate that it does not.

BAKER WETLANDS STUDY DATA

DATE 1987	TIME OF VISITS AND TEMP.		DURATION IN FIELD	DAILY TEMP. (1)		PRECIPT. (2)	SUNSET (1)	CALLING FROGS (3)				
	IN	OUT		MAX	MIN			CHORUS (4)	LEOPARD (5)	AM. TOAD (6)	TREE (7)	CRICKET (8)
3/16	12:30 7C	15:15 7C	2H 45M	10C	5C	0.30"	18:30	B				
3/17	20:30 6C	22:45 7C	2H 15M	12C	7C	0.60"	18:31	C				
3/18	12:30 8C	14:50 10C	2H 20M	12C	7C	2.01"	18:32	B				
3/18	20:25 7C	22:30 5C	2H 5M	12C	7C	2.01"	18.32	C				
3/19	21:30 12C	24:30 11C	3H 0M	19C	4C	0.00"	18:33	C	A			
3/20	22:30 15C	23:05 16C	1H 35M	22C	9C	0.00"	18:34	C	B			
3/21	--	--	--	16C	7C	0.14"	18.35	-	-	-	-	-
3/22	--	--	--	22C	7C	0.00"	18.36	-	-	-	-	-
3/23	22:20 8C	24:30 7C	2H 10M	23C	8C	0.37"	18:37	B	A			
3/24	--	--	--	10C	7C	0.66"	18:38	-	-	-	-	-
3/25	--	--	--	9C	2C	0.14"	18:39	-	-	-	-	-

BAKER WETLANDS STUDY DATA

DATE 1987	TIME OF VISITS AND TEMP.		DURATION IN FIELD	DAILY TEMP. (1)		PRECIPT. (2)	SUNSET (1)	CALLING FROGS (3)				
	IN	OUT		MAX	MIN			CHORUS (4)	LEOPARD (5)	AM. TOAD (6)	TREE (7)	CRICKET (8)
3/26	14:10 -2C	15:45 -2C	1H 35M	8C	3C	0.00"	18:40					
3/27	--	--	--	16C	2C	0.00"	18:41	-	-	-	-	-
3/28	--	--	--	14C	4C	0.12"	18:42	-	-	-	-	-
3/29	--	--	--	-1C	-5C	<0.01"	18:43	-	-	-	-	-
3/30	--	--	--	6C	-7C	0.00"	18:44	-	-	-	-	-
3/31	--	--	--	12C	-5C	0.00"	18:45	-	-	-	-	-
4/01	--	--	--	18C	4C	0.00"	18:46	-	-	-	-	-
4/02	--	--	--	8C	-2C	0.00"	18:47	-	-	-	-	-
4/03	--	--	--	11C	-3C	0.00"	18:49	-	-	-	-	-
4/04	--	--	--	12C	-4C	0.00"	19:50*	-	-	-	-	-
4/05	19:15 16C	21:35 11C	2H 20M	18C	1C	0.00"	19:50	B				

BAKER WETLANDS STUDY DATA

DATE 1987	TIME OF VISITS AND TEMP.		DURATION IN FIELD	DAILY TEMP. (1)		PRECIPT. (2)	SUNSET (1)	CALLING FROGS (3)				
	IN	OUT		MAX	MIN			CHORUS (4)	LEOPARD (5)	AM. TOAD (6)	TREE (7)	CRICKET (8)
4/06	21:00 10C	22:00 9C	1H 0M	12C	6C	<0.01"	19:51	B				
4/07	22:45 12C	24:25 9C	1H 40M	22C	5C	0.00"	19:52	B				
4/08	12:10 20C	14:00 20C	1H 50M	24C	6C	0.00"	19:53	B				
4/08	20:25 19C	23:00 13C	2H 35M	24C	6C	0.00"	19:53	C				
4/09	20:55 18C	23:30 14C	2H 30M	25C	7C	0.00"	19:54	B		A		
4/10	20:20 14C	22:50 10C	2H 30M	25C	8C	0.16"	19:56	C				
4/11	20:10 11C	21:05 10C	0H 55M	13C	7C	0.00"	19:57	B				
4/12	--	--	--	15C	4C	0.00"	19:57	-	-	-	-	-
4/13	1:00 9C	2:35 9C	1H 35M	11C	4C	1.48"	19:58	C				
4/14	21:00 9C	23:25 9C	2H 25M	11C	9C	0.51"	19:58	C				
4/15	20:35 10C	23:05 9C	2H 30M	11C	9C	0.31"	19:59	C		B		

