

JOURNAL 1967

JAMES W. BEE

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Denver, Colorado

Jan 1, 1967

(complete census)

Left Denver 7:00 A.M. 87155 Temp 24°F. magpie
 nests along streams (cottonwood & willow) but no birds
 Deer Trail, 87208, 8:10 A.M., temp 20°F. 87213 first bird
 is a sparrow hawk. Light snow in protected exposures
 and 70% on ground. Clouds developing from a clear
 morning sky. 87216 6 starling. 87218 roughleg (belly
 band reddish-brown). 87219 redtail hawk. 87235 2
 horned larks, 87236 roughleg, 87237 marsh hawk. Temp 25°F. Turnoff at 87243.
 Temp 23°F 8:45 A.M. There is a temp. fluctuation of 20°F
 in valleys & 25°F on uplands. 87249 hawk (all black)
 87250 blackish hawk (roughleg) 87251 redtail hawk.
 Temp 27°F. Genoa 87254. Isolated junipers just west
 about 1 mile, 9:00, temp 26°F. 87252 roughleg.
 87260 roughleg. Archua 9:10, temp 28°F 87267. 18 horned
 larks. 87268 12 horned larks. 87273 6 horned larks.
 Flagler, 87280, temp 34°F, 9:25, 87281 dark hawk.
 water melting in creek. 87283 S. Fork Republican River,
 dry or intermittent. yucca now on slopes. 87284 4 horned
 larks, 60 horned larks, 87288 8 horned larks,
 87294 10 horned larks. Snow drifts from plowed fields
 50% soil, from grass fields the snow is white! 87298
 30 horned larks 87299 Vona, 2 horned larks, 87302 marsh
 hawk. 87303 80 horned larks; ^{n.p.} hawk, Stratton
 87307, 40 horned larks. Now 1 mile off road to city & return
 9:57. Left 10:13. meadowlark. Temp 41°F. 87309 4 horned
 larks. 87313 2 raven. 87315 2 horned larks.
 Landsman Co. 87318. 87321 black hawk. 87328 Burlington,
 10:32, temp 41°F. horned lark, meadowlark, Eng sparrow.
 hawk (sp.?). 87334 2 horned larks. 87335 3 horned
 larks. 87335 3 raven. 87337 hawk, 18 horned larks.
 87338 2 horned larks. 87342 Kansas border, 10:47, temp
 44°F. 13 horned larks on antshirts. 87346 roughleg.
 20 horned larks, one left road and flew straight up.
 87347 3 horned larks. 87349 roughleg. 87351 horned lark.
 87362 Goodland, temp 44°F, 11:07. Stopped for lunch, left 11:55
 87364 60 horned larks, 87365 8 horned larks. 87367 5 horned
 larks. 87368 3 horned larks, 87369 30 horned larks,

87375 red-tail, 8 horned larks. 87376 40 horned lark, 6 meadowlarks. 87376⁸ horned lark, 2 horned larks. 87377 24 horned larks. Groups of 3 to 6 are generally associated with larger flocks on the ground. More windblown snow than anywhere between here & Denver. 87380 4 single^{horned} larks. Brewster 87381. Temp. 42. 87383 8 horned larks, 4 horned larks. 87385 horned lark, 10 horned lark. 87390 marsh hawk, 5 single horned larks in last 2 miles. 87392 3 horned larks. 87394 3 horned larks. 87397 2 horned larks. 87399 red-tail and 5 horned larks. 87400 600 horned larks. 87401 2 horned larks. 87402 6 horned larks, 15 horned larks dispersed in 300 feet, redtail hawk. 87406 4 horned larks, 30 horned larks. 87411 roughleg, 18 horned larks. 87413 roughleg, 18 horned larks. Horned larks seem to be more frequently associated with interchanges. 87414 2 meadowlarks. 87416 roughleg, 1 horned lark. 87419 marsh hawk, meadowlark. 87420 8 horned lark. 87427 3 meadowlarks, 8 horned larks; redtail hawk. Increase in snow. 87428 3 horn larks. Snow on lee side of corn piles which is counter indicated for sun exposure effect. 87432 8 horned lark. 87436 3 horned larks. 87437 4 horned larks. 87438 4 horned larks, 4 meadowlarks. 87440 meadow lark. 87441 3 horned larks. 87446 12 meadowlarks, 4 horned larks. 87452 redtail, 8 horned larks, 13 meadowlarks. Quarter 87458 8 meadowlarks, 15 horned larks. 87459 6 meadowlarks. 87460 2 horned larks, 3 horned larks. 87462 2 meadowlarks. 87466 13 meadowlarks, 2 horned larks, redtail hawk. 87468 18 meadowlarks, 9 horned larks. 87471 meadowlark, 2 horned larks. 87476 12 meadowlarks. 87480 4:56, 30°F at Wakeeney. Left 2:09. 10 meadowlark, 17 meadowlarks. 87481 8 meadowlarks. 87481 7 meadowlarks. 87482 22 meadowlarks, 8 meadowlarks. 87484 6 meadowlarks, 3 horned larks, 2 meadowlarks, 1 starling, 2 horned larks. 87486 4 meadowlarks, 3 horned larks, 7 meadowlarks, 3 meadowlarks. 87495 5 meadowlarks. 87501 4 meadowlarks, 8 meadowlarks. 87503 6 meadowlarks. 87509 4 meadowlarks. 87512 4 meadowlarks. 87514 Hays turnoff, 2:47 temp 32°F. 87515 5 meadowlarks, 1 meadowlark. 87516 4 meadowlarks. 87524 2 horned lark, meadowlark, 3 horned larks. 87530 roughleg. Have noted 4 jackrabbits & 1 cottontail in the last 20 miles. 87534 meadowlark. 87535 5 meadowlarks. 87538 8 horned larks. 87541 meadowlark. Russell 87542 3:18 P.M. Temp. 28°F. 87543 meadowlark, 12 horned larks. 87552 3 horned larks. 87559 6 horned larks. Snow about some

as at Russell. 87560 4 horned larks. Old rock-post fences in this area. 87561 1 meadowlark. Red-tail hawk. 3 meadowlarks. 87565 3 horned larks. Snow is becoming heavier to E. 87566 20 horned larks, meadowlarks. 87570 18 meadowlarks. 87571 20 meadowlarks. Temp 26°F. Sun rays long & fading from atmospheric interference in W. Sun about 30 min from sunset. 87573 meadowlark. 87574 6 meadowlarks, 2 meadowlarks, 3 meadowlarks, 87575 13 meadowlarks, 8 horned larks. 87577 meadowlark, 1 meadowlark, 2 meadowlarks. 87578 4 meadowlarks. 87578 5 Ellsworth junco. 8 meadowlarks. Temp. 26°F. 3:57 P.M. 87579 6 meadowlarks, 20 horned larks. 87580 2 meadowlarks, 2 meadowlarks. 87582 4 meadowlarks. 87584 4 meadowlarks, 9 horned larks, 2 meadowlarks, 10 horned larks. 87585 Redtail hawk. 87586 3 meadowlarks. 87587 8 meadowlarks; 2 meadowlarks, 1 meadowlark. 87588 8 meadowlarks, 12 meadowlarks. 87589 entering Lincoln Co., 29°F 4:08 P.M. (Mt. Standard Time all the way) Refractive colors in E. 87593 13 meadowlarks, 4 meadowlarks, 11 meadowlarks, 87595 7 meadowlarks, 2 meadowlark 1 meadowlark. 3 meadowlarks 87596 4 meadowlarks. (entering Saline Co.) Temp 30°F, 4:17 P.M. 87598 3 meadowlarks. 87600 2 meadowlarks, 1 meadowlark. 87602 2 meadowlarks. At 4:25 they straight up to Weston. 87606 3 meadowlarks. Temp 24°F at 4:30 P.M. (or 5:30 Central Time). 1 meadowlark. 87609 2 meadowlarks at 24°F. Beautiful sunset & sundifferentely down at 4:30 P.M. 87614 meadowlark. Lights fading and meadowlark difficult to distinguish. 87615 Murrespalis 2 & 1. Temp 28°F at 4:40 P.M. or 5:40 P.M. Central time. End of Complete Census Left 5:17 from above. Temp 28°F. 87617 Saline River. Smoky Hill River 87665 at 6:10 Temp 29°F

Clark Creek 27°F	Top Wheel 30°F
Mc Daniel Creek 30°F	Top Wheel 29°F
Deep Cr. 29°F	Top Wheel 29°F
Mell Cr. 30°F	Top of Wheel 30°F

Arrived Lawrence 87768 at 8:00 P.M. (Mt. Central Time or 9:00 P.M. Central Time).

of the areas traversed (complete census), composed graphs showing per cent frequency of birds and mammals as well as time, temp and locality. There are certain associations of different kinds of birds shown on the graphs.

CENSUS
DEC 31, 1966 - JAN 1, 1967

670101-4

LOCALITY	TIME	TEMP	MILEAGE	FLOCKS OF HORNED LARKS	HORNED LARKS	MEADOW LARKS	MAGPIE	RAVEN	STARLING	MARSH SP. HAWK	BREWER B.	GOLDEN P.	DUCK	CRANE
UTAH	PROVO ↑ 604	7:45	20	86604	8									
	(DEC 31, 1966)			86610										
				86620										
	THISTLE 630	8:30	16	86630										
				86640										
	SOLDIER SUMMIT 656		14	86650	2									
				86660										
				86670										
				86680										
	PRICE 690	9:30	14	86690										
			86700	1										
			86710	3-800										
MONARCH CR 720			86720	15-8										
			86730	100-150-80-300-90										
			86740	10										
GREEN RIVER 759	10:50	18	86750	60-9										
			86760	300-40-18-150-15-8-12										
			86770	7000-4-N										
THOMPSON		18	86780	(SWIFT FOX 772)										
			86790	5-4										
NASH WASH 805	12:03	20	86800	8										
CISCO 871			86810	30										
COTTONWOOD WASH 821			86820	10-80										
COLO. ST. LINE 837	12:35	20	86830											
W. SALT MARSH 845			86840	300										
ERUITA 858	1:00	21	86850	8										
			86860											
			86870	13-300										
CAMEO G 885	1:36	22	86880											
JUNCTION TO MESA 891			86890											
E. HORSESHOE CAN. 900	2:00	25	86900	150										
GRAND VALLEY 919	2:20	24	86910											
			86920											
RIFLE 937	2:53	21	86930											
			86940											
NEW CASTLE 951			86950											
GLENWOOD SP. 965	3:30	20	86960											
			86970											
EAGLE RIVER 984	4:00	18	86980											
			86990	6										
			87000											
EDWARDS 016	4:30	12	87010	9										
			87020											
VAIL 031	4:50	12	87030											
JAN. 1, 1967														
DENVER	7:00	24	87150											
			87160											
			87170											
			87180											
			87190											
DEER TRAIL 208	8:10	20	87200											
			87210											
			87220											
			87230	2										
LIMON 243	8:45	23	87240											
			87250											
ARRIBA 267	9:10	28	87260	18-12										
			87270	6										
FLAGLER 280	9:25	34	87280	4-60-8										
			87290	10-30-2										
			87300	80-40-4										
			87310	2										
BURLINGTON 328	10:32	41	87320	1										
			87330	2-30-18-2										
KANSAS ST. L. 342	10:47	44	87340	13-20-3										
			87350	1										
GOODLAND 362	11:07	44	87360	60-8-5-3-30										
			87370	8-40-8-2-24										
BREWSTER 381		42	87380	4-8-4-1-10										
			87390	5-3-2-5										
			87400	600-2-6-15-4-30										
			87410	18-18-1-1										
			87420	8-8-3										
			87430	8-3-4-4										
			87440	3-4										
QUINTER 458			87450	8-15										
			87460	2-3-2-9										
			87470	2										
WAKEENEY 480	1:56	30	87480	3-2-3										
			87490											
			87500											
HAYES TURNOFF 514	2:47	32	87510											
			87520	2-3-2-3										
			87530	8										
RUSSELL 542	3:18	28	87540	12										
			87550	3-6										
			87560	4-3-2-0										
			87570	8-2-0										
ENTER LINCOLN CO. 4:08	29		87580	9-10										
			87590											
ENTER SALINE CO. 4:17	30		87600											
MINNEAPOLIS 615	4:40	28	87610											

TOTAL MILEAGE 910 (corrected) 8,984

OTHER BIRDS NOT ON CHART: 86605 3 COOT; SHORT E. OWL; 86817 2 G. OWL; 86971 3 water ouzels; 86772 SWIFT FOX;

Lawrence, Douglas Co., Kansas

Jan 10, 1967

at 1620 Tennessee St. noted 6 *Sciurus carolinensis*. They were very active and chasing each other from tree to tree. This is a reversal of squirrel composition at this locality. The predominance has always been the red fox squirrel. This is also true on the Maupin Estate across the street. It may be matter of period of ^{seasonal} activity rather than a change of species composition. On three occasions the gray squirrel descended a utility pole to within 2 feet of a cat which was sitting at the base of the pole. When the cat reacted, the squirrel would run back up the pole or to a tree some 20 feet away with the cat in close pursuit. On each of the three encounters the approach of the squirrel was intentional and there appeared to be trustworthiness in the squirrel, at least.

Univ. of Kansas, Lawrence, Douglas Co., Kansas

Jan 11, 1967

Ice on Patters Lake has been free of snow for the last week and is in contrast to the snow free ground beyond. This year has been characterized by cold weather a minimum of snow. Generally skaters have to remove snow on ice a day or so after the original freeze-up.

[see next page for Jan 15, 1967]

Wakarusa Valley, Douglas - Shawnee Co., Kansas

Jan 18, 1967

Annette and I drove to Topeka. Enroute survey the proposed Clinton Reservoir area and beyond. Complete census started at S end of proposed dam at mileage 24.0 at 3:30 P.M. Temp approx. 28° F, sky clear to W and cloudy to S, wind from N at about 15-20 M.P.H. 24.4 redtail Rock Creek bridge 25.4, frozen & low. 28.0 Clinton. 28.3 cardinal and 120 tree sparrows. 30.4 Belvoir bridge. Wakarusa River frozen completely. Snow in valley on N exposures and in drifts along road. Elsewhere clear. redtail hawk. 31.9 11 tree sparrows. 32.3 5 meadowlarks. 33.9 now to S. ponds along way have been frozen. 35.0 now to W. loggerhead shrike at bend and 1 redtail. 37.6 12 red crossbills in juniper trees just E of old school house. 37.7 Richland Turnoff. Will continue census to W. 38.2 loggerhead shrike, 1 redtail hawk. 38.8 30 tree sparrows. 39.2 1 redtail hawk. 40.7 Crossing R.R. track. 41.1 black-capped chickadee. 41.5 9 eastern bluebirds. 43.9 shrike. 44.6 now to N toward

Berryton. 44.8 2 crows flying high. 47.1 Berryton
and end of complete census.

Enroute thru the proposed Clinton Reservoir area (to
Richland) noted 14 oriole nests (pendulous cup) most
of them in trees overhanging the main, well travelled
road. All red-tail hawks were in trees or on utility
poles, none was flying.

Summary: (3 end down to Richland Turnoff)

redtail hawks 1-1-1-

shrike 1.

tree sparrows 120-11-

red crossbills 12

~~b.c. chickadee~~

Cardinal 1

meadowlarks 5

(Richland turnoff to Berryton)

loggerhead shrike 1-1

redtail 1-1.

eastern bluebirds 9

tree sparrow 30

b.c. chickadee 1

crow 2

at Shawnee Lake, there were no ducks of any kind on
the lake which was frozen except a narrow strip ^{30'} at
n end.

Univ. Kansas, Lawrence, Douglas Co., Kansas

Jan. 15, 1967

[see previous page for proper date entry]

Mary Pauline and I made several photographs on campus.
this afternoon.

670115-1 photo from Robinson gro toward Malott and housing
units beyond. Mary in foreground.

670115-2 photo of sycamore tree down slope from Campanella.