BAKER WETLANDS STUDY DATA

DATE 1987	TIME OF VISITS AND TEMP.		DURATION IN FIELD	DAILY TEMP. (1)		PRECIPT. (2)	SUNSET (1)	CALLING FROGS (3)				
	IN	OUT		MAX	MIN			CHORUS (4)	LEOPARD (5)	AM. TOAD (6)	TREE (7)	CRICKET (8)
4/16	20:30 19C	23:35 16C	2H 55M	24C	6C	0.00"	20:00	C	C	C		
4/17	19:50 25C	23:20 18C	3H 30M	29C	6C	0.00"	20:01	C	B	C	C	
4/18	18:55 29C	22:10 21C	3H 15M	30C	6C	0.00"	20:03	B	B	B	C	B
4/19	20:50 25C	23:10 24C	2H 20M	33C	13C	0.00"	20:03	B		B		
4/20	24:05 14C	24:30 14C	0H 25M	31C	20C	0.00"	20:04	A				
4/21	20:50 12C	22:10 11C	1H 20M	17C	10C	0.25"	20:04					
4/22	--	--	--	17C	6C	0.00"	20:06	-	-	-	-	-
4/23	20:40 19C	21:45 16C	1H 5M	23C	8C	0.00"	20:07	B			B	B
4/24	20:10 21C	23:00 17C	2H 50M	24C	9C	0.00"	20:08				B	B
4/25	--	--	--	30C	12C	0.00"	20:10	-	-	-	-	-
4/26	--	--	--	32C	14C	0.00"	20:10	-	-	-	-	-
4/27	12:30 23C	16:00 25C	3H 30M	25C	17C	0.00"	20:11					
4/27	20:30 20C	21:45 18C	1H 15M	25C	17C	0.00"	20:11				B	

BAKER WETLANDS STUDY DATA

DATE 1987	TIME OF VISITS AND TEMP.		DURATION IN FIELD	DAILY TEMP. (1)		PRECIPT. (2)	SUNSET (1)	CALLING FROGS (3)				
	IN	OUT		MAX	MIN			CHORUS (4)	LEOPARD (5)	AM. TOAD (6)	TREE (7)	CRICKET (8)
4/28	--	--	--	27C	8C	0.00"	20:12	-	-	-	-	-
4/29	--	--	--	33C	16C	0.00"	20:13	-	-	-	-	-
4/30	22:40 19C	24:10 17C	1H 30M	26C	16C	0.00"	20:14				B	C
5/01	--	--	--	31C	15C	0.00"	20:15	-	-	-	-	-
5/02	--	--	--	30C	17C	0.00"	20:17	-	-	-	-	-
5/03	19:55 21C	23:05 18C	3H 10M	25C	15C	0.50"	20:17	B	B	B		B
5/04	20:25 13C	23:05 13C	2H 40M	16C	14C	0.11"	20:18	B		A	A	C
5/05	22:00 13C	23:35 12C	1H 35M	19C	12C	1.87"	20:19	C	B	B		C
5/06	20:15 21C	23:05 14C	2H 50M	21C	11C	0.67"	20:20	C	B	B	B	C
5/07	22:00 16C	22:45 16C	0H 45M	24C	13C	0.00"	20:21	B	B	B	C	C
5/08	--	--	--	33C	16C	0.00"	20:23	-	-	-	-	-