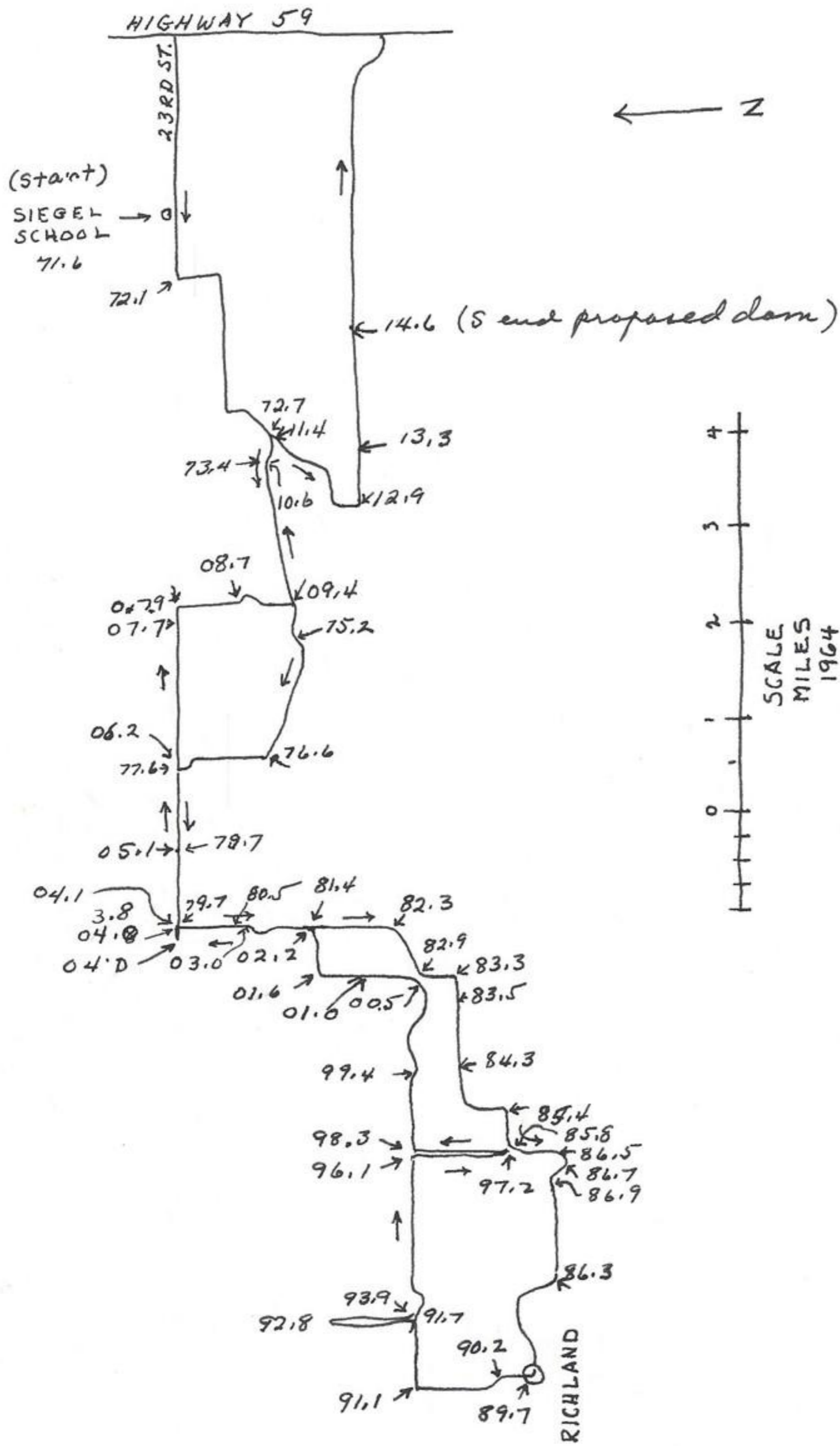
670115-3 photo of head cast in bronze at the Campanella.

670115-4 of granite of building showing biotite mica, quartz and
feldspar; may be a porphyry.


Wakarusa Valley (area proposed Clinton Reservoir), Douglas-
Shawnee Co., Kansas

Jan. 21, 1967

made roadside census of birds and mammals in the
proposed Clinton Reservoir. Will keep complete census. kinds
of birds observed between Lawrence + Siegel School house:
sparrow hawk (1), dark red-tail (Horlens) (11), mourning dove,
Eng. sparrow, yellow shafted flicker, Arrived n end of the
proposed dam at Siegel School at 9:50 A.M. at mileage 71.6.
sky cloudy, temp 46°F, approx 10 mi. wind from S. 8 sterling



670121-9

at the school house. 72.1 now to S. 72.4 2 blue jays flew across the road, also 5 Cardinals and 3 flickers. 72.7 Y in road. 73.0 cardinal. Passing by the Wakarusa River and is 95 per cent frozen with water on top of ice, snow only on exposures and then only small amounts. The general picture is an ice river with dry banks immediately beyond. 73.4 ~~the~~ end of proposed dam (original designation but since been relocated to Siegel School. All previous and subsequent observations should be so interpreted). 73.8 meadowlark. 73.9 2 titmice. 74.2 12 tree sparrows. Snow only on exposures of valley among trees where it is white and in valley only where drifted snow has lodged in ^{some} drainages along side of road. 75.2 Wakarusa Bridge. Water low, completely frozen but with standing clear water in middle 1/3 . Snow among dense stands of trees along river but clear and dry elsewhere. Yellow-shafted flicker at bridge. 76.1 8 meadowlarks. 76.6 Patton Bridge. Water flowing in 50 per cent of river where rapids occur. Water clear and flowing approx 1 gal per 2 seconds. Considerable flow of river showing, especially on sides. 77.6 now to W. Coon Creek frozen in ice. 77.9 40 Eng sparrows at stock yard. 78.3 yellow-shafted flicker. 78.7 Deer Creek. Frozen, ice white, covered with clear water. Cardinal. 79.4 2 blue jays. 79.7 now to S. 80.0 crow calling, yellow-shafted flicker. 80.1 Crow. 80.5 Dry Creek dry and no ice or snow in channel. 80.7 pond low + completely frozen. Cow dune on top of ice. 81.4 main road but continuing to S. 81.6 8 tree sparrows, 10:30, temp 50°F and about 3 degrees warmer than at Deer Creek. 82.0 Creek, dry, powdery bed, no ice. Redtail flew up drainage ^{2/10 mi} and alighted in tall tree (normal plumage). 82.3 now SW. 82.4 2 yellow shafted flickers. Native grass recovered from burn of last year. Flickers are frequently observed here and they are some distance from normal stands of trees. They feed in open fields to S. 82.7 red-tail hawk (dark phase). 82.9 now to S. winter wheat about 2-3 inches high, soils dry as are the roads. 83.2 meadow-lark. 83.3 30 horned larks and 4 Lapland longspurs, 13 meadow-larks. Two of the horned larks flew toward car as if in curiosity. 83.5 Wakarusa River bridge. Water 98% ^{white} ice with standing water on top. Only slight evidence of melting along sides. From bridge noted a group of birds below consisting of 12 black-capped chickadees, 10 cardinals, 20 ^{Oregon} clay colored junco? (not slate colored), hairy woodpecker, yellow-shafted flicker, 3 song sparrows, 7 titmice, red-bellied woodpecker, winter wren. Continued W. 83.6 red-tail flying W along S edge of valley and favoring the prominent knoll. 83.7 flicker feeding in open plowed field and 2/10 mile from a tree. 84.3 small valley bridge, creek from Windmill dry. 84.7 now along

670121-10
river and at turn. 18 slate colored juncos flew from edge of field, across road into brush & trees along the river. 84.9 now to S. 85.4 now to W. Road at turn muddy from protection of trees. Fox squirrel 40 feet beyond trees. Red bellied woodpecker in tree. 85.7 10 meadowlarks (one group), 2 horned larks. 85.8 passing by bridge and now to S. Cardinal and 2 blue jays along river. 86.5 4 corners, 8 Eng sparrows, 12 starling, 3 chickadees. 86.7 Elk Creek, one mourning dove. Water intermittent with pools in ice. Between pools damp but no ice. 2 cardinals. 86.9 top hill and now to W. Cardinal here. 87.5 first and only roadkill (cottontail). 86.3 at top of hill & now descending into valley. 8 slate colored juncos, 3 black-capped chickadees, 3 Cardinals. 88.7 2 chickadees. 89.1 Crow, 3 b.c. chickadees. 89.7 middle of Richland. The paved roads are wet from last night's dew, dirt roads absolutely dry. 90.2 Wakarusa Bridge. River in ice (90%). 91.1 main road and now to E. 91.3 27 Cedar waxwings associated with juniper trees at farm house just E of old school house. 91.5 3 Cardinals, 40 Eng. sparrows, 18 tree sparrows, 3 chickadees, one redtail hawk 1/10 mi to N. 91.7 now to N. 92.8 turned around & returned. 92.9 Crow. 93.9 now to E, on main road. 95.8 flicker. 96.1 at 4 corners on side of hill, now to S. 96.5 drainage, dry but damp. 96.9 30 tree sparrows, 2 Cardinals, flicker. 97.2 bridge over Wakarusa 12:00, temp 56°F, more open water because of rapids above bridge. Returned N to 4 corners arriving 98.3. 99.2 descending from top of hill. 99.4 creek dry. 99.8 creek from lake flowing at approx 1 gal per 10 seconds. Ice 80%. 00.5 4 corners now to N. Pond just beyond to right reduced to 1/10 original size. 00.9 16 meadowlarks, hairy woodpecker. From along side of road, at rock fence made photo 670121-1 of elm tree and fence. 01.5 Sharp-shinned hawk flying fast along side of grass lined fence. It systematically flew by and around 4 bush & tree piles in the field. 01.6 main road and now to E. 02.2 now to N. Strong skunk odor at turn. 02.4 Redtail hawk hunting open field. Osage orange with fruit in trees and 1/2 original size, color brown. 2 meadowlarks singing, flicker. 03.0 Dry Creek. 03.4 redtail hunting Andropogon ridge to W. 4.8 four corners. Photo 670121-2 of rock fence at corner. Drove to top of hill to west and made two photos of fence and country side to E nos. 670121-3 and 670121-4. Returned to base of hill at 4 corners at 04.1 and continued E. 05.1 Deer Creek. 05.9 40 Eng Sparrows. 06.2 Coon Creek. 18 slate colored juncos in creekbed. 06.7 2 meadowlarks. 07.2 3 b.c. Chickadees, 30 juncos, 18 tree sparrows, 3 Cardinals. 7.3 drainage from scout camp area. 07.7 Old house

on top of hill. Nothing has been done to ^{improve this} 670121-11 outstanding structure. 07.9 now to S on Peterson road. 08.5 racoon road hill. 08.7 top Rattlesnake Point. 2 redtails perching at point to E. 2 b.c. chickadees. 09.4 now to E. 09.9 32 mourning doves in trees to N. 10.2 yellow-shafted flicker. 10.6 7 end. proposed dam (original) 2 blue jays. 10.7 4 slate colored juncos. 11.4 I in road now to S. 11.5 Wakarusa Bridge. In river channel below bridge noted 1 towhee, 24 cardinals in loose group, 2 downy woodpeckers, 1 red-bellied woodpecker, 8 Harris sparrows, 9 b.c. chickadees, 1 g.h. owl (at distant bend of river), 6 crows harassing owl, 12 House sparrows as if part of native group, 4 titmice, 11.6 flicker. 12.9 main Clinton Road, now to E. 13.3 Rock Creek, frozen and water on top. 16.4 5 end dam (proposed) 2:00 P.M., temp 57°F, sky 50 per cent blue.

Summary: (area of proposed Clinton Reservoir)

starling 8-12	crow 1-1-1-1-6
yellow-shafted flicker 3-1-1-1-2-1-1-1-1-1-1	Lupland longspur 4
red-tailed hawk 1-1-1-1-1-1-2	juncos (Oregon and slate colored) 20-18-8-18. 30-4
meadow lark 1-8-1-13-10-16-2-2	hairy woodpecker 1-1
horned lark 30-2-2	downy woodpecker 2
mourning dove 1-32	winter wren 1
b.c. chickadee 12-3-3-2-3-3-3-2-9	song sparrow 3
cardinal 5-1-1-10-1-2-1-3-3-2-2-2-4	red-bellied woodpecker 1-1-1
Eng. sparrow 40-8-40-40-12	cedar waxwing 27
sharp-shinned hawk 1	towhee 1
blue jay 2-2-2-2	Harris' sparrow 8
titmouse 2-4	great horned owl
tree sparrow 12-8-18-30-18	fox squirrel 1
cottontail 1	tracelawn 1

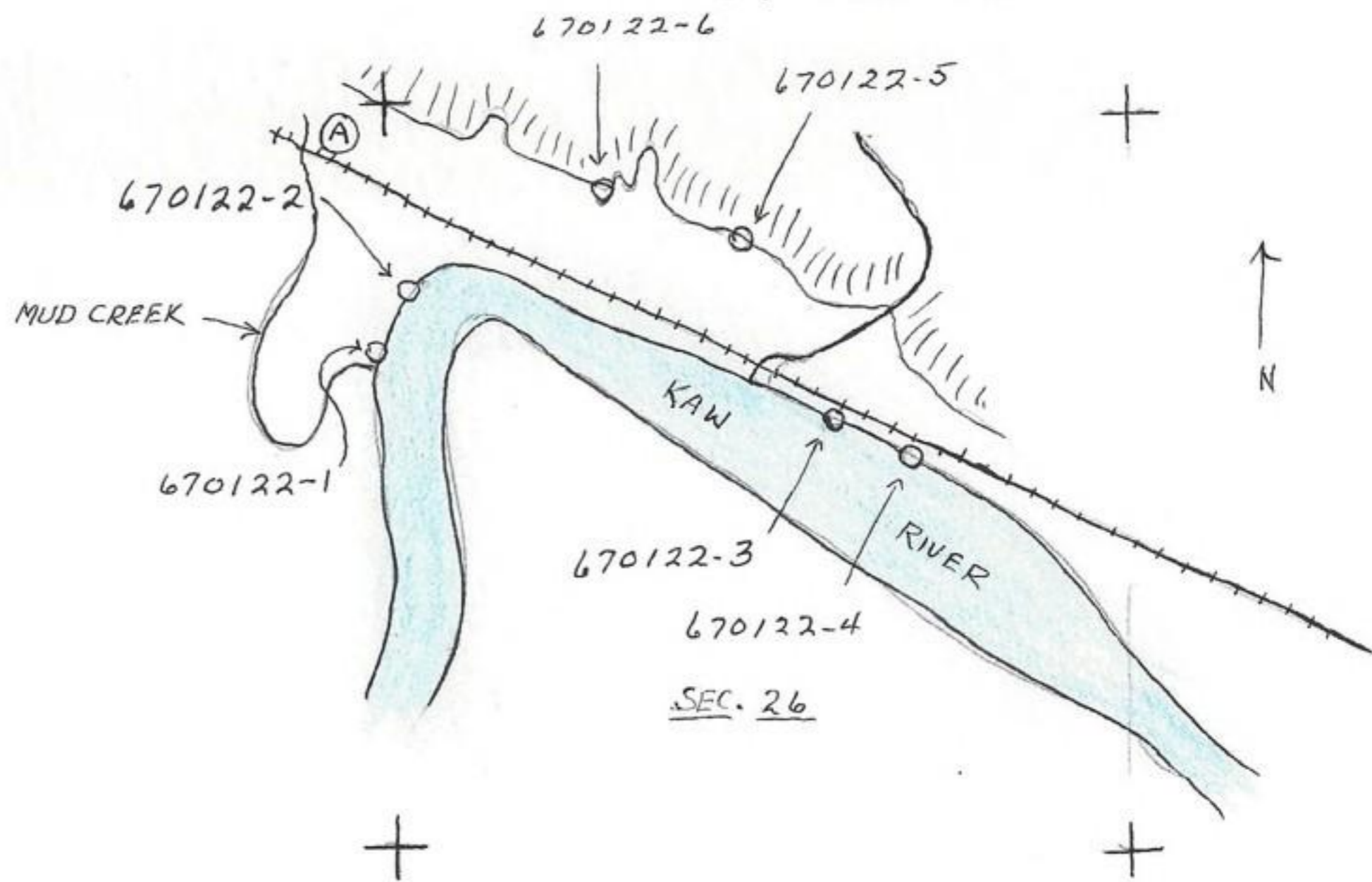
TOTAL = 680 birds and mammals (3 of which are mammals)

Kaw River, Douglas-Leavenworth Cos., Kansas

Jan 22, 1967

Inspected area NE Lawrence along the Kaw River in the vicinity of the mouth of Mud Creek. Marchlike wind, temp 61°F at 10:45 A.M. Skies overcast but by 3:00 P.M. clear of clouds. Enroute checked sandpits by the Turnpike. Ponds there frozen except around edges. Water low and muskrat houses (average 3 per lake) 50 per cent above water level on dry land but generally near water. 2 meadowlarks in area but no other birds observed. From sandpits covered broad open fields to NE. There were a few horned larks and one redtail hunting the field but did not observe other kinds of birds. Area used extensively for alfalfa.

These broad wind swept fields are inhabited by horned larks and seldom, except meadowlark, by any other kind except predators. Could see 8 large ducks (mallards?) flying down the Kaw River to E.



Left car at point A

and continued SE along the river. The Kaw is entirely free of ice except on N exposures in some isolated positions. No ice moving in water. Partially sunken boats still retain ice although water surrounding them is open. Water clear to at least approx. 3 feet and slightly greenish. I had noticed that although the Kaw is open below the dam at Lawrence, the river ^{about} below the dam is ^{frozen} open. Recorded the following photographs (see map):

- 670122-1 from N side of the mouth of Mud Creek looking S down across the mouth of creek. Kaw in background. Beaver have consistently used the area to right of river (mouth Mud Creek)
- 670122-2 from near bend of river and showing Kaw River to S. Rocks in foreground part of barrier and nat native. Extensive sand bar in river. (1/10 mi. NNE of mouth of Mud Creek).
- 670122-3 log at edge of river showing Kaw upstream (6/10 mi. SW of NE corner sec. 26, R 20E, T. 12S).
- 670122-4 (3/10 mi W and 1/2 mi. S of NE corner Sec 26, R 20E, T 12S) showing large cottonwood trees in foreground and Kaw in background. These trees were isolated by some distance from other cottonwoods of similar size along river.
- 670122-5 of old elm tree with locust in foreground. This is in an area of cliffs, some 10' high, created by overflow of Kaw. One supported good fungus and spring seepage. No petroglyphs observed but one area may have supported overhead protection. (1/2 mi. E + 2/10 mi. S NW corner sec. 26, R 20E, T 12S).
- 670122-6 cattails in marsh at mouth canyon. Artificially created by drainage barrier. Frog calling weakly. (2 mi. E and 1 1/2 mi. S NW corner Sec 26, R 20E, T 12S). Coyote + fox tracks associated as was one muskrat channel. In this area noted 2 meadowlarks to alight in tops of tree.
- 670122-7 maupin estate, 1613 Tenn. Lawrence, Kansas

noted the following birds and mammals:

- Crow. One group of 3 birds remain in one area while in the field.
- hairy woodpecker - 3 individuals
 downy " - 1 individual
 redbellied woodpecker - 3 "
- juncos - 2 species but not common
 song sparrow - 1
 blue jays - 4
 cardinals - 12
 tree sparrow - 4 group about 20 per group.
 no deer tracks in area
 no ducks while in field except the 8 noted earlier. (4 hrs.)
 3 cottontail rabbits.
 Chickadees - approx 8

Lawrence, Douglas Co., Kansas

Jan. 26, 1967 (7-8 P.M.)