BAKER WETLANDS STUDY DATA

DATE 1987	TIME OF VISITS AND TEMP.		DURATION IN FIELD	DAILY TEMP. (1)		PRECIPT. (2)	SUNSET (1)	CALLING FROGS (3)				
	IN	OUT		MAX	MIN			CHORUS (4)	LEOPARD (5)	AM. TOAD (6)	TREE (7)	CRICKET (8)
5/09	21:50 21C	22:20 21C	0H 30M	28C	14C	0.00"	20:23		A	A	B	B
5/10	20:30 24C	23:30 21C	3H 0M	29C	17C	0.00"	20:24			B	C	C
5/11	--	--	--	31C	18C	0.00"	20:25	-	-	-	-	-
5/12	20:30 23C	22:00 20C	1H 30M	27C	16C	0.00"	20:25				B	C
5/13	--	--	--	31C	15C	0.00"	20:26	-	-	-	-	-
5/14	--	--	--	31C	19C	0.00"	20:27	-	-	-	-	-
5/15	20:15 23C	21:00 22C	0H 45M	27C	15C	0.00"	20:29					B
5/16	--	--	--	29C	14C	0.00"	20:30	-	-	-	-	-
5/17	20:30 27C	22:00 24C	1H 30M	30C	18C	0.00"	20:30					B
5/18	--	--	--	32C	19C	0.00"	20:31	-	-	-	-	-
5/19	--	--	--	32C	20C	0.00"	20:32	-	-	-	-	-

BAKER WETLANDS STUDY DATA

DATE 1987	TIME OF VISITS AND TEMP.		DURATION IN FIELD	DAILY TEMP. (1)		PRECIPT. (2)	SUNSET (1)	CALLING FROGS (3)					
	IN	OUT		MAX	MIN			CHORUS (4)	LEOPARD (5)	AM. TOAD (6)	TREE (7)	CRICKET (8)	
5/20	21:05 27C	21:45 25C	0H 40M	29C	19C	0.15"	20:33						B
5/21	--	--	--	25C	21C	0.00"	20:33	-	-	-	-	-	-
5/22	--	--	--	20C	10C	0.00"	20:35	-	-	-	-	-	-
5/23	--	--	--	22C	9C	0.00"	20:35	-	-	-	-	-	-
5/24	20:50 20C	22:15 20C	1H 25M	26C	17C	<0.01"	20:37						B
5/25	20:35 25C	22:45 22C	2H 10M	26C	17C	2.08"	20:37	A	A	A	C	C	C
5/26	--	--	--	28C	20C	0.01"	20:38	-	-	-	-	-	-
5/27	20:45 19C	22:40 19C	1H 55M	27C	16C	1.55"	20:38	C		C	C	C	C
5/28	22:45 21C	23:50 21C	1H 05M	27C	16C	0.08"	20:39	B	B	B	B	B	C
5/29	--	--	--	26C	17C	0.08"	20:41	-	-	-	-	-	-
5/30	--	--	--	28C	18C	0.00"	20:41	-	-	-	-	-	-

LEGEND FOR CHART

1. Lawrence Journal World
2. University of Kansas Weather Service
Precipitation readings taken at 7:00 a.m. for preceeding 24 hours
3. A. 1-2 individuals heard
B. weak chorus
C. strong chorus
4. Pseudacris triseriata
5. Rana blairi
6. Bufo americanus
7. Hyla chrysoscelis
8. Acris crepitans
- * Daylight Savings Time

VERTEBRATE ANIMALS SEEN OR HEARD
AT BAKER WETLANDS
March 16-May 31, 1987

MAMMALS:

	<u>Number of individuals</u>
Opossum	<u>Didelphis virginiana</u> 8
Bat	<u>Species unknown</u> 2
Rabbit	<u>Sylvilagus floridanus</u> 6
Beaver	<u>Castor canadensis</u> (fresh workings seen)
Prairie vole	<u>Microtus ochrogaster</u> (runways & burrows seen)
Muskrat	<u>Ondatra zibethicus</u> (lodge seen)
Coyote	<u>Canis latrans</u> (heard 5 nights)
Raccoon	<u>Procyon lotor</u> 3
Skunk	<u>Mephitis mephitis</u> 1
White-tail deer	<u>Odocoileus virginianus</u> 10

BIRDS:

(As most observations were nocturnal, birds were only incidently noted)

Great blue heron	<u>Ardea herodias</u> 1
Blue-winged teal	<u>Anas discors</u> 4
Sora rail	<u>Porzana carolina</u> 2
Killdeer	<u>Charadrius vociferus</u> common
Screech owl	<u>Otus asio</u> (heard) 1
Great horned owl	<u>Bubo virginianus</u> 5
Barred owl	<u>Strix varia</u> (heard) 6
Chimney swift	<u>Chaetura pelagica</u> 20 (approx)
Robin	<u>Turdus migratorius</u> common
Red-wing blackbird	<u>Agelaius phoeniceus</u> very common

REPTILES:

Common snapping turtle	<u>Chelydra serpentina</u> 2
Western painted turtle	<u>Chrysemys picta</u> 1
Yellow belly racer	<u>Coluber constrictor</u> 1
Western ribbon snake	<u>Thamnophis proximus</u> 5
Red-sided garter snake	<u>Thamnophis sirtalis</u> 1
Graham's crayfish snake	<u>Regina grahami</u> 4

AMPHIBIANS:

Smallmouth salamander	<u>Ambystoma texanum</u> 40 (approx.)
American toad	<u>Bufo americanus</u> common, see chart
Blanchard's Cricket frog	<u>Acris crepitans</u> common, see chart
Western chorus frog	<u>Pseudacris triseriata</u> common, see chart
Gray treefrog	<u>Hyla chrysoscelis</u> common, see chart
Plains leopard frog	<u>Rana blairi</u> common, see chart
Bullfrog	<u>Rana catesbeiana</u> 25 (approx)

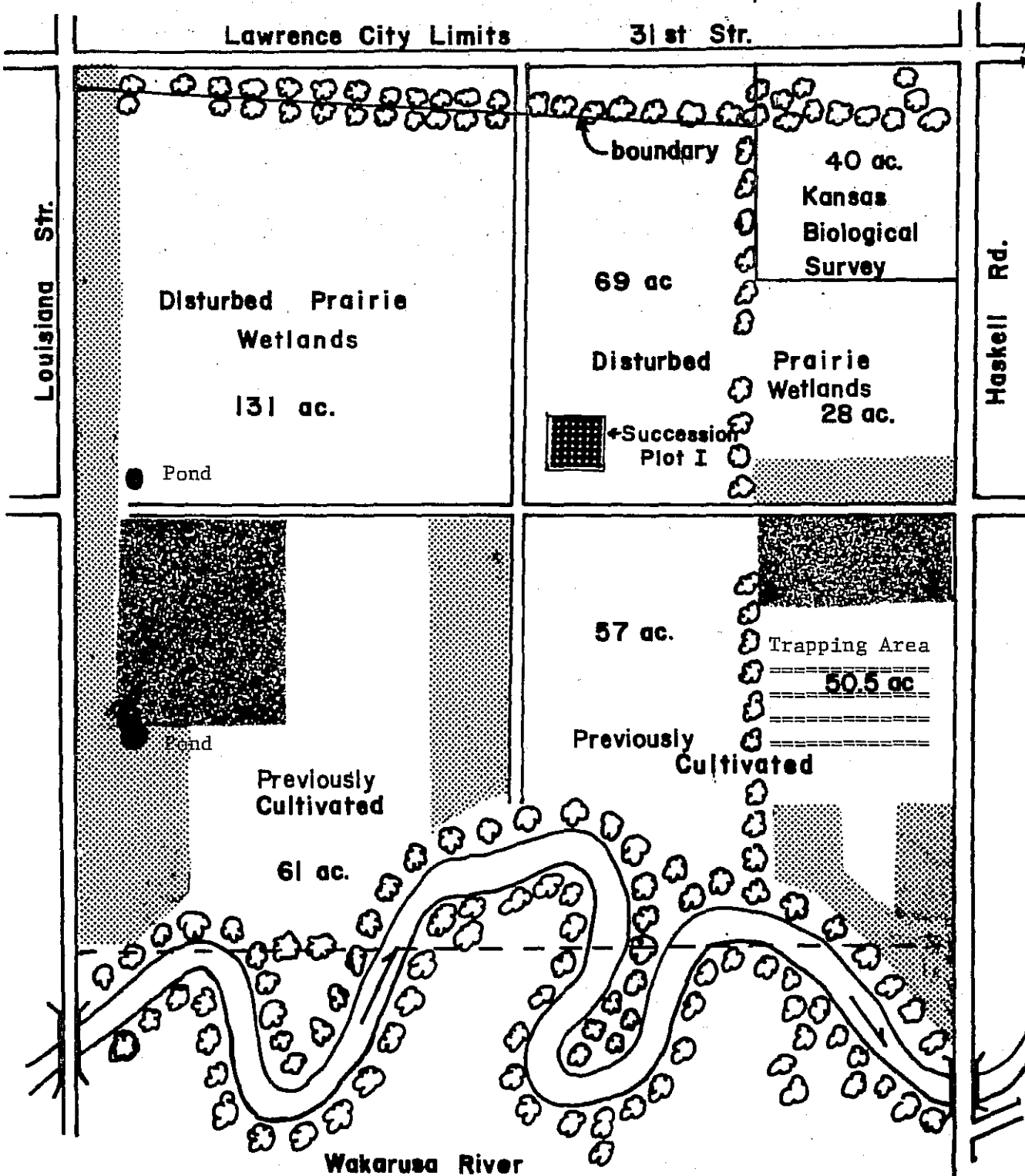
FISH:

Sunfish	<u>Species unknown</u> 1
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Baker University Wetlands

573 acres

- Original Prairie
- Prairie Plantings



JOURNAL-WORLD

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Biologist gets grant to find elusive frog

By DAVE BANGERT
J-W Staff Writer

With the help of a state grant, a Eudora biologist is trying to get her hands on the slimy back of the enigmatic northern crawfish frog, the "threatened" inhabitant of the Baker Wetlands just south of Lawrence.

Pennie von Achen, a Eudora resident with a master's degree in biology from Kansas University, has set out to do an in-depth survey of the wetlands to find and count the shy and elusive northern crawfish frog, which carries the state's "threatened" designation. "Threatened" is a lesser degree of "endangered."

Local biologists say the frog also is threatened by a proposed road that would infringe on a portion of the wetlands.

VON ACHEN recently received a \$1,500 grant from the Kansas Fish and Game Commission to study the frog, which no one has seen in the wetlands in about a decade. Von Achen said she applied for the grant after realizing how little study has been done on the frog.

She said she has begun her study and has mapped much of the wetlands, including many of the crawfish holes the frogs supposedly inhabit. Because it has been raining so much recently, she said, she has been to the wetlands most every night to listen for the mating call of the northern crawfish frog. She still hasn't heard the call, which sounds like a prolonged human snore.

Her study will include determining the presence of the frogs in the

Grant aids search for elusive frog

(Continued from page 1A)

wetlands, their population, whether the population is weak or strong and where in the wetlands they live. The lion's share of her work will include trudging through the mud and rain at night in hopes of hearing and seeing the frog. But she said she hopes to trap a few of them in homemade mesh funnel traps for closer study.

"I'LL HAVE to be pretty careful," von Achen said. "They are so secretive and so elusive and so sensitive to ground vibration that they're very difficult to study."

There are several volunteers who are willing to help with the survey, she says.

The clamor for a northern crawfish frog survey and study has been loud since the proposed southern Lawrence bypass plans have become more solid. The proposed roadway, which would loop south and west of the city, would run near the northern levy of the Baker Wetlands, a 600-acre area south of 31st Street. The state lists the frog's critical habitat in the Baker Wetlands.

A recent report put out by a private consulting firm says the proposed roadway would eat into 19 acres, or about 3 percent, of the frog's critical habitat.

THE FROG IS an elusive creature. It is large by frog standards and is about the size of a man's hand when it's in a crouch, according to Joe Collins, a KU zoologist.

The last frog reported was found in 1978 on Haskell Road after it was hit by a car. Shortly after that, the frog was listed as "threatened."

Collins said he had seen the frog four times in the Baker Wetlands before 1978. They come out of the crawfish holes they call home and sit at the surface of the water at night during heavy rainstorms and wet periods when the temperature hovers near 60 degrees, he said.

Search for frog inspires biologist

Famous frog causing anger in bypass plan

By TODD COHEN
Staff writer

If some late night this spring you see a woman, armed with a flashlight and net, wading through the Baker Wetlands — don't stop.

Instead, keep going and be as quiet as possible. The slightest noise could hinder biologist Pennie von Achen's hunt for the elusive and endangered Northern Crawfish frog.