Unusual storm in area last night, following a previous storm accompanied by tornados. Last night the storm included lightning and thunder of a magnitude seldom experienced in this area. This culminated a cold front that abruptly passed from the N over the city at 3:30 P.M. yesterday. Rain immediately froze on limbs of trees and other surfaces followed by 2-3 inches of snow. The weight of the ice damaged great numbers of trees, breaking off limbs as large as 1 1/2 to 2 feet in diameter down to terminal twigs. Some streets has 5 or 10 large trees so effected. Other trees showed bent branches and limbs, some to the ground, and this bending continued through-out today even though the total weight was stabilized. Small bushes and weeds did not seem to accumulate the amount of ice as the higher parts of trees, although mesh fences supported ice to bottom. It would be interesting to see how fox squirrels navigate on limbs that are completely sealed with ice. Inside dense junipers the limbs were relatively free of either snow or ice.

Jan 27, 1966

Ice remained on trees and objects the entire day without sign of melting. Potter's Lake now frozen solid, but yesterday was open. noted that untreated board fences lost some of its ice coating whereas painted wood structures retained the ice. Tennis court enclosures of wire were equally covered with ice from top to bottom.

University of Kansas, Lawrence, Douglas Co., Kansas

Jan 28, 1967

Potters Lake still completely frozen. at approx 10:00 A.M. recorded the following photographs on the campus:

- 670128-1 close-up of ice formation on trees at Campanille
 670128-2 general view with ice covered pine needles bordering.
 The ice completely covered all needles and stems with snow accumulation in center of needle base. Some needles and branches had up to 6 inches of pendulous icicles.
 670128-3 close-up of ice formation on pine needles
 670128-4 at Potters Lake on W side. Large elm and reflected trees on ice.
 670128-5 ibid.
 670128-6 ibid. but with frame of crab apple.
 670128-7 Large elm and ice covered tree below.

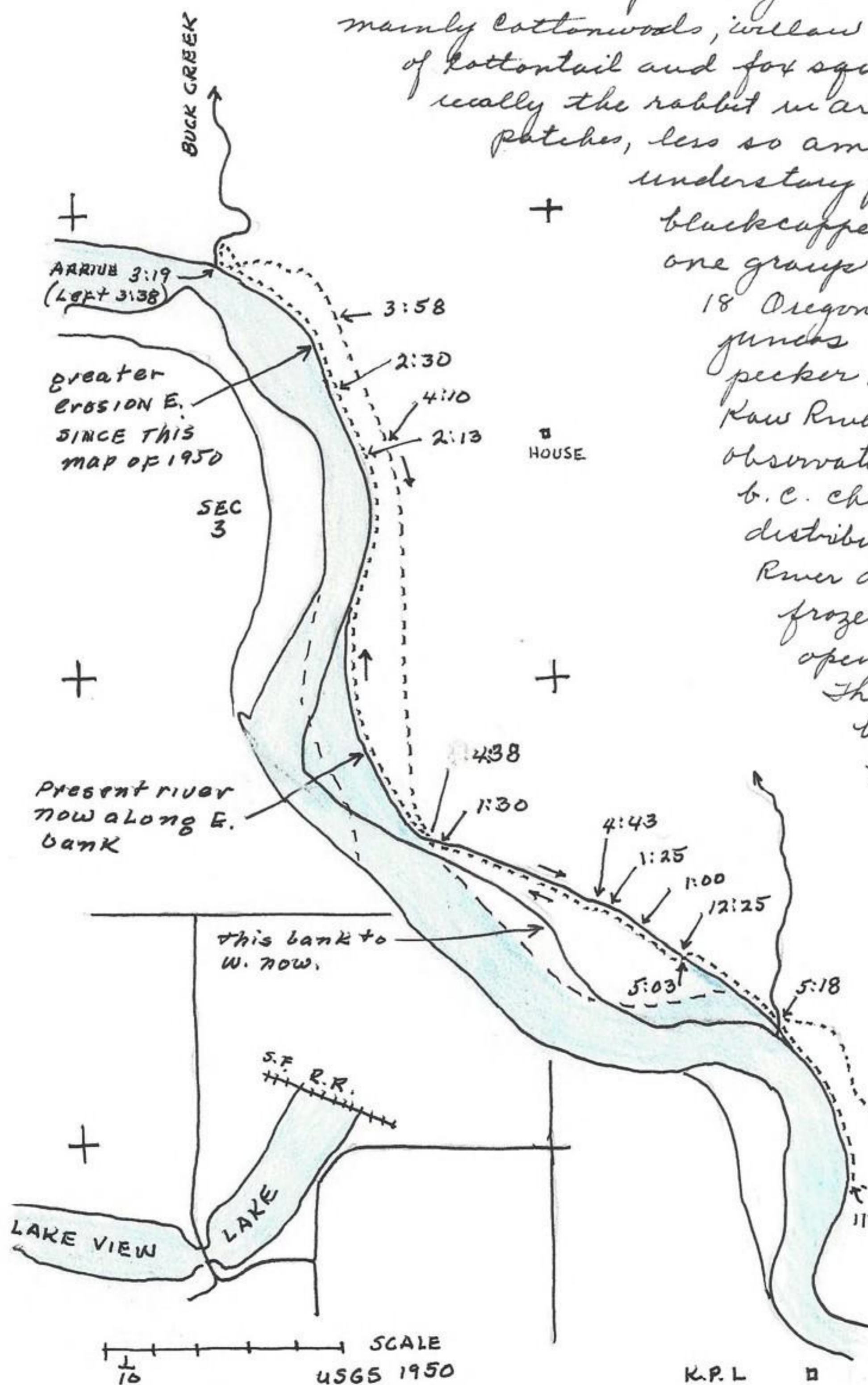
Shortly after 11:00 P.M. the snow clouds and haze passed and the sun started to melt the ice and snow on trees. By 5:00 P.M. most ice was off trees except those in protected places and on N exposures. As the ice melted, the snow among the needles changed from ^{white} snow to a saturated slush. Most trees and especially conifers showed signs of twig and needle pruning. Under almost all pines there was a layer of ^{individual} needles and needle clusters. The ice accumulation on the needles had separated them individually from the clusters. Added weight of ice & snow had broken the terminal clusters. This condition was in addition to the frequent breaking off of major limbs, some 8 inches and larger in diameter. Deciduous trees also shed the outer 2-6 inch terminal twigs, some trees with almost a complete covering on the ground. Many limbs still bent from the weight of ice, although the ice had been removed by the sun. Watched both the gray and fox squirrel in trees. They were definitely handicapped by the ice covered limbs, especially as they passed over from one tree to another. Noted several instances where the squirrels failed to make the jump and landed on limbs below. In no instance did they fall to the ground but am positive that such mishaps occurred. Not much activity by squirrels the day of the 27th. Have noticed that today the starlings are perching either singly or small groups in tops of high trees as if taking advantage of the sun.

Kaw River, Douglas-Jefferson Co., Kansas

Jan 29, 1967


Made trip on foot along E side of the Kaw River in the vicinity of Lake View (see map below). Day overcast, slight breeze in A.M. and first part of forenoon but dead still in later afternoon. Temp at start 45°F. Left car at 11:15 A.M. 38 meadowlarks flew from open field and alighted in top of tall cottonwood tree. Will keep complete record of birds and mammals observed, and correlated with time. 11:26 4 slate colored juncos feeding on short grass of dike. They flew into trees 50' away. Snow covers practically all of the ground but only an inch or so except in drifted places.

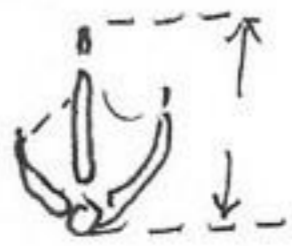
Route leads into riparian growth of large trees, mainly cottonwoods, willow and elm. Tracks of cottontail and fox squirrel common, esp. locally the rabbit in areas of open field weed patches, less so among trees with poor understory plants. 11:30 8 blackcapped chickadees in one group associated with 18 Oregon & slate-colored juncos and 1 downy woodpecker. 11:40 arrived at Kaw River. Since last observation have noted 15 b.c. chickadees generally distributed in singles or 2 or 3. River at this point is 80° frozen with intermittent open water in center. The water is influenced by the dam at Lawrence. Temp. 31°F. Only a few fragments of ice are moving and accompanied by an audible sound as ice contacted the solid river ice.



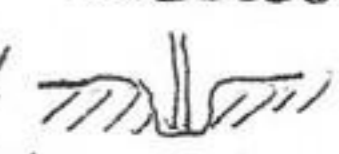
I would estimate 50 cottontail trails between car and river. 2 blue jays in area.

K.P.L. □

Limestone rocks placed along river as crossonal barriers
 have eroded and exposed excellent examples of fossils. Locality
 would be unknown of course. 11:53 2 kingfishers at edge
 of bank. One chased the other across the river and later re-
 turned, calling frequently. A ♂ & ♀ mallard swam in open
 water about 2/10 mile up river. 11:56 2 blue jays. 12:00 first
 large cottonwood trees arranged in pairs with drainage ditch of
 15' between. 12:07 drainage from right. 2 song sparrow and
 4 Oregon juncos. There is a bend of the river at this point.
 12:13 Cottontail rabbit, red-bellied woodpecker calling. At
 this point counted 1 rabbit trail in 500' at approx 10 feet from
 edge of river. An equivalent distance 100' inland among some
 size willow and slightly more undercover counted 4 rabbit trails.
 In this same area counted 3 squirrel tracks in the first
 500' and 1 in the second 500'. 12:25 head of channel
 that lines the bank and eventually empties into the main
 river. This water is 43°F which is 12° warmer than
 river. The water is free of ice and is a beautiful yellow-
 ish green color from the algae content. Water sample no.
 670129-1. Other seepage with an oily film. It is possible
 that this is a spring and may represent the mouth of a
 drainage that has since been closed by debris from
 river. 12:30 6 goldfinch. There has been considerable
 movement of cottontails on sands at base of bank.  This may supply a route for rapid escape from pursuers
 in the riparian community on the bank and beyond.
 The young willows at edge of sand contact show con-
 siderable girdling of the bark. 12:44 great horned owl
 calling. 2 crows on W side of river. 2 song sparrows.
 12:46 In one localized group at edge of bank noted
 8 red-eyed towhee (*Pipilo e. arcticus*) feeding at base of
 willows on slope of bank as well as 4 h.c. chickadees,
 5 tree sparrows, 2 titmice, 8 slate colored juncos.
 There were 8 sets of fox squirrel tracks leading 50' out
 onto the snow covered sands where they fed on the burr
 weeds. 1:00 3 Canadian geese left edge of river. Their
 tracks ^{in the snow} indicated that they gained the land from the water
 15' beyond and remained in one area. Snow tracks older
 than those that led 150' up the shoreline where they had
 inspected the vegetation. 5 excrement deposits in the snow.

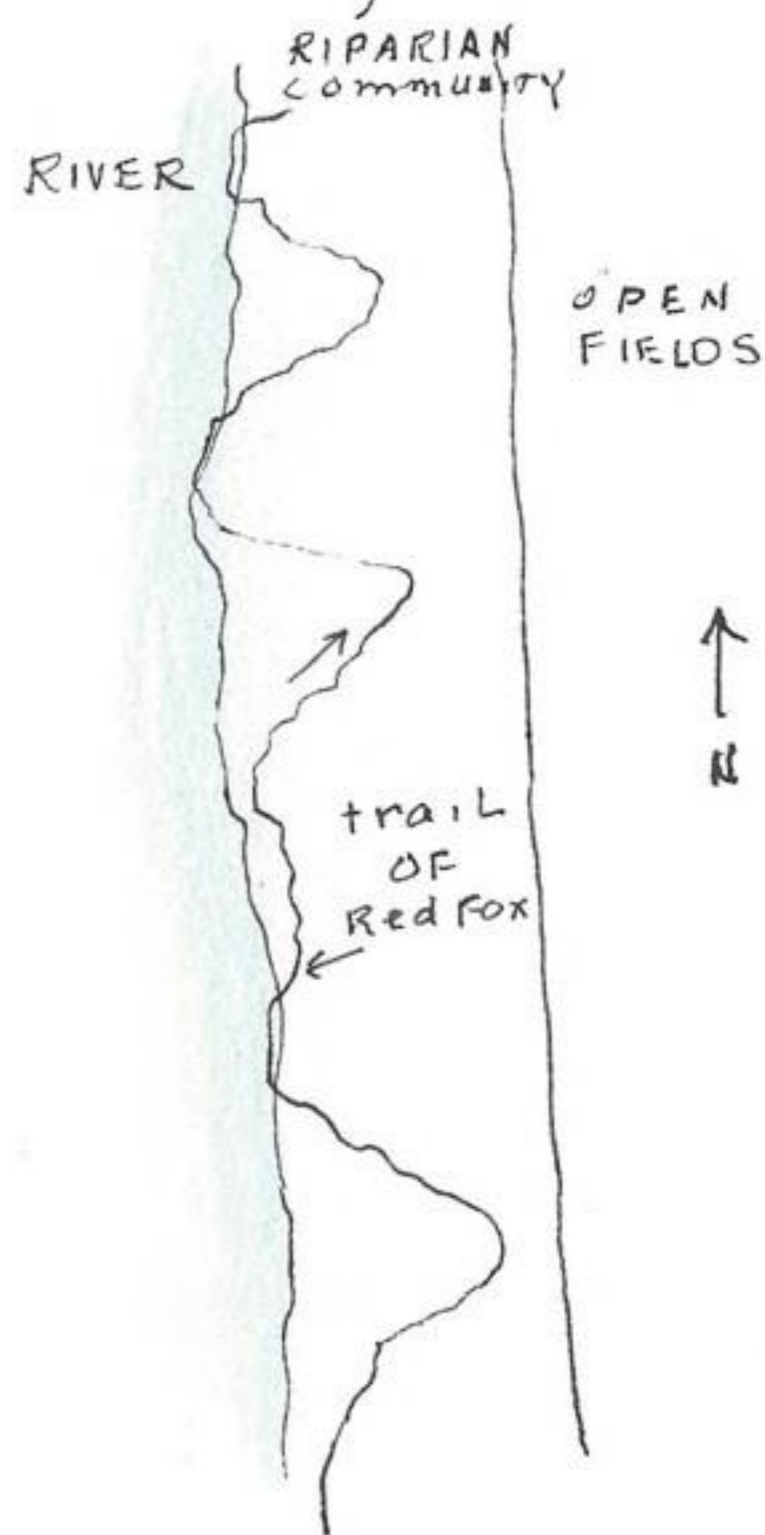


The tracks measured 110 for the large goose
 and 100 for the other two smaller ones.
 They left at 300' and flew up river. The

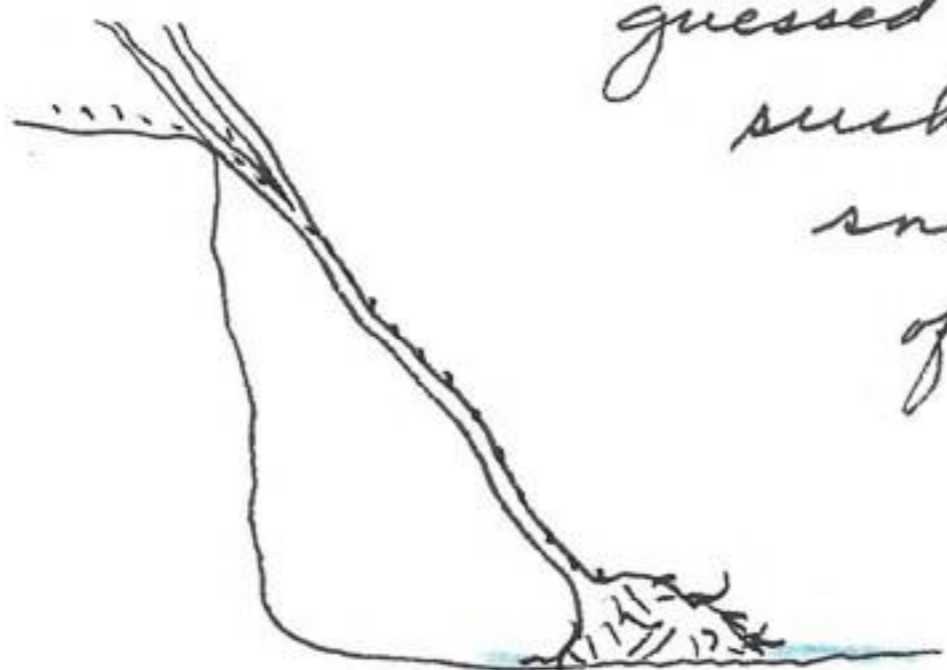
2 mallards noted earlier flew up river. Left the Canada goose area at 1:13 P.M. and continued upstream. 11:20 Herring gull flew down river at about 150' high. 1:25 now directly E of the road on the W side of the river (Brune property) 1:28 13 bobwhite on sandy bank. a marsh hawk and red-tail on W side of river. Weeds growing on sands have stems exposed to ground  1:30 point. River free of ice in middle and with a few fragments of ice moving. At this point noted another group aggregation of birds including: 2 golden crowned kinglets, 5 b.c. chickadees, red-bellied woodpecker, 5 song sparrows, 3 titmice. Good cover along bank as well as on top of bank. 2:08 male American merganser flying up river, 1 1/2 feet above the water. It alighted in water at bend beyond. 2:13 fresh red fox tracks in snow travelling up river. From the evidence of the gait would expect this fox to be reacting to my presence. The tracks measured 60 mm hind foot and 50 mm the front, which is large for this fox. The tracks led to edge of high bank (15') and after a pause, jumped down onto slope and continued ^{on slope of bank} up stream. 2:18 at a bushy slope of the high bank noted 5 blue jays, 2 of them preening as if having had a bath in the river below, 2 titmice, 3 b.c. chickadees, 3 cardinals, 5 slate-colored juncos. Beyond the bank landward noted an additional 28 Oregon and slate-colored juncos, 8 titmice, 12 b.c. chickadees, 2 downy woodpeckers, red-bellied and 7 cardinals. These birds were associated with an extensive and well-developed weed patch, in partial opening among the trees. From top of high bank noted strae in river of the same nature as the ones examined previously at Eudora consisting of several species of diatoms (*Sirella dominant*) a kingfisher called from W side of river. 2:40 2 song sparrows. Some areas look good for rabbits but there are no rabbits. Their requirements are dense weed and bushy areas associated with ^{edge of} field. 2:45 the American merganser noted earlier left its feeding area and flew up river, gaining gradually to height of large trees and then maintaining this height as it followed precisely the meandering of the river. a downy woodpecker and 3 song sparrows here. 2:45 first fresh & extensive beaver activity since beginning of trip. Fresh chips on snow. There has

been an occasional cut willow (small) but no concentrated activity as in this area. The red fox has kept just in front of my advance and reacting by running, lopping and evasive action. Its pattern has been to follow nearer the river than the open cleared fields.

As it approached the fields it would turn abruptly and cut back toward the edge of the river where it would follow along or jump down onto the slope of the bank and walk for about 200' before reentering the upper slope and top of bank to continue progressively up-river. It definitely places more reliability on the security of the edge of the river than the edge of the open fields. The advance was from a running gait toward the river to a walking gait toward the field. Some intervals of the 4 sets of imprints measured 7 feet. The fox crossed fresh fox squirrel and rabbit tracks without deviation.



Frequently it would pause at edge of bank before descending. 3:00 2 blue jays called ahead 300' as if concerned about the fox. 2 b.c. chickadees here. 3:05 drainage 3 b.c. chickadees. 3:08 4 chickadees. no wind and no shadows from sun. Overcast irregular but heavy. 13 Oregon juncos, 2 b.c. chickadees, 2 titmice, 2 downys, 1 hairy. in one closely united group. 3:18 arrived edge of Buck Creek some 200 ft from its mouth. The fox ^{fox} approach the high bank, thence along edge for 20' to a tree that had fallen onto the bank. The fox then walked down this tree which was at a steep 45° angle to the creek bed and then crossed the ice to N side to continue on. I would not have



guessed this animal to have descended by such a precarious route as the loose snow on this slippery trunk (1 foot) of the tree. The general area at the mouth of Buck Creek supports a high population of fox squirrel. I

saw a greater concentration of trails and diggings in the snow than elsewhere on the trip. One called vigorously and the only one heard today just before I arrived and no doubt reacting to the fox as it passed thru the area. I have

noted many tracks of squirrels all along the route but not one called as the fox passed by. Continued to mouth of Buck Creek, arriving at 3:22. Redtail circled above. At this point surveyed the area up river and saw the red fox that I had been following for the last half or so mile. It was a very large one and accounted for the large size track. It left the bank of river at point where the riparian growth ^{had} been cleared to the very edge of the bank and crossed the open sands to edge of present river and then followed up stream until it arrived at the riparian community whereupon it gained the top of the bank and continued on, first pausing to look back before continuing. In other words it trusted the edge of the river more than the main river bank that had been cleared of timber. It would appear they prefer open river edge to open cleared cultivated fields. At Point at mouth of Buck Creek took one photo (670129-2) of mouth of Creek and ^{Raw} river beyond. Photo shows where red fox moved across open sand bar. I had noticed that whenever the fox used the bank slope and edge of muddy river, ~~that~~ the imprints in the snow on top of bank and in the riparian community were stained with mud for 50 or so feet. Air temp 47°F. Left mouth of Buck Creek at 3:38 and returned via east side of river forests at edge of fields. 3:44 8 slate colored juncos, 2 cardinals, downy, 12 bobwhites on dike. There is many times more rabbit tracks at the field-forest contact than the forest river contact (85% more). Coyote tracks with 18 inch interval between stride and mainly in field and not in forest. 3:47 redtail, 8 Oregon juncos, 3 cardinals, 2 b.c. chickadees, 12 meadowlarks left field and flew to top of high cottonwood tree at edge of field. 3:53 Crossing gully near where high voltage utility lines pass by. Good cover of ~~of~~ bulldozed trees. Many rabbit tracks. 2 downy woodpeckers. 14 cardinals, 8 slate colored juncos, 3 b.c. chickadees. 3:57 measured first of 4 large cottonwood trees spaced about 150' apart. It measured 54' in diameter. The 3rd in line measured 173 inches in circumference B.H. The older part of the riparian forest is on the east side

of the forest. younger trees are to the W or toward the river. All stages of succession can be found. There is some damage of trees by the last ice accumulation of a few days ago but nothing compared to the trees in Lawrence. There was definitely a pruning of small twigs but only occasionally a large limb was downed. medium size branches were more commonly affected than large ones. I would judge there was 70% more damage in town than here. 4:00 16 cardinals left weed field, ^{150'} and flew back to riparian community, 2 chickadees & 8 juncos also returned to forests, 4:05 8 of bob-whites under pile of naturally accumulated limbs as if ready for roosting. 4:10 opposite farm house 2 b.c. chickadees. 4:13 downy. 4:15 opposite 2 large sycamores standing in field. 4:17 redtail. 4:18 edge of bench. Relatively flat and extensive below. 2 b.c. chickadees, 1 song sparrow. 4:20 g. h. owl in tree at edge of forest and flew E across field some 2/10 miles beyond. 4:38 SW corner of field, and getting late for normal census. Cut across to river to W and continued S. 4:48 site of Canadian geese of ~~the~~ early afternoon, 4:43 opposite the Brune road. 4:50 7 bobwhite feeding on weeds and seeds ~~at~~ on sandy beach. 4:55 the towhees were at exactly the same place as observed earlier indicating they do not move too far from their feeding & roosting areas. The young red barked willows have a noticeable odor as I pass along at the contact of willows with sand. 5:02 Spring where sample was taken. Left Spring 5:10 P.M. with air temp. now 38°F. 5:18 Channel from E. 14 Oregon & state-colored juncos in weedy channel. Continued E to dike, thence back toward the car. at 5:23 7 meadowlarks flew into tops of high cottonwoods. 5:35 30 tree sparrows left feeding on slopes of dike and flew to trees 50 beyond where they cleaned their bills. Some returned to dike and continued to feed. Arrived car 5:38 P.M. at sundown. Brilliant sunset. It is surprising that I did not see deer tracks today in an area where they were relatively common a few years ago. The number of dog tracks in the field may account for their absence. There were no skunk, raccoon or opossum tracks, again because of dogs. at 1620 Tenn., Lawrence took photo 670129-3 of late sunset. maupin Estate in foreground.

Kaw River, 2 1/10 mi. n and 1/2 mi. w Lawrence (old P.O.),
Douglas Co., Kansas.

Feb. 4, 1967

Mary Pauline and I took several photos along E side of Kaw River in P.M. Photo 670204-1 of Mary at pond by R.R. bridge at approx 2 1/10 mi n Lawrence (P.O.). She has a carp on string. Photo 670204-2 of pond. Photo 670204-3 along Kaw River in general area of above locality. The duck is a decoy found along the river. Photo 670204-4 Mary on rocks (erosion barrier) along river. Photo 670204-5 Rock barrier with natural bank erosion beyond. The following birds noted: single bobwhite among riparian community; downy woodpecker; blackcapped chickadee; slate-colored juncos, cardinal. This section of the river is used for gun practice and at the time we were there we heard 4 22 rifles and 1 larger caliber rifle. No ducks were noted in the river.

Wakarusa River valley, Clinton area, Douglas-Shawnee Co., Kansas.

Feb. 5, 1967

made bird census in area of proposed Clinton Reservoir, starting from S end of proposed dam at 5:30 P.M. which is late for bird census. Mileage here 44.8, sky clear, 95%, no wind. Sun about 20 min. from sunset. Snow in deep ditches on N side of road and on N exposures on S side of valley, elsewhere clear. Drifts from the NNE, Rock Creek open only along edge of ice at bank. 48.8 Clinton. 49.0 meadowlark, 51.3 Patten Bridge over Wakarusa mainly in ice (white) but some openings of water, 53.5 18 tree sparrows. Snow drifts are associated with plowed field regardless of surface condition and from short cut grass or cultivated field. No drifts from higher vegetation. 54.8 now to S. 56.7 9 juncos. 58.5 Turnoff to Richland and end of census. Entire route along regular road. There was a scarcity of birds at this time of day.

1620 Tenn., Lawrence, Douglas Co., Kansas

Feb. 10, 1967

noted a red fox tear a page from a Life magazine

and after 'stuffing' it into his mouth in as compact an arrangement as possible, moved 150 feet to a nesting tree. Temp 34°F and day cloudy. Time noon.

Kaw River, Lawrence to Eudora, Douglas-Jefferson Co., Kansas.

Feb. 12, 1967

Annette C, Mary & I made trip down Kaw River by canoe, leaving at 12:30 P.M. from the bridge at Lawrence. Annette drove us down to point of debarkation. Photo 670212-1 of the 3 'girls' just before leaving. Will keep complete census of birds associated with river and including those kinds of birds associated with the riparian vegetation (not complete census of these birds).
 12:38 Kingfisher. 12:42 mouth creek from Cement Plant area. Kingfisher here. 12:46 utility lines cross river. 12 beaver trails on N side. Will keep record of trails of beaver. 12:50 redtail and can hear chickadees. Beaver house. 12:56 FMC outlet on N side. Kingfisher. 12:57 4 beaver trails N side. titmouse calling. Red fox squirrel. Air temp 50°F, water 40°F. 12:59 Kingfisher. 1:00 2 beaver trails N side. Cardinal. 1:03 3 beaver houses N side and cut trees. Blue jays. 1:08 at 3 pipelines. 1:10 at second set 3 pipelines. 1:12 utility lines cross river. 1:15 drainage from right, some ice on protected shoreline. 1:24 beaver trails (5) on N side, some cut trees. Kingfisher. 1:26 6 beaver trails and cut trees. All beaver activity so far on N side of river. 1:30 5 beaver trails and cut trees. 1:32 6 beaver trails and cut trees extensive. This is the point where log jam abuts against bank and area of previous photographs. 1:48 Capsize point, wind from NE and 8 horned larks on sands to left. 1:56 passing channel to E, redtail hawk circling. 2:00 8 beaver trails to left and 20 large trees cut. Kingfisher. 2:04 arrived mouth of Mud Creek. 6 beaver trails & cut trees here. Photos 670212-3, 670212-4 and 670212-5 of Annette & Mary in canoe at the mouth of the creek. The extensive beaver activity is beyond trees up bank. Left 2:34. Photo 670212-5 from point just beyond mud creek down river of Mary & Annette in canoe. 2:40 beaver trail to left & cut trees. 2:45 3 beaver trails & cut trees and one bank house of brush crow in area. 2:50 noted a crow to remain in top of tree

while passenger train passed with a hundred feet or so but the crow left as we approached at 200 feet. 2:53 drainage to left and 3 beaver trails and cut trees immediately E of drainage as if drainage was chosen as preference. 2:55 beaver house in log jam. 3:00 left river and made photos 670212-6 of cut bank and tree ready to fall in river. Annette & Mary in canoe. Photo 670212-7 of kids & canoe thru tree branches. Left 3:35. Arrived bend of river at 3:50 and all left river to inspect sand on left side of river. Photo 670212-8 of Annette and log debris at edge of sand bar. Dead tree stand on bank beyond. Photo 670212-9 of sand bar and debris. When meter reading is taken from reflected water the general view is underexposed and a wider aperture should be made to compensate but not too much to make water a blur of white light. Left sand bar at 4:30. Passed point on right at turn at 4:32. Kingfisher here. A great horned owl left right bank and flew N across river. Temp 54°F. 4:43 passing double drainage with trees between. 4:48 Kingfisher. 4:55 left river and made several photographs associated with high cliffs on N side. 670212-10 W end of high cliffs at last tree. This tree in process of eroding into river. Photo 670212-11 of high cliffs of sand and canoe in dark water. 670212-12 high cliffs and yellow grasses in foreground. 670212-13 " " and canoe. 670212-14 " " " grasses. 670212-15 " " " " 670212-16 " " and canoe. 670212-17 " " " " 670212-18 from top of high cliffs shooting down to canoe below. 670212-19 sun reflected from canoe with high cliffs beyond. 670212-20 plane passing by and canoe in foreground. 670212-21 high cliffs from base looking up river. 670212-22 Annette & Mary in canoe at Sanderson.

Left cliff area at 5:30. Sundown at about 5:43. Arrived Eudora bridge 5:44. Temp. 44°F. All high cirrus clouds have left sky. At first part of trip the sky was about 40° in cirrus clouds. On way to Lawrence via S side river, made photo 670212-23 of pollution of air from Coop plant area. Moon & stars in sky.

1620 Teun, Lawrence, Douglas Co., Kansas

Feb. 24, 1967

Noted a gray squirrel collect a leaf of a magozone and after lodging it in its mouth travelled 300 feet to its nesting tree. This is the same behaviorism as the case of a red fox squirrel of Feb 10. in the same area. This may indicate a difference in breeding period of these 2 species of squirrels. One Feb. 17 noted 2 sparrow hawks at the N end of Sellards Scholarship Hall. They were calling. Have noticed them there on various days since then.

Tonganoshie Lake, Leavenworth Co., Kansas

Feb. 25, 1967

Took Mary to Millers Cabin on Tonganoshie Lake via Midland Temp 33°F, clear, high cirrus clouds 50%. Spotted skunk road kill at Serloin State Restaurant N Lawrence. At Midland ^{99.8} 11:30 and will keep complete bird censuses to Lake. Mud Creek 01.2 98 per cent frozen. Ponds frozen 1/2 with new ice and rest from old ice. Horned larks 6, Chickadees 2, Crows 4. 06.6 Crossing Mud Creek at base of hill. juncos & cardinal on slope. Top of hill on uplands 07.1, horned lark, 3 crows, ponds frozen, rare snow drift. 12.4 now to N. 15.0 Mc Louth. horned lark, horned lark, loggerhead shrike. 23.1 leaving highway 16 now to lake. 24.4 Tonganoshie Lake. Some snow on north exposures. Only open water on lake about 200 x 10 feet just N of boat dock. One male mallard and 6 male green-wing teal in open water. Visited Dr. Miller and family and returned via Tonganoshie. Between Lake & Tonganoshie noted 1 striped skunk road kill. Between Tonganoshie and Lawrence 3 striped skunk road kill and one sparrow hawk (live).

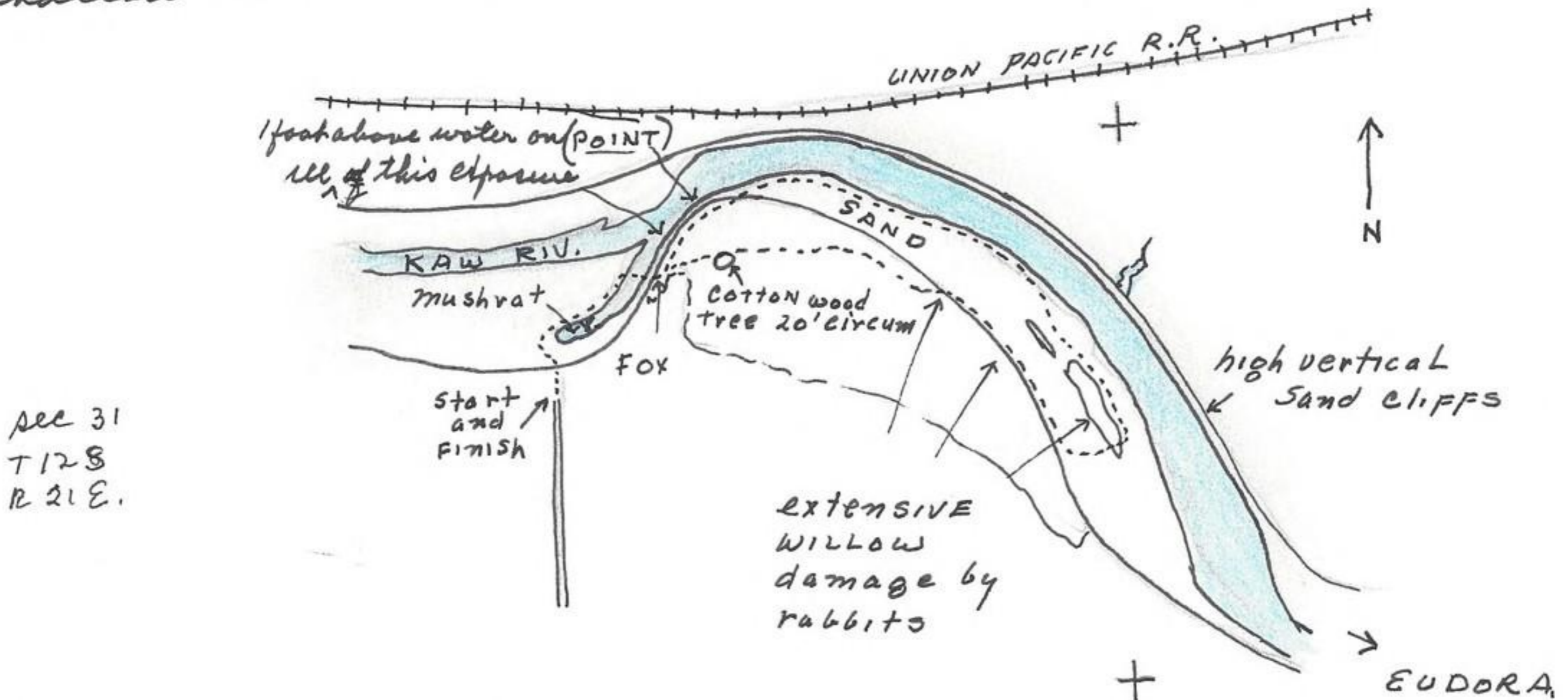
Kaw River, W Eudora, Douglas Co., Kansas

Feb. 26, 1967

Annette P. and I hiked along river, south side, and made the following general observations. Day from clear sky to cloudy and windy. Temp change about 2:00 P.M., abruptly, to cool and uncomfortable. Water lowest I have observed and valley 50% sand. River shallow and main channel narrow. Water clear to bottom. Side channels filled with clear water with bottom covered with green and yellow



algae, some of of substantial growth with considerable relief. The channels have a weak circulation of water to main river. One muskrat was using one of these upper channels which was isolated from the main section of the channel. It left bank in plain view (6 feet from water) and entered pond of open water before disappearing under the shallow ice.