"They are so secretive and elusive, they may only come out one night a year," she said.

Von Achen intends to be there to catch the frog that, despite its shy nature, has become the most famous frog in the county.

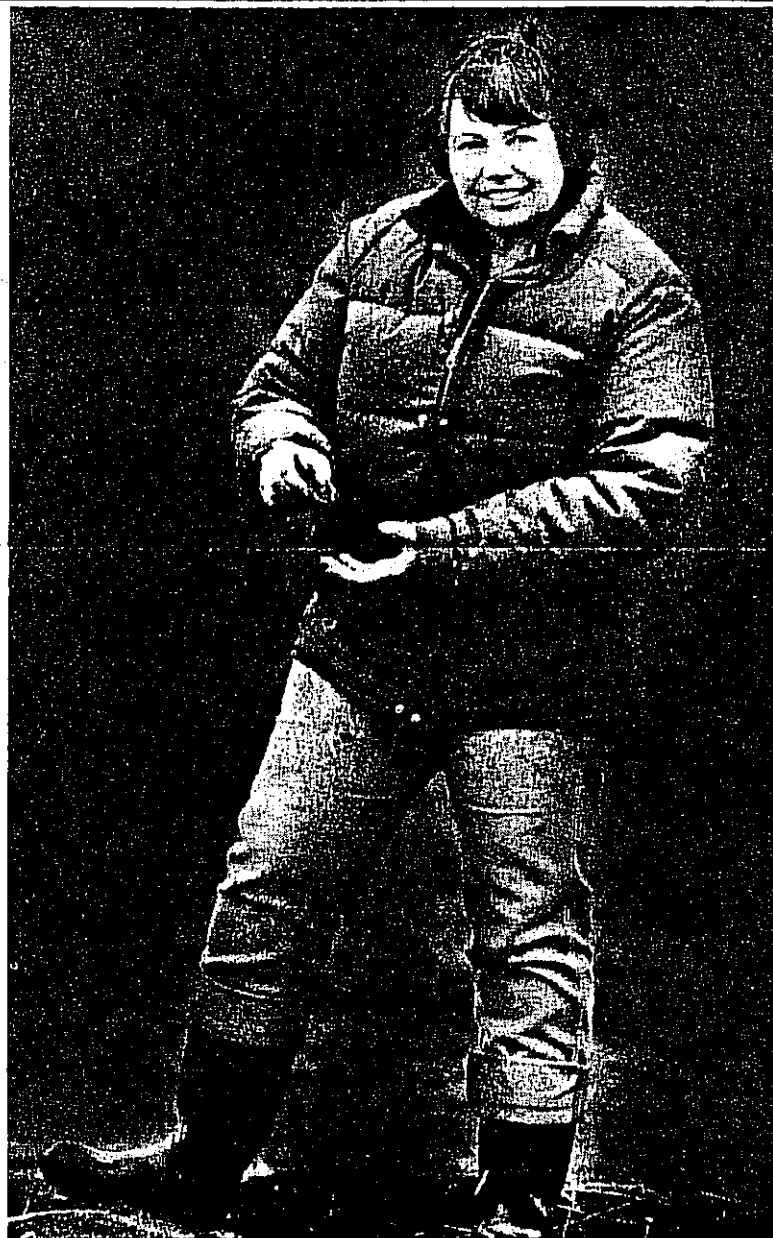
The frog has become a big player in the controversy about a proposed \$39 million southern Lawrence trafficway that would pass on the Wetlands' northern border.

Trafficway opponents have said the project would destroy the Wetlands, the frog's northernmost habitat. The wetlands, south of 31st Street and between Louisiana Street and Haskell Avenue, would be 15 feet from the trafficway.

A bill allocating \$7.2 million for the project was vetoed Friday by President Reagan. But aides to U.S. Rep. Jim Slattery, D-Kan., have said a congressional override was likely.

This spring, von Achen will spend several hours almost every evening, after putting her children to bed, in the wetlands looking and listening for a frog species that hasn't been seen there since 1978.

The slightest noise could send the frog fleeing into its underground burrows and out of sight, said von Achen, who lives near Eudora with her husband, Kurt, and two daughters, Megan and Kate



Alan Hagman/KANSAN

Biologist Pennie von Achen of Eudora is in search of the endangered Northern Crawfish frog in the Baker Wetlands. The Kansas Fish and Game Commission has given von Achen a \$1,500 grant to study the elusive frog, which lives in crawfish burrows.

by a \$1,500 Kansas Fish and Game Commission grant to find out how many crawfish frogs live in the Wetlands, what type of habitat they prefer and how to maintain the species.

"I want to find this frog. No one wants that more than me," she said.

And if she finds one, she'll certainly celebrate. "You'll probably hear me all the way to Eudora," she said.

Finding the frog, though, would be more than a personal accomplishment. It could have political repercussions.

However, to von Achen, her work is purely scientific.

me," she said. "The only pressure I feel is the attention of the press."

But she said she did realize the political issue was a primary reason the fish and game commission awarded the grant. And she's concerned that the politicians could interpret her study the wrong way.

"This study may prove that they're here, but it can't prove that they're not here," she said.

Von Achen, who teaches summer biology classes at Johnson County Community College, said it was difficult to study the frogs because they only came out at night, usually after it rained.

Friday, June 19, 1987

Did shy frog skip spring?

Search failed to turn up center of attention in bypass controversy

By DAVE BANGERT
J-W Staff Writer

The secretive northern crawfish frog, perhaps shy about being the center of attention in a local road-building controversy, apparently didn't make an appearance in the Baker Wetlands this spring.

Actually, dryness, not shyness, is at the root of the frog's no-show performance in the swampy preserve just south of Lawrence, but there's some doubt among wildlife experts about whether the rare frog continues to inhabit the area.

The frog, which carries a "threatened" environmental designation, has figured prominently in debate about the planned south Lawrence trafficway. The original route would have taken a larger chunk of the wetlands, local home of the northern crawfish frog, a creature of interesting habits and surpassing rarity.

"I NEVER SAW or heard the frog," said Penny von Achen, a Kansas University biology graduate who spent more than two months this spring slogging through the muck in the swampy wetlands in search of frog evidence.

She made her study of *Rana areolata circumlosa* with the help of a \$1,500 grant from the Kansas Fish and Game Commission.

Von Achen said this week that her work was hampered by the lack of a significant rainfall this spring. A heavy or almost "catastrophic" rainfall, she said, is critical to bring the frog out of its deep burrows to begin its mating ritual, which includes a call that sounds much like a prolonged human snore.

Small pools of water are essential to the development of the frog's tadpoles. Without the rain, the modest frog will stay deep in its crawfish hole for seasons on end, somewhat like an amphibian relative of the 17-year

See Search, page 7A



(Photo by Joseph T. Collins, KU Museum of Natural History)

An adult northern crawfish frog . . . a no-show this year.

Search didn't turn up rare frog

(Continued from page 1A)

I did NOT say that! Cicadas, von Achen said] The only time the frog will crawl out is to sit on the edge of its burrow for a snack.

The lack of evidence of the frog's appearance this year reinforces the frog's rarity at the 600-acre Baker Wetlands site.

IN FACT, no one has even seen traces of the frog for nearly a decade when a KU student found one flattened on Haskell Avenue after it was hit by a truck. Shortly after that specimen was collected, the frog went on the threatened list. The road-killed frog is suspended in a glass jar at the KU Museum of Natural History.

Von Achen tramped through the wetlands from mid-March through May, the prime mating season, hoping what little rain the area received was enough to force the shy frog out of its subterranean world.

Von Achen says that despite her unsuccessful investigation, she believes the frog is still in the wetlands but just refused to mate this year. Hoping to prove that, she'll continue to monitor the wetlands this summer and again in the spring. Once she finishes a report to the Kansas Fish and Game Commission on her findings, she plans to set up about 20 mesh funnel traps

at the base of the burrows.

JOSEPH COLLINS, KU zoologist and an authority on the northern crawfish frog, said no one should be surprised by the frog's no-show this spring. Even with a 3- or 4-inch rain, the frog is a master at maintaining its very low profile, he said.