At Point noted gravel at water level with high sand bank superimposed. Canal extend down, reeds and smaller particles on sands above. Birds along bank rare, ^{only 3 horned lark on sands} but include ^{in forest} junco, 8 song sparrows, 2 cardinals, 2 blue jays, 1 red-bellied woodpecker, 3 black-capped chickadees. No water birds. Beaver cutting + down trees at Point and a hundred feet SSW. No deer tracks on sands except at Point but common in forests to S + E. The forest have some large cottonwood trees, one measuring 20' in circumference. This tree was a double tree and one arm off and on ground almost completed decade but identifiable. Some area with craterlike depression 20' deep. Areas of cottonwood with complete covering of gray leaves on ground. Area of sycamores show brown leaves against gray ^{leaves} of cottonwood. Floor covering with only a few green ground plant leaves. This ground cover has not been disturbed for a long time. As we crossed thru forest, drove a red fox to high bank. It left, and as we gained edge there was no fox to be seen in any direction. It was probably hiding in the irregular profile of the high bank, which is one of the characteristics of fox behavior. The small willows along river have been

girdled by rabbits to the extent of 80 percent. ⁶⁷⁰²²⁶⁻²⁶ Willow up to 1 1/2 inches were most commonly consumed, small larger limb eaten but unusual. It will be interesting to see how this pruning will effect this summer's growth. It will definitely favor the larger trees. ^{Polygonum commonly in sandy areas of river bottoms.} Returned to car and drove to Blue Mounds where skeer were on last remaining snow of sky runs, held longer than elsewhere by the artificial accumulation on trails. Continued to Haswell Bottoms and at a point:

3 1/2 mi. S and 8/10 mi E Lawrence (P.O. new), Douglas County, Kansas

Feb 26, 1967

No. 670226-1

Collected the following crow from the side of the road. It measured: 480 mm total length; 950 wing spread; wing 310 mm; culmen 45 mm; 450 gms weight. ♂ R. testes 11 x 8 mm, left testis 11.2 x 8.4 mm. This bird was apparently hit by car although no visible sign of skin abrasions noted. Not fat. Approx. 2/10 mi to S noted one flock of 130 crows feeding in field. This area has always been a favorable area for winter crows and may be associated with orange-grove here. This grove is gradually being cleared. Next year I will see if these crows still use the area after the roosting trees are eliminated. In the Haswell Bottoms noted 2 redtail hawks and one marsh hawk. Haswell Bottoms have not been grazed this winter.

Feb. 27, 1967

Heard first mowmow done this season. Sparrow hawk in nuptial flight on K.V. Campus, diving down to nesting site in Bellard's Hall.

Kansas City and return. Kansas

March 1, 1967

Counted 10 striped skunks (road kills) between Lawrence and Kansas City via highway 10. This is an unusual number and indication of cyclic activity. 12 flocks redwings ^(approx 200 each flock) all fly N. Few ♂ redwings on territories.

Shawnee Lake, Lawrence Co., Kansas

March 3, 1967

Noted one group 3 ♀♀ and 1 ♂ pintail duck at S end of Lake. The male took 3 position in swimming formation. Associated were 2 groups of mallards, one a male & female and another group of 4 ♀♀ and 4 ♂♂. Windy with near white-cup waves. There were no other ducks on the lake and only 1 crow on beaches. Enroute to Topeka from Lawrence on highway

10 counted 6 road kill striped skunk and 1 opossum.
Road side birdlife rare.

Lawrence, Douglas Co., Kansas

March 10, 1967

On March 8, temp down to 50°F. Today up to approx. 85°F. Considerable bird activity associated with warm weather. I have noticed a decided increase of starling now feeding on lawn in back yard. They have not used this area during the winter. English sparrows are associating with the starling.

March 15, 1967

Starling still feeding on lawn in back yard and they seem to be increasing in number. Took 4 photographs of the strain of mice that Annette C is working with. These mice, the ♀♀ develop mammary tumors in 100% of the cases after the 4 or 5 set of young. The ♀ with large tumor on anterior part of body weighed 37 grams, 21 grams of which was tumor. This tumor is poorly vascularized and supports a hemocast of blood. It measured _____ mm in total length. Photos 670315-1, 670315-2, 670315-3 and 670315-4 of these mice.

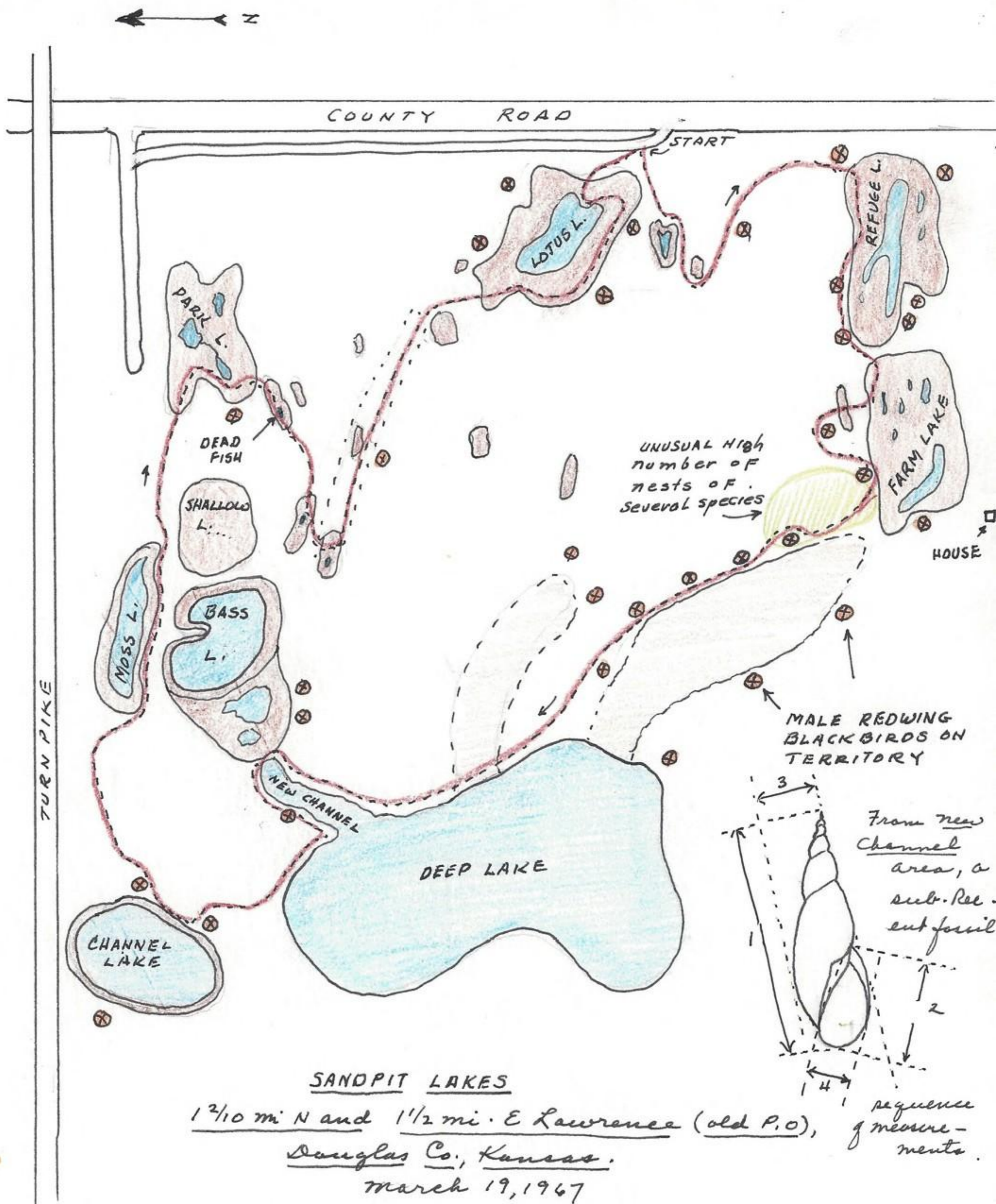
March 17, 1967

The season, up to now, has been characterized by lack of moisture and generally cool weather. The soils are dry. The temp has fluctuated and last few day down to 40°F.



2 1/10 mi. N and 1 1/2 mi. E Lawrence (old P.O.), Douglas Co., Kansas.

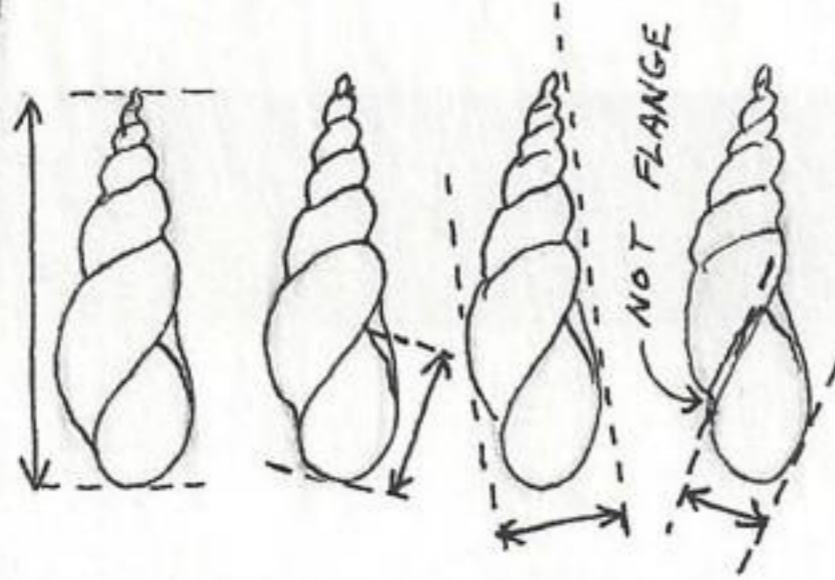
March 18, 1967

Checked birds at Sandpits along turnpike. Observed the following
Mass Lake: 5 male shovellers; 1 male and 3 female bluewing teal; 1 killdeer; 1 long-billed dowitcher. Lotus Lake. 1 male and 3 female green-wing teal; 1 killdeer, 1 red-tail hawk.
Refuge Lake. 1 killdeer. In general area noted 12 male red-wing blackbirds, 10 meadowlarks, 1 Sigmadow hispidus and approx 18 song sparrows generally distributed. The spoon-bills returned to Mass Lake and circled 6 times before finally alighting on water. Ice (thin layer) 80% coverage on Lotus Lake, other lakes free of ice. No frogs observed or heard. On the river facing dike system (2/10 of a mile) west of Mud Creek, noted 18 fresh diggings of cornrows for *Microtus chryzota* and *Sigmadow hispidus* or 1 digging per 50-60 linear feet.



Survey of Sandpit Lakes at 9:00 A.M., temp 34°F , cold wind and occasional rain. On arrival a flock of 66 blue geese and 34 snow geese flew NW at about 1000 feet. The snows were in groups of 1 to 6 among the blues. One group of 6 a separate associated group. V shape formation. a sparrow

hawk left area. 4 horned larks in cultivated field to to E.
 Left ear 9:15. a male and female mallard left Lotus Lake,
 6 spoonbills circling area about 500 high. The male redwing
 blackbirds are recorded on map as circles and a cross. These
 birds were singing and definitely on territories. There were
 instances when 3 or 4 would feed on shore of lakes and would
 be within 2 or 3 feet of each other but when disturbed would
 fly to their separate territories. Old nests were generally
 associated with defending territories. There were 4 redwings
 at Lotus Lake. A muskrat fed and swam in lake; cheer
 house now high and dry and 15-20 feet from water. Lake
 south of Lotus Lake with 100' of water. Considerable *Spirogyra*
 and water clear. One redwing on territory. At Refuge Lake
 a scaup left area, one ♂ + one ♀ greenwing fed on N. shore
 in small bay. The *Spirogyra* completely blanketed the beach
 but free around immediate shoreline of receded water. Less
 in H₂O now than apparently in former times of high water.
 Pectoral sandpiper on N shore. *Sigmodon hispidus* ^{+ nest} under board
 on beach and some 10 feet from vegetation on shoreline.
Helisoma trivolvis very common on exposed beach on all lakes
 6 redwing blackbirds ♀ on territory here. At 9:40 210 blue
 geese and 30 snow geese flew directly north over area and high
 they were in a series of 6 'v' shape formations. 
 At Farm Lake noted 1 killdeer only. 3 ♂ redwing 
 blackbirds on territories. Just west of the south end of Farm
 Lake is an area supporting an unusual number of bird nests, approx
 15 in an area of 100x100ft. The marsh area (dry) between Farm
 Lake and Deep Lake supported 8 ♂ redwings on territories. At
 Deep by 9:50 A.M. no ducks. There has been considerable
 dredging of sand at the SE corner of the lake and surface
 area beyond lake has been prepared for extension of banks.
 most of the lake profiles show sandy soil but some are
 of dark clay and humus as if marsh conditions existed
 in this area at a previous time. This is surprising
 as recent floods (1951) placed a layer of new sands on the
 surface. An old seasonal channel has passed thru the
 area at one time. In an attempt to collect more water
 for Deep Lake dredging, a canal was excavated from Deep
 Lake to Bass Lake. The water now stands, at the head of the
 channel, approx 1 foot below the height of Bass Lake.



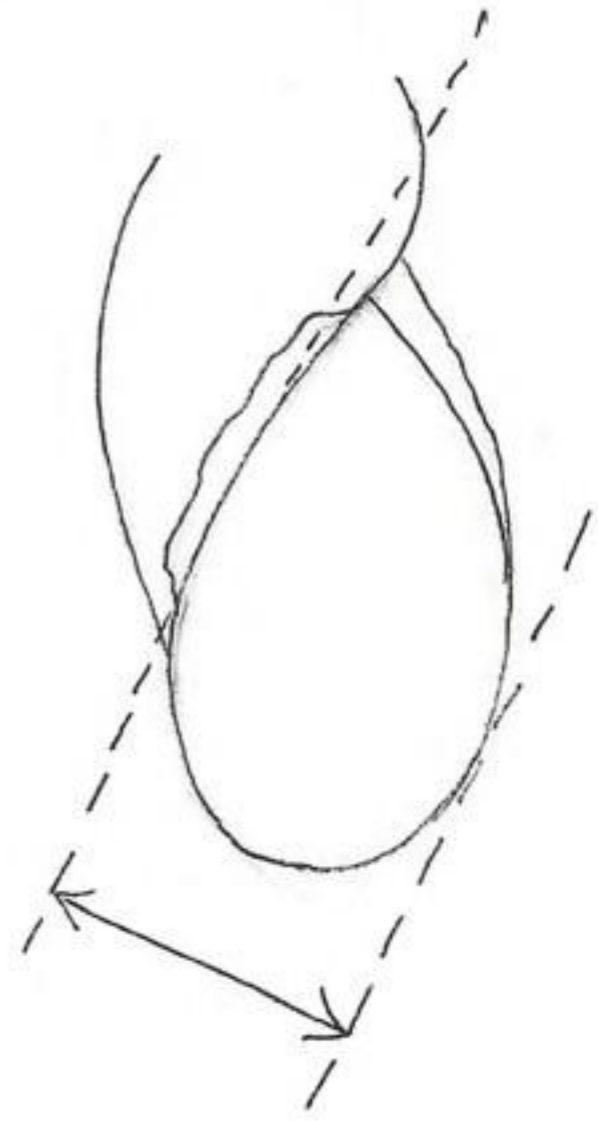
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all measurements
in m.m.

The width of the opening excluded the irregular overgrowth and the measurement is from normal curvature.

The black soil dredged from this channel was piled on both sides and with some previous rains but mainly wind action, the gastropods were exposed on the mounds of soil. The shells are sub-recent and are not living in area today but are modern in localities to the north of Kansas. Apparently this area supported these shells in the same river ^{or marsh} channel as exists today. A random sample of shells was collected and individual shells were measured. The larger shells were represented as dominant in the population. Shell no 670319-1 and 670319-2 were photographed in photo number 670319-3. The length of the largest shell is 41.2 mm. The larger of the two shells in photograph is 34 mm.