"What we have is a frog that in a big public display will come out at midnight, making a snoring noise lower in pitch than the loud leopard frog choruses, on a rainy night in the middle of a swamp. That's not what you call a big public display," Collins said. "And that's at its peak."

But as the years pass without sight or sound of the large, hand-sized brown and cream colored frog, Collins said experts are beginning to have doubts that the species still lives in the wetlands.

"We just don't know if the frog is out there," Collins said. "That's the bottom line."

HE SAID THE FROG could have slowly disappeared without biologists realizing it. Collins said it is possible that ditches dug near the wetlands may have lowered the water table and drained the frog's homeland somewhat. That would lessened the chances of large puddles and lowered the probability of tadpole sur-

vival. If that is the case, Collins says, no new generations are being born and the older crowd is dying of old age.

But even if the frog isn't in the wetlands, Collins said local officials should be mindful of the potentially damaging effects the road may have on the delicate nature of the wetlands.

MEANWHILE, it appears that if the proposed 14.3-mile, \$38 million south Lawrence trafficway is built, government officials will make sure the road skirts the critical habitat of the frog.

Before environmentalists hopped to the frog's defense, the road that would loop south and west of the city was to eat 19 acres of its home in the Baker Wetlands just south of 31st Street.

The northern crawfish frog gained local and even national fame when several Lawrence residents created Agnes T. Frog, the fictitious write-in candidate for Douglas County commissioner last fall. With the support of The Committee to Elect a True Amphibian, Agnes pulled in 1,850 votes, or 30 percent, in the race against incumbent Nancy Hiebert, one of the leading proponents of the trafficway. Mrs. Hiebert was otherwise unopposed, and she won the election.

NEWSLETTER

Jayhawk Audubon Society

L A W R E N C E, K A N S A S 6 6 0 4 6 - 3 7 4 1

June 1987

Lin Fredericksen, Editor, 842-2114
Joyce Wolf, President

If you've heard the snoring chorus of Agnes T. Frog out at Baker Wetlands lately, it may have been coming from the tape recorder of Eudora biologist Pennie von Achen. Pennie, a JAS board member this year, received a \$1500 grant this spring from Kansas Fish and Game's Chickadee Check-off program to do a population study of the northern crawfish frog, determine its habitat preferences and provide recommendations for future management of the species. The frog is a very elusive creature that hides in crayfish burrows, and little is known about its behavior. Pennie has not seen or heard any of the frogs this spring but says she still has no reason to doubt that they're there. She is fairly certain that they haven't mated, but the frogs have been known to skip mating some years. Conditions have probably been too hot and dry.

Although the grant ran out at the end of May, Pennie will continue her study on her own this summer, using live traps to catch adults emerging at night to feed, and catching tadpoles to double-check whether the frogs have

bred. Meanwhile, Pennie says she really enjoys slogging around in the wetlands, and has observed many salamanders, barred and horned owls, an unusual predatory leech, ribbon snakes, Graham's crayfish snake (which also uses crayfish burrows), and a number of other interesting wetland creatures.

The future of the frog's habitat is looking a little brighter these days as city commissioners seem to be seriously considering ways of reducing the infringement of the South Lawrence Trafficway project on the wetlands.



June 21, 1987
Rural Route #2
Eudora, Kansas 66025

Bill Hlavachick
Supervisor, Species Management Section
Kansas Fish and Game Commission
Pratt Headquarters
Box 54A, R.R. #2
Pratt, Kansas

Mr. Hlavachick,

Enclosed is the final report on my study of the threatened Northern Crawfish frog, Rana arolata circulosa, in the Baker University Wetlands.

The lack of suitable weather prohibited the opportunity to determine the presence or absence of a frog population. Because of the inconclusive results of the project, I will independently conduct further investigations in the wetlands this summer as I have explained in the following report. I would therefore like to apply for a permit to work with threatened and endangered wildlife. No frog would be killed and all would be returned to the wetlands after a brief examination.

Furthermore, I would be very interested in continuing this investigation next spring. The probability of two consecutive dry Aprils is minimal. A better opportunity could therefore be provided next year to finally determine the population status of Rana areolata in the Baker Wetlands.

I appreciate the opportunity the Kansas Fish and Game Commission has afforded me in supporting this project.

Sincerely,



Pennie von Achen