At Channel Lake at 10:00. This is a dredged ^{lake and} occupies the same area as the original meandering flood plain channel. Beach is narrow. One mourning dove and a downy woodpecker in trees SE of Lake. 3 ♂ redwings on territories here. At Moss Lake noted 3 male shovellers, 2 killdeer, 1 Wilson snipe and one short-billed dowitcher. This bird seemed to have less red and slightly shorter bill than the long-billed dowitcher. This lake has always been a good lake for ducks, perhaps because of its depth, good spongy and other plants and its nearness to the turnpike (approx 50' away). This proximity may keep predators away. No frogs noted here. Can see across Bass Lake and there are 2 ♂ redwings on territories. on S side of lake Continued E to Park Lake. Spongy completely filling lake which is almost dry. One ♂ redwing blackbird on territory. At small lake SW of Park Lake the remnant pool is approx. 3' x 6'. 2000 dead fish including sunfish, bluegill, bass and catfish were on floor of dry lake just east (8 feet) of the standing water. It would appear that the fish died at a time when the water was higher than the remnant pond. Other isolated patches of fish were in other parts of the pond floor where water was trapped and then completely evaporated. At the pond just S of Shallow Lake noted another remnant of ^{pond} water and in this area of approx 2 square yards were 32 catfish, the largest about 1 foot in length. All fish were exposed to air, some completely out of water. One three feet from the water as if it was trying to move across the dry floor. One ♂ redwing blackbird on territory to ESE. Continued to Lotus Lake where 60 tree sparrows were feeding among short grasses & weeds. Approx 20 song sparrows have been noticed in lake area in general. Lotus Lake is low and muskrat houses all (3) high & dry. One muskrat in lake. Most of the large leaves of the Lotus have disappeared from the SE end of lake where most of the Lotus grow. Today has been cold, windy & with rain in the air. Present temp 36° F and cold wind. Rain started about half way to tree trip. Enroute to Lawrence noted a flock of approx 100 starling feeding on lawn of residence on outskirts of city.

Campus, Univ. Kansas, Douglas Co., Kansas

March 21, 1967.

10 blue geese flew NW and 1000' high at 9:00 A.M. It seems like geese are flying more to NW than in the past which has been mainly to the North.

670321-33

In the last week there have been elm ^{tree bud scales on} windshield of car, today there being noticeable more. Trees have a more reddish-yellow color than in winter.

1 2/10 mi. N and 1 1/2 mi. E Lawrence (old P.O.), Douglas Co., Kansas.

March 22, 1967

Annette C and I made trip to Sandpit Lake to check birds. At Lotus notice 1 mallard ♂, 2 killdeer and 1 Wilson Snipe. One American Coot at Deep Lake. One killdeer at Park Lake. One killdeer + one Wilson Snipe at Refuge Lake. Redtail hawk in area. The 4 fishermen at Bass Lake may have interfered with normal bird population. Time 3:30 P.M. and temp 75°F. Day clear + no wind.

Lawrence to Topeka, Douglas + Shawnee Co., Kansas
March 31, 1967

made bird count to Topeka via highway 10 (S side river), keeping track of complete census of grackles and other kinds only on way over; starling, Eng sp., cardinal, grackles, meadowlark, red-wing blackbird, slate colored junco, ^{morning dove.} horned lark. Total number of grackles (groups are): 6-8-2-15-4-4-2-1-4-3-2-6-2-2-10-14; Big Springs on, 12-32-2-8 ending census at Deer Point Road. Ponds either dry or low, at Shawnee Lake noted 150 coots, 20 scaups, 80 gadwalls, 60 blue-wing teal, 18 shovellers. The gadwalls were restless and ♂ chasing female. The male call is a hoarse nasal low call (single repeated note). Scaup sleeping, teal resting on bank, coots together. A single greater yellowlegs and 1 Wilson Snipe at S end of Lake. On return to Lawrence made complete census from Disney School E thru Wakarusa Valley as indicated, and starting at 2:35 P.M. at mileage 50.5. 50.6 starling.

53.2 Richland turnoff but continuing on main road to E.
55.3 loggerhead shrike
56.0 4 corners n hillside, continuing straight east.
56.4 2 loggerhead shrike, 1 meadowlark.
56.6 2 meadowlarks
56.8 1 meadowlark
56.9 Cardinal + meadowlark. Top of hill + now down.

- 57.1 Creek crossing, dry. 8 Harris sparrows, some calling, 2 black-capped chickadees, 1 flicker, cardinal, slate colored junco.
- 57.2 meadowlark, 8 slate colored junco.
- 57.4 12 junco, 2 field sparrows
- 57.5 Creek from lake flowing, meadowlark. chipping sparrow.
- 57.8 4 eastern bluebirds, 12 junco, 2 cardinals singing.
- 58.2 4 corners & continue to E. blue jay, field sparrow, horned lark.
- 58.4 Killdeer along side of road
- 58.6 loggerhead shrike, field sparrow, ³ bobwhites
- 58.8 corner & now to N. 9 Harris sparrows, meadowlark, 3 crows left plowed field, sparrow hawk.
- 59.0 Redtail resting in tree, meadowlark
- 59.3 meadowlark, flicker in open field.
- 59.4 crow, 2 mourning doves.
- 59.8 main road but continuing N.
- 60.6 Dry Creek & dry. 18 Eng sparrow at farm. 4 starling, meadowlark.
- 61.0 meadowlark. 61.3 eastern bluebird.
- 61.4 now to E. 61.8 3 flickers, 2 meadowlarks.
- 62.2 meadowlark, horned lark.
- 62.4 Deer Creek, usual amount water.
- 62.8 2 meadowlarks. 63.0 2 meadowlarks, 2 eastern bluebirds, 2 starling, 18 red-wing blackbirds. at Coon Creek 8 Eng Sp., 4 junco. 64.0 meadowlark, 64.2 2 redwings, 1 meadowlark. 64.3 4 Harris sparrows. 64.7 Boy Scout Creek, flicker, cardinal, cottontail. 65.0 2 meadowlarks. 65.1 meadowlark. 65.3 to S. meadowlark & mourning dove. 65.6 shrike & meadowlark. 66.1 Rattle Snake Point (top). 66.4 now to E. 68.0 N end old proposed dam, cardinal. 68.4 meadowlark. 68.7 'Y' in road. 69.0 redtail hunting in field, cardinal. 2 bluebirds. 69.1 4 junco. 69.8 Sigel School House & end census.

Lawrence, Douglas Co., Kansas

April 1, 1967

4 inches rain last night & this P.M. Haskell flooded & Wakarusa 1/2 full.

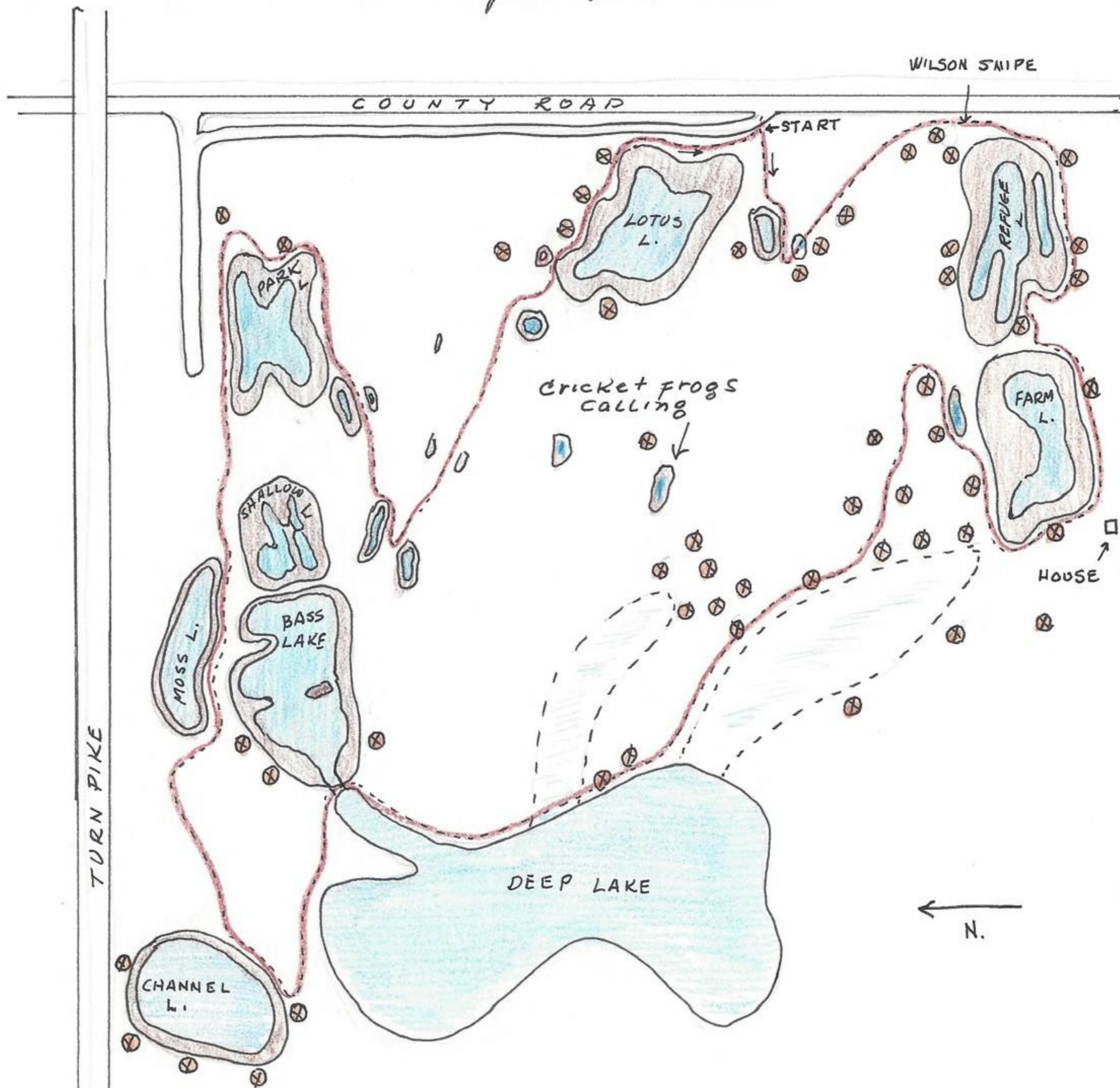
Topeka, Shawnee Co., Kansas

April 1, 1967

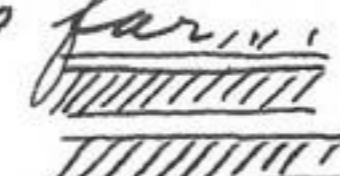
Grackles from Lawrence to Topeka (4:30 P.M.). Intermittent rain. High 80. 2-1-7-2-12-8 to Still Rd; 4-2 to Still; 13-5-6 to Watson Grange. none to Shawnee Lake where census was ended. Grackles mainly associated with tall trees of farm houses.

1 2/10 mi. N and 1 1/2 mi. E. Lawrence (old P.O.); Douglas Co., Kansas.

April 2, 1967



made survey of Sandpits Lakes between 9:00 A.M. and 10:30 A.M. Temp. 70°F, wind strong from SW. Sky 90° covered in parallel clouds and only occasional sun shine thru rows of clouds. At first pond bullfrog and *Rana pipiens* every foot along E bank, 2 or 3 feet apart elsewhere. 2-3 inch ^{long} tadpoles every foot or so of bottom. Single blue wing ^{tree} flew 5. The small pond SW of this pond now has water but no frogs although only 20 or 30 feet from pond that is supersaturated with frogs and

tadpoles. It is a mystery where this population of frogs came from as on previous trip there was almost negligible activity. Some ♂ redwings quite aggressive on territories (to man). Robin near this pond. Wilson snipe in new pond of water near road. a ♂ + ♀ mallard come in from the E (high) and settled in the area. The ♀ called at her approach. ♂ did not call. Refuge Lake had 3 ♂ shovellers, one coot only. at SE end of lake 2 cowbirds + 2 robins. Frogs common (bullfrogs + Rana pipiens) but not calling. It is interesting where the turtles are, they are generally common here. a kingfisher flew over at ^W end of lake and called as if in protest. at Farm Lake one group of 24 ♂ + 10 ♀ bluewing teal, most of them resting. Their call is a squeak. The white undertail coverts do not always show. 3 hell-deer also here. In ^{tree} low marsh area SW of Farm Lake 12 ♂ + ♀ grackles were in passing by and in territories of redwing blackbirds. They continued W. Cottontail here, 2 doves, 1 robin. Stinging nettle 6" high. On E shore of Deep Lake 22 grackles feeding on ground in vegetation inundated by recent rains. Robin here. Water with white caps in Deep Lake + wind stronger here than any other place at Sandpet Lake. In Bass Lake were 3 ♂ shovellers and ♂ ♀ bluewing. Three sparrow hawks arrived from NE and hunted progressively SW across area. at Channel Lake noted a cardinal + cottontail rabbit. One extremely large bull frog on NW bank, 8 grackles in tall trees. It is interesting to note that there have been no juncos or sparrows so far. ^{IV} at Moss Lake measured a thornops 24" long.  black and marking very distinct First meadow ^{black} ~~tail~~ at Moss Lake. Rob white calling at Park Lake. 2 robins feeding on beets. The beach is grown to a small 1/4' high weed. Curious barking of young willows by rabbits. at Lake S of Shallow Lake note 9 ♂ + 4 ♀ bluewings. The only frogs calling were cricket frog at pond indicated. 8 bobwhites at Lotus Lake. One single sparrow, sp.?. 2 hilleders and 1 robin. The day was characterized by lack of sparrows. no fisherman in field. Returned car 10:30 A.M.

1620 Tennessee, Lawrence, Douglas Co., Kansas

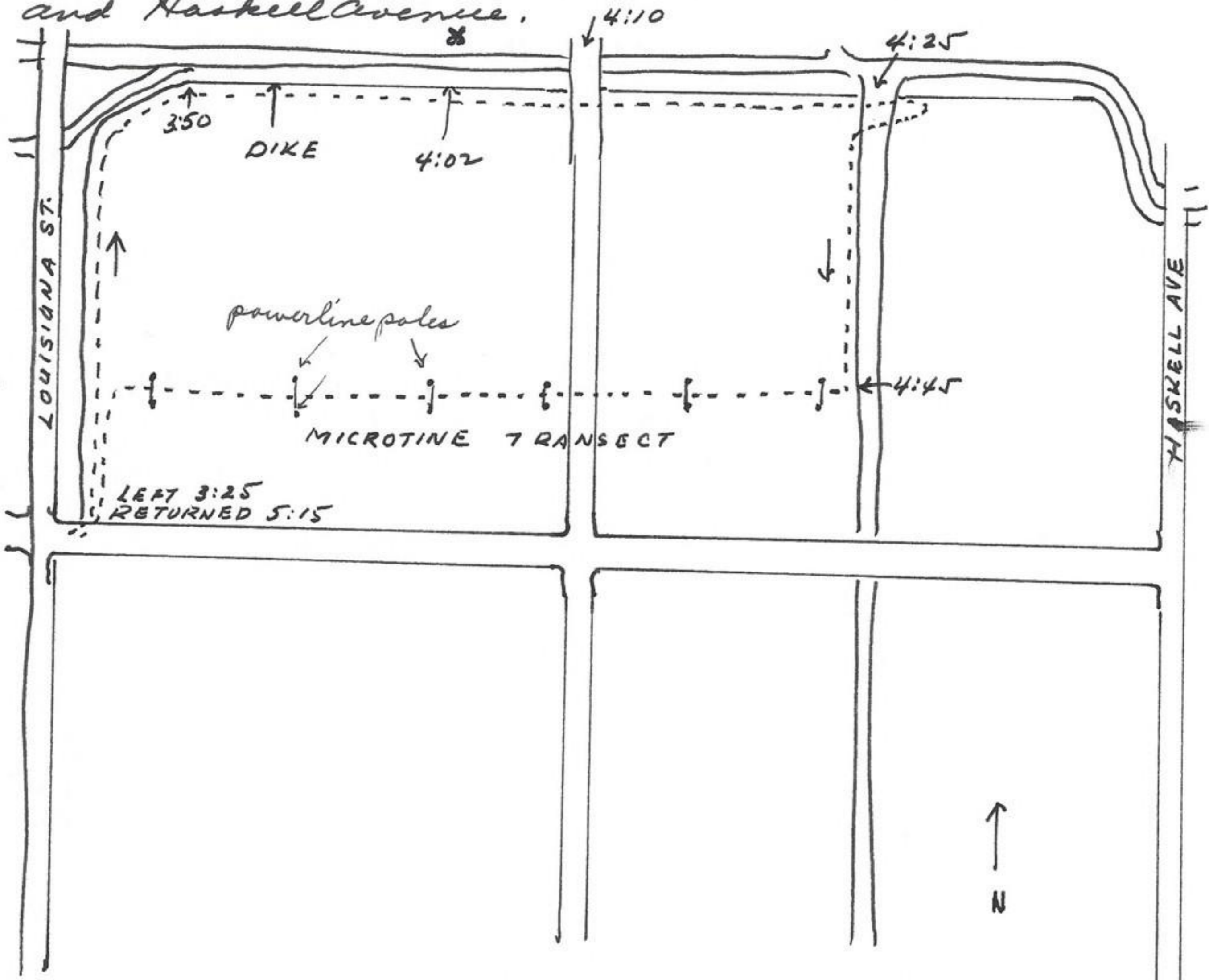
April 3, 1967

At 6:45 P.M., grackles started to fly E over house and by 6:50 approx. 400 had passed by. In this same period of time and in the same flight lane but ^{flying} to the W, approx 300 flew by. There is considerable grackle activity in understorey of trees in area. The first grackles to select nesting trees on the main place across the street did so on March 25. One mockingbird noted at Watkins Hospital on Univ. Kansas Campus.

Haskell Bottoms, Lawrence, Douglas Co., Kansas

April 4, 1967

Surveyed Haskell Bottoms between Louisiana Street and Haskell Avenue.



Left car 3:35 P.M., cool, 10% sky in clouds. meadowlark at car. Followed marsh at base of dike. Cricket frogs calling. 3:36 2 song sparrows together; feathers ruffled on head and body movements jerky. 3:37 song sparrow and reacted as other two. Darning needles active. 3:41

670403-38

meadowlark calling in field to E. 3:50 now going straight E on dike apron. Meadowlark and cottontail. 2 cardinals ♂ & ♀ in tree. 4:02 windmill. Cricket frogs calling mainly from ponds with at least 10x10 open water. meadowlark to S. 4:10 road. 4:18 redtail left field, bars in tail. Redwing blackbird nests (last years) in small trees (3 feet high) in field. No nests in larger trees along stream. It may be that they have moved from large tree nesting sites to low tree sites in meadow. 4:25 water gate. 3 ^{adult} *Peromyscus* under one board. Also one dead *Scymnodon*, partly eaten. One *Thomomys*. Left area of boards at 4:35. 4:37 song sparrow, 3 meadowlarks ringing on wing. 4:42 ♀ cardinal, 2 meadowlarks to E. 4:43 1 male cardinal singing. 4 ♂ redwings feeding together in field and flew to tree. They were not on territories. 4:45 utility power line. One redwing on territory 100' to S. From utility pole line made census of microtine runways to W along sets of pole lines.

Pole I 3 runways, 2 meadowlarks (some trees in field 25' high)

Pole II 6 runways, 5 meadowlarks

Pole III 12 runways, 3 meadowlarks. This pole is 40' W of the center of the road. The 12 runways means that they occur between pole II and pole III

Pole IV 11 runways, 2 meadowlarks

Pole V 8 runways, 3 meadowlarks

Pole VI 6 runways, 5 meadowlarks. There is more grass beyond pole 6 than elsewhere.

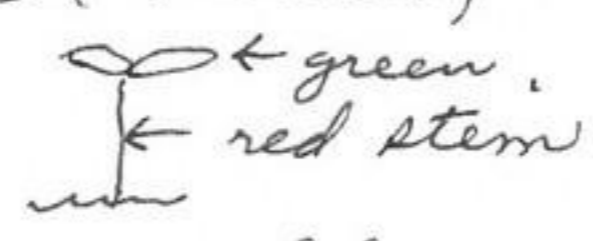
Along this transect would judge that the runways represent 60% *Microtus ochrogaster* & 40% *Scymnodon*. The meadowlarks were calling in a very soft voice. One called loud like a western bird. Apparently the fields were not used for grazing this winter.

1 2/10 mi N and 1 1/2 mi. E Sandpits (P.O.), Douglas Co., Kansas

April 5, 1967

Observed the following at Sandpits Lake. Followed same route as April 2, 1967. Left 3:00 P.M. First lake S of Lotus and small lake just SW of this lake: 2 song sparrows, 2 ♂ redwings, 2 robins. Refuge Lake: 1 ♂ shoveller, 3 turtles

resting on limbs in water. Wilson snipe, many sunfish and frog (bullfrogs). Farm Lake: 2 ♀♀ and 2 ♂♂ bluewings, 5 ♂ redwings, 5 Wilson snipes, 2 ♂ grockles, 2 robin, flicker, Cost, song sparrow (2) along marsh between Farm + Deep Lake; 3 robins, 6 ♂ redwing blackbirds, 1 ♀ redwing, yellow butterfly. E. side Deep Lake 2 redwings. NE of Deep Lake. Cicadellid beetle average 3 per sq yard in area 60 x 40 feet of sandy surface. I have observed these tiger beetles in same area in previous years but never in such aggregations. (seen fishermen at Bass Lake). Channel Lake, 3 ♂ redwings & 1 robin. Shallow Lake: water ^{of recent rains} now almost evaporated. meadowlark on Turnpike right of way. Park Lake: meadowlark. Corridor Lakes: 1 redwing, not many frog calls. Exposed surface of lakes (beaches) now grown to green by a 1/2" high plant. Lotus Lake: 2 snipes, 4 ♂

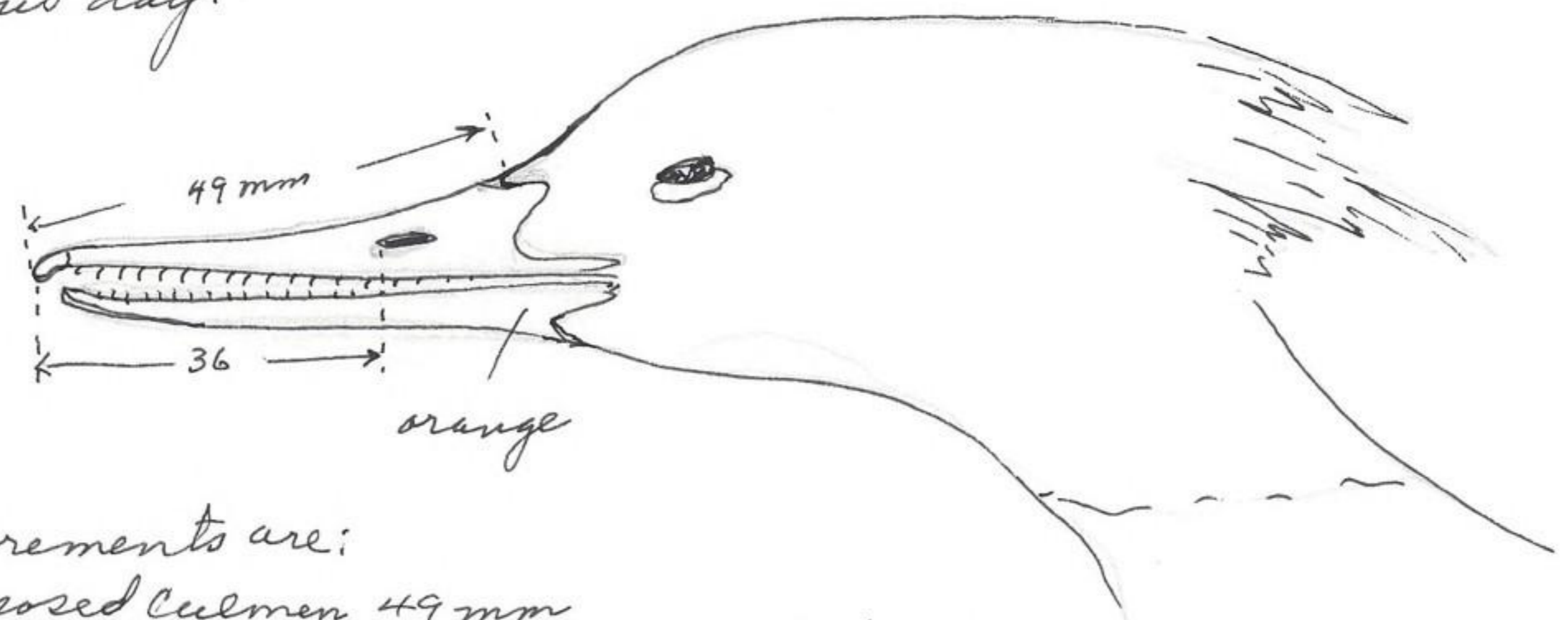


redwings, 7 ♂ + 3 ♀ bluewing teal, one baldpate with injured left wing but capable of flight. It remain along in lake.

middle sec 3, T. 125, R 19E, NE Lak View, Douglas Co., Kansas

April 6, 1967

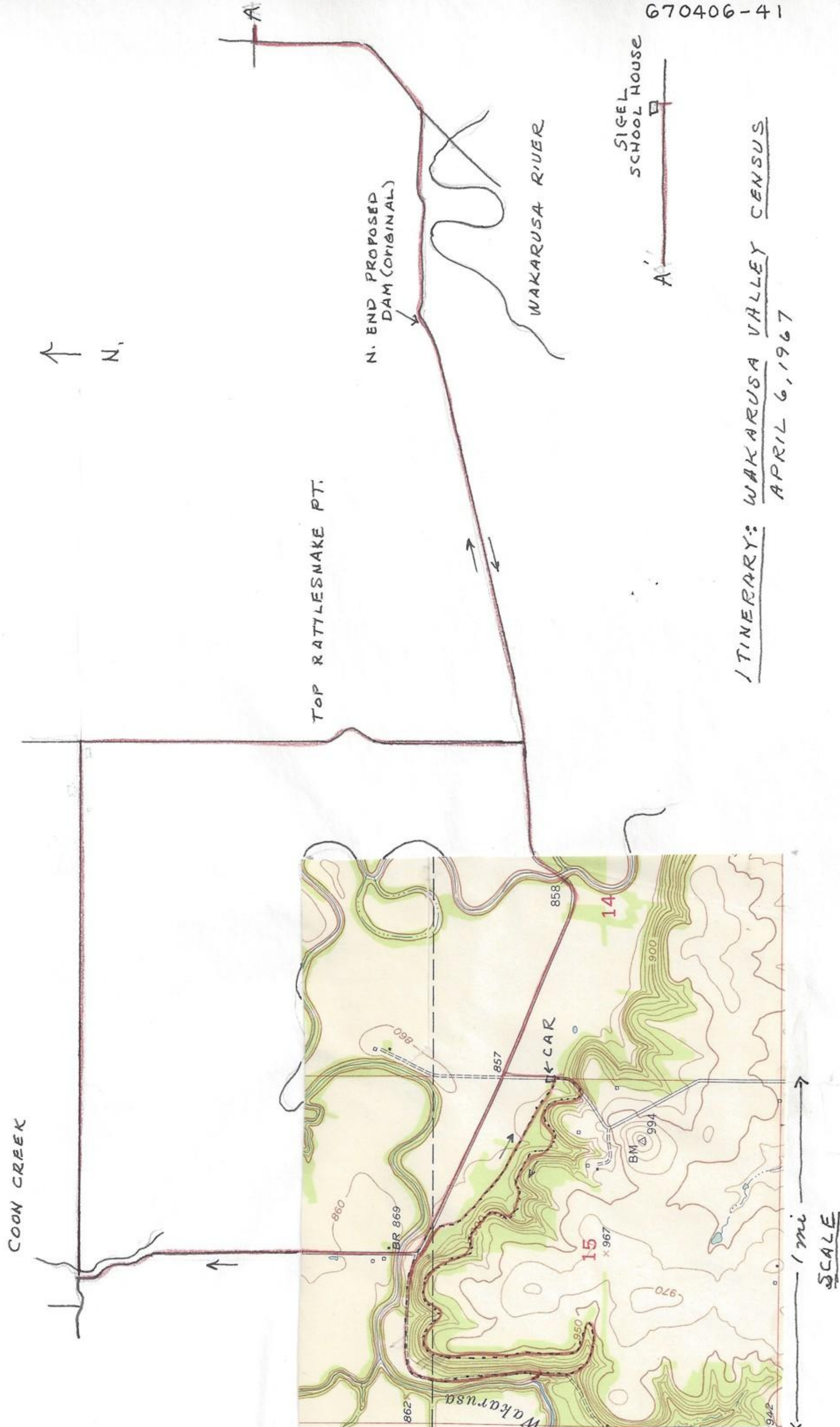
James R. Bee and Stewart Brune collected the head of a red-breasted merganser, ♀ from sandbar along river (Kaw). The eyes had not receded into sockets and presumably had been killed the previous day.



Measurements are:
 exposed culmen 49 mm
 distance from anterior nares to tip of bill 36 mm

Wakarusa Valley, Clinton area, Douglas Co., Kansas
 April 6, 1967

made census along roads and on side of valley in the area of the proposed Clinton Reservoir, starting at Sigel School which is at the N end of the proposed dam. Birds observed from Lawrence to Sigel via 23rd street. Birds only. Grackle, redwing blackbird, starling, Eng sparrow, Robin, meadow lark. At a pond at W end of 23rd noted 2 ♀♀ scaup ducks. Mileage 51.9 at Sigel. Temp 75°F, sky slightly hazy with high cirrus about 10 per cent. Now complete census of reservoir area, ^{at 10:53 A.M.} 52.0 meadowlark. 52.4 now to S. 52.6 cardinal, 53.0 "Y" in road near bridge but continue W. Eng sparrows at farm. Cardinal. 53.2 cardinal. 53.3 small bridge, cardinal. Trees along Wakarusa showing 60 per cent yellowish green of new foliage. Hillside trees on N exposure with only an occasional tree with yellow-green, rest of tree much as if in winter, some faint color however. S exposure, with 10-30 per cent tree in beginning foliage. 53.8 N end proposed dam. Redbud on slopes and most conspicuous tree. 54.9 3 horned larks. 55.0 Peterson turnoff. 55.6 Wakarusa Bridge. Water has been up 3/4 of channel, now at 1/5 level. Water brown with silt. Eastern phoebe left SW end of bridge. 2 nest of last year but no evidence of new construction. Old nests with green fungus-like growth on sides. (80 per cent destroyed). 56.2 now ^{forward Clinton} to canal at base of hill where car was left and valley slope traversed to W. (see map). Left 11:10 A.M. and crossed marsh, ^(SW) area to right of road and gained hillslope about 1/2 distance up slope. One redwing on territory. This area is rank in grass & weeds and apparently has not been grazed. 11:13 to where. Gooseberry common and leaves 1/2 way out. Violet and white - 5 petaled flower out. One lily also out on forest floor. Umbrellalike plant from 4 to 1 foot high. Tree look like winter but some just coming into leaf. Some elm on tops of trees green. 11:17 2 ♂ cardinals. 11:22 ^{down to} isolated marsh among trees at base of hill. In previous years the vegetation was high but this year has been beaten down ^(matted). Mammal activity among Carex?. Older trees at base of hill mainly dead. Chickadee calling. Titmouse calling. At mouth of gully to west, the alluvium covered with consocias of elm about 5 inches in diameter. no undercover vegetation. Dead



leaves covered the ground. 11:26 creek. cardinal. Stinging
 nettle up to 1 foot in height. 11:28 bluebird. Gooseberry
 bushes make navigation difficult on these north exposures.
 11:33 turkey vulture flying w just over tree tops on side of
 valley. 11:36 2 cardinals; likely looking red-tail nest on
 upper slope. 11:40 Chickadee, 2 male cardinals. 11:46 creek
 and titmouse calling. Black and yellow swallowtail
 and 5 species of other butterflies out, one a large black
 swallowtail. Actually there must be about 10 species.
 11:48 main drainage from this canyon. Chickadee and
 downy woodpecker here. Fox squirrel and raccoon tracks
 in mud of creek. 11:47 Chickadee and red-bellied woodpecker.
 Shagbark hickory with leaves still on lower branches of tree
 and rustle when wind blows. Forest otherwise quiet.
 11:50 female cardinal. 11:51 old rock fence on upper slope.
 near point. 11:55 2 Chickadees, titmouse and 2 cardinals.
 11:58 main stream of canyon, 2 cardinals singing. 12:00
 fence line, Chipping sparrow calling. 2 ruby crowned Kinglet.
 Left at 12:08. Mourning dove nest of 2 eggs. nest 25 feet
 high. Red-bellied woodpecker. now on old road that lead
 from Patton bridge (or old railway station) up slope toward
 Clinton). 12:15 titmouse calling, 2 cardinals. 12:19
 point above R.R. station and crossing fence into heavily
 grazed slopes with scant understory vegetation. Trees
 far enough spaced to produce grass. 12:20 3 Cardinals.
 12:22 mainpoint with drainage to W. This point is at a
 90° angle to S. Good vantage point. Pond below. wall-like
 outlier beyond point. Chickadee. 12:27 Creek leading into
 pond beyond. 2 titmice; 1 chickadee. 12:30 west side of
 drainage. 12:31 redtail left trees and did not call. 12:33
 point and now S along west slo east slope of Watawusa
 valley. 12:34 above old log cabin. Chickadee calling.
 Turkey vulture directly above. flying down canyon. 12:37.
 First Eumeces noted. cardinal singing, hairy woodpecker.
 12:38 stopping for 5 minutes. Red-bellied woodpecker
 and can hear other cardinals in trees bordering river beyond
 but did not include birds beyond limits of slope. Flicker.
 Left at 12:43. 12:50 stop 5 min. Cardinal calling. Chickadee
 calling. Wind variable and on one bench will be
 blowing in opposite direction to bench below. Left 12:55
 12:56 2 red-bellied woodpeckers, 1 titmouse. 1:00 minor

gully. Undermined shagbarked hickory at brink of cliffs at
 right of gully. marmot 200 feet S of gully at edge of bench.
 A ram about 150' to holes in ledge which in turn are about
 50' S of top of gully in ledges. now 1:03. A titmouse
 was noted flying S along ledges to a point 200' where
 it entered a hole in a tree. It traversed the area in
 4 stops and when flying made more rapid beating of
 the wings. This gulch will be known as marmot gulch.
 Left 1:12. 1:16 second minor gulch. natural rock
 promontory on N side of gulch. This gulch could be
 called Arc gulch because of the broad arc it forms.
 1:17 Point and now up along main E-W lateral drain-
 age. 2 blue jays below. 1:18 pile of small rocks (1 to 4
 inches in diameter and not associated with elevation.
 1:24 head of drainage where ^{old} road leaves gulch and
 joins top of hillside. Some trees, ^{hackberry} on road now 4-5
 inches in diameter. now following road down gulch.
 Crow calling E on uplands. Titmouse calling. The goose-
 berry is common on N exposure and sparse or lacking on
 S exposure of this drainage. One elm approx. 120 years
 old. Other large trees had been cut. where road crosses
 from S to N side of drainage. 1:30 ² chickadees. Have not
 heard frogs calling since at ear in marsh area. 1:32
 now on main ~~to~~ road ^{at old cement bridge} and returning to ear. Titmouse
 and bluebird singing. 1:36 Wabarus River at cascade.
 Water flowing full width of cascade & brown in color. Can
 hear 2 cardinals, 2 chickadees & 2 titmice. Fox squirrel
 on W side river. Left river at 1:38 (area of former Camp site).
 1:41 2 cardinals, 2 titmice. Some hickory leaves 3 inches
 long. 1:45 Chickadee. 1:47 bluebird singing; 1 cardinal;
 crow flew W. 1:48 2 titmice, cardinal, 1 chickadee. Red
 bellied woodpecker. 1:53. Curve, now to E. 2 cardinals,
 1 titmouse and few cricket frogs calling along Wabarus River.
 1:59 male ^{+2 ♀♀} cardinals at pond. Downy woodpecker. Good hole
 in high tree 80 N of road and could be used, by owls. meadow
 larks in fields N of Wabarus. ^{2 ruby crowned kinglets, 1 field sparrow at Patton bridge.} 2:10 leaving road and crossing
 edge of field to S to side of valley. Titmice have given 4 different
 calls today. Flickers calling 2:13 bend of field & now to E.
 Area burned by fire shows holes from burnt out root septens.
 These holes, when filled with water will add aquatic environments
 to the forest area. 2:17 Cardinal and titmouse calling.

2:20 titmouse. 2:21 first small forest marsh, good
 vegetation and animal activity. area 45x30 feet. second
 marsh to E 30x25 feet, about 100' to E. 2:24 outlet
 of these marshy spots. Raccoon and fox tracks in mud.
 2:25 structural mouth of major canyon. Song sparrow.
 Rana pipiens 20 feet out in open field of plowed ground +
 30 feet from drainage channel. 2:27 major marsh slumped
 on front part of tree. Other marsh areas nearer road in good
 condition. 2:30 downy woodpecker, 2 killdeer in plowed
 field, now with standing water in some places. Arrived
 Car 2:33 P.M. Titmouse + chickadee calling. Area E of
 road that was in low mat sedges is now grown to high
 weeds and is less suitable for microtines. Left at
 mileage 56.4 to N. 56.5 main road + now to W. 56.7 bluebird.
 57.0 2 bluebirds, cardinal. 57.2 Patton bridge. 3 ripples
 above bridge. Eng. sparrows at farm. Rusty blackbird (white
 eye), 1 red-headed woodpecker. 57.4 meadowlark. 57.5
 red-headed woodpecker. 58.0 fox squirrel ran across road.
 58.2 Coon Creek bridge. Eng. sparrows + starling at farm.
 Downy woodpecker + 2 grackles. water flowing in creek.
 58.4 meadowlark. 58.6 Clifford Coffman place. 59.0
 drainage ditch, meadowlark. ~~58.9~~ 59.0 top of Peterson on
 Scout Camp. Will check pond to N. water low, no ducks.
 One redtail left below dam with black body and deep
 red tail. Another one perched ridge above old homestead ^{to}
 E. Left. 59.3 Scout Camp drainage. 59.7 old home
 stead on top ridge. 59.9 corner + now S. 60.3 2 meadowlarks,
 60.7 top rattle snake point, 2 cardinals, one field sparrow.
 61.4 now to E., horned lark in road, other singing in field.
 62.6 N end proposed dam; 2 cardinals, 1 bluebird. 62.9
 male + female bluebird on fencepost. 63.0 ♂ + ♀ bluebird on
 fence line. 63.1 bridge, 2 bluejays. 63.2 ♂ cardinal.
 63.3 "Y" in road, Eng sp at house. 63.7 E. phoebe at
 bridge. 64.0 now to E. meadowlark. 64.3 meadowlark. 64.5
 Sigel School and end of Complete census. Will keep
 list of kinds of birds between here and Lawrence.
 Cardinal, raccoon, road kill, meadowlark, (no red-wing
 blackbirds along Soldier Creek where in previous years
 they were common), redwing, grackle, Eng sparrow. Now
 on 23rd street. Scaup still in pond on S side of road.
 Arrived 23rd + slow and end of census.

Shawnee Lake, Shawnee Co., Kansas

April 7, 1967

at 4:00 P.M. noted the following birds: 180 coots, ♂ & ♀ mallard, ♂ + ♀ bluewing teal, 2 Thirteen-lined ground squirrels.

Lawrence, Douglas Co., Kansas

April 7, 1967

Robin carried nesting material to nest site. There are no new calls of spring arrivals.

Kaw River, NE of Lake View, Douglas Co., Kansas

April 9, 1967

Son James noted 28 Canadian geese on sand bar in river.

Douglas Co., ^{State} Lake, Douglas Co., Kansas

April 9, 1967

Annette and I drove to the lake via devious side roads, all W of the main road to Baldwin. Enroute noted: 3 meadowlarks per mile, 2 mockingbirds, 6 sparrow hawks, 8 mourning doves, 38 cedar waxwing (about 1/2 mi. W of Unland), 6 blue jays, 23 Cardinals, several starlings, 15 grackles. No redtails or dickcissels. At the lake noted one pied-billed grebe. In the Baldwin Woods observed a gray squirrel fall from tree (25' to ground) as it attempted to evade us.

Lawrence, Douglas Co., Kansas

April 14, 1967

Noted chimney swifts, in usual summer numbers, at 5:30 P.M. today. I had not observed them either at 8:00 A.M. or noon today. These are the first arrivals in Lawrence. (1620 Tennessee St). Blackbirds are still passing by in flocks and consist of ♂♂ & ♀♀. Wilson snipe at Sandpit Lakes.

April 18, 1967

Gray squirrel carried dried leaves to nesting hole on Maupin property across street from 1620 Tenn. Chipping sparrow now singing regularly. Observed a ♂ + ♀ robin chase a brown thrasher from its ^(robins) nesting tree. The thrasher was singing in top of some tree. 2 blue jays joined the commotion.

Photos 670423-5 Hasbell Bottoms and storm clouds to E

Photo 670423-6 Clouds to E Hasbell Bottoms

" 670423-7 " "

670423-8 " "

670423-9 " "

670423-10 " "

These clouds are typical of spring storms.

Univ. Kansas, Douglas Co., Kansas

April 18, 1967

Recorded observations of laboratory mice (*Mus musculus*) at the Hall Laboratory of mammalian Genetics.

1. females never or seldom fight among themselves either without or with the presence of males.
2. males fight one another most of the time when brought together.
3. when a new female is placed in a cage of males and females, the new female will fight the male.
4. copulation occurs almost immediately when female is placed in cage of males (or male), even though the female is not in estrous.
5. young males seldom fight among themselves until about 30 days old.
6. males fight for territories and not for females.
7. There is always one ♂ that dominates and is less scared.
8. males raised together seldom fight but when separated and then returned will fight.
9. preputial odors of male control estrous cycle.
10. waltzers trample other mice in same cage as the mice (waltzer) desensitize the other mice by constant tactile means.
11. stable order can be ^{upted} interpreted by placing a new mouse into the cage of other mice.
12. In instances of excessive crowding (2 layers) survival supercedes territorial interests or female interest by males.

Douglas County State Lake, Douglas Co., Kansas

April 23, 1967

At 11:00 A.M. made trip to Lake via regular road. Day rain and temp 38° F. ^(see photos opposite page) Noted the following birds between outskirts of Lawrence + the lake: robins 2-2; 15 male + female bluewing teal (pond entering Mary Lake); mourning dove 1-1-1; red-wing blackbirds 20-6-6; grackles 6-2; cowbirds 2; meadow larks 2-4-6-2-1-2; Eng. sparrows at farm houses; yellowlegs sp. ? 6; redtail (Baldwin woods); fox squirrel; bluebirds, 3 horned larks (uplands). Arrived Douglas Co. Lake. Clouds of fog blew to S of lake from air temp being reduced below temp of water. The fog was so thick that I could not see east

Lawrence, Douglas Co., Kansas

April 29, 1967

This afternoon took 50 color photographs of the Lucy Remple-Loring McAllister wedding and presented the photos to them. After the wedding made the following photographs of Annette Christine:

670429-1 to 670429-7 of Annette. She made the dress for the wedding.



side of the lake. The velocity was about 25 m.p.h.. It formed on lake at about 150 feet S of dam and from here to s. side of the lake and then disappeared about 200 S of lake proper. Cottontail at lake. One pied-billed grebe on lake at SW end of lake near dam in protection of the dam. 2 coats hug edge of W shore as if cold wind may have dictated. 2 swallows (barn?) flew over water at intervals. At S end of lake noted eastern phoebe and red-bellied woodpecker and 2 bluejays. Fished upper reaches of arm of lake but no fish. At dam caught small bass (3), bluegill (18). Left lake at 1:30 and returned to Lawrence same way. More rain now. noted the following on return. meadowlarks 1-1-1-1-1; horned larks, 3; grackle 8-7; robin 2; Cardinal 2; red wing blackbirds 17, 6; cowbirds 6; Eng. sparrow; blue wing teal (same group at Mary Lake turnoff). Temp. is predicted to go below freezing tonight.

Lawrence, Douglas Co., Kansas

April 26, 1967

Fox squirrel in back yard and observed for first time. It crossed area as if unfamiliar with area. Coloration suggested a cross with gray squirrel or an aberration of the fox squirrel. Its coloration was: body between fox & gray and variable; white underparts with sharp demarcation with dark sides; tail a washed out light red ending at base of body; same washed out red around eyes and on top of feet; light tail most conspicuous part of animal. Rain & hail last night. Snow predicted tonight.

April 28, 1967

noted young fox squirrel (*Sciurus niger*) with body length of 8 inches. (not including tail) It was awkward but could navigate on the ground and in trees.
 *(For April 29, 1967 see opposite page)

Douglas Co. State Lake, Douglas Co., Kansas.

April 30, 1967

Enroute to lake via regular road noted a decided increase of summer birds since last trip. They included: orchard oriole, Eastern Kingbird, lark sparrow, mockingbird, brown thrasher, barn swallow, cardinal, robin, Eng sparrow,

Field numbers of insects (see opposite page)

670513-1

670513-2

670513-3

670513-4

670513-5

670513-6

670513-7

670513-8

670513-9

670513-10

670513-11

670513-12

670513-13

670513-14

670513-15

670513-16

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670513-21

670513-22

670513-23

670513-24

670513-25

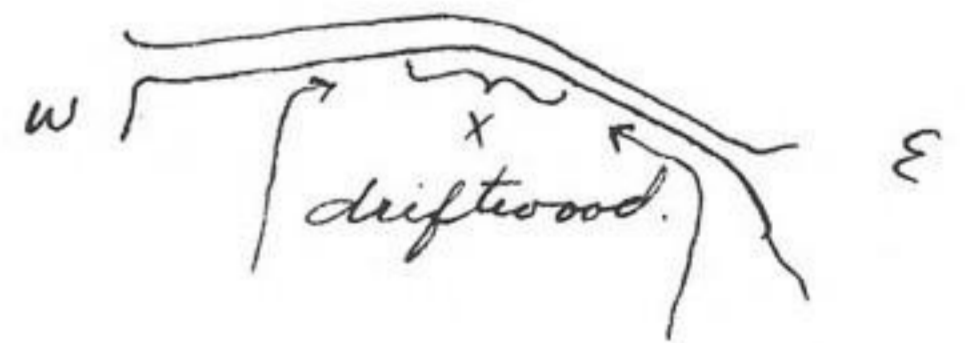
670513-26

meadowlarks, grackles, redwings, cowbirds. At the lake, noted 9 turkey vultures circling at S end of lake, 7 willet flying around lake and calling as searching for a place to land. They must have circled (10' to 100' above water) for 15 minutes and covered the NW part of lake. 79 lesser scaup ducks formed a raft in center of lake near dam. 33 were males and 46 were females. In counting in linear aspect did not count over 5 females before intercepting a male nor were there ever more than 3 males without separated by females. 2 shovellers and 1 coot were in this group. 12 coot formed another group. 1 pied-billed grebe at NW part of lake in essentially the same position as noted on last trip. Barn swallows come to water ^{to} feed for about 20 minutes at sundown. 3 spotted sandpipers and a killedeer were also noted at NW part of lake.

Douglas Co. State Lake, Douglas Co., Kansas

May 13, 1967

Checked the lake in late afternoon and noted 18 black tern, 2 pied-billed grebes, 2 green herons, 1 gadwall in flock of 13 coots, 1 spotted sandpiper, 2 killedeer, barn swallows, chimney swifts. These birds were all observed ^{from} at the SW end of the dam. The barn swallows fed continuously along east side of dam while the chimney swift arrived and after drinking left the area. The killedeer & spotted sandpiper call at late twilight for the first time. Driftwood was collected at one angle of the dam and indicated influence of water circulation at the angle of the dam. I have observed that dyes also react the same way in that the surface waves move the water to the dam and then the water moves along the greater angle of the dam until it arrives at the bend of the dam where the water then moves down to greater depths and returns counter flow into the lake. Six godwits (?) left area at twilight as did one green heron. The bluegill and green sunfish most common species along dam. Collected the following insects near the water and in the deciduous forests surrounding lake (see opposite page)



670514-49

Univ. Kansas, Lawrence, Douglas Co., Kansas

May 14, 1967

made several photographs of conifers from Campus.

670514-1 ~~Quart~~ pine or Black pine, showing megasporangiate and microsporangiate strobili, also mature cone.

670514-2 ~~Quart~~ pine, microsporangiate strobili (staminate)

670514-3 ~~Quart~~ pine, mature cone.

670514-4 Scotch pine, mega. + microsporangiate strobili + mature cone

670514-5 close-up of above

670514-9 Austrian pine

670514-6 arborvita

670514-10 Scots Pine

670514-7 spruce.

670514-11 Austrian Pine

670514-8 white pine

670514-12 Pinon (Pinus edulis)

670514-13 of Patters Lake.

young robin on campus range from tailless to full length tails. most of them are on the ground and being fed by adults. One adult with D.D.T poison syndrome.

Lawrence, Douglas Co., Kansas

May 15, 1967

This evening photographed the family

670515-1 Mary Pauline

670515-2 " "

670515-3 Annette Christine

670515-4 to 670515-6 Annette

670515-7 to 670515-8 "

670515-10 Annette M and Boots

670515-11 " " " "

670515-12 James W.

670515-13 Neighbors cleaning out refuge after winter accumulation on their back porch.

Perry, Douglas Co., Kansas

May 21, 1967

Annette Christine graduated from Senior Scouts at a graduation meeting at Perry. Troops from Lawrence and Baldwin were represented. at home made the following photographs of annette in her scout uniform.

670521-1 Annette in uniform with honor badges

670521-2 Annette at home with white gloves and all.

670521-3 " " "

670521-4 " with skis.

In afternoon made several photo for mil + li who were married this date. Photo 670521-5 of Dove Evans + 670521-6 of li + his sister. 670521-7 of James Robert Bee

Lawrence, Douglas Co., Kansas
June 2, 1967

Photos of Annette Christine Bee at time of graduation from
high school.

670602-1 Annette + graduation hat.

670602-2 Annette P. trying on hat.

670602-3 Annette Christine

670602-4 " "

670602-5 " "

670602-6 " "

670602-7 " "

670602-8 " "

670602-9 " "

670602-10 Two Annettes

670602-11 Annette Christine

670602-12 " " and Dad.

Lawrence, Douglas Co., Kansas

May 22, 1967

Photo 670522-1 of James Robert and his two cars, a 1955 Buick and a Chev. truck. Son James is leaving for Ketchikan, Alaska and will visit his grandfather in Provo and Max in Port Townsend. From there will travel by plane to Prince Rupert or Annette Island and thence to Ketchikan. He is to meet Chris Wall there.

June 2, 1967

Photos 670602-1 to 670602-4 of Mary Pauline at her graduation from Junior High School. She made her own graduation dress. Annette in one of the pictures.

Douglas Co. State Lake, Douglas Co., Kansas

June 2, 1967

Recorded kinds and numbers of birds between Haskell Bottoms and Douglas Co. Lake (regular paved route) as follows:

- | | |
|-------------------------------|-------------------------|
| Dickcissel 68 | grackle 6 |
| killedeer 1 (Haskell Bottoms) | starling 3 |
| cardinal 1-1 | mourning dove 1-1 |
| redwing blackbirds 15 | Baltimore Oriole 1 |
| shrike 1-1-2-1-1-1-1 | Indigo bunting 1-1 |
| meadowlarks 14 | red-headed woodpecker 1 |

This census was between Haskell Bottoms and the turnoff to the lake at the base of the hill at Baldwin woods.

Douglas Co. Lake, Douglas Co., Kansas

June 6, 1967

red-headed woodpecker, grackle, redwing blackbird, dickcissel, cardinal, meadowlark, Eng. sparrow, shrike, indigo bunting, mourning dove, purple martin, robin, cowbird were different kinds of birds noted between Haskell Bottoms & turnoff to Douglas Co. Lake at Baldwin woods. at the lake collected a bass no 670606-1 and a bluegill 670606-2.

at twilight the whip-poor-will started to call at the south side of the east arm of the lake. There were at least 3 in the area. A green heron left lake at about the same time & flew N. The cricket frog & narrow-mouth toad called frequently. On road that leaves E side of lake noted 2 whip-poor-wills in road; one with white topetum reflection from eyes and left at about 100' and another one that remain in road



and called for about one minute at 8 feet in front of car. at each note of the call the body & tail responded with

a vibration

Lawrence, Douglas Co., Kansas

June 7, 1967

Collect a blue jay on campus of the Univ. of Kansas (back Auditorium). It was dead on ^{the} ground and had not been mutilated, by It measured: 280 mm total length, 83 grams weight, wing 130 mm. ♂

Univ. Kansas, Lawrence, Douglas Co., Kansas

June 10, 1967

watched two Sciurus niger (immatures or sub-adults). ^{3/4 grown} Their stance is awkward and give the impression of a paralysis in the back legs which are widely spaced and, ^{peaced} in semi-crouched position. The feet are pointed outwards. Both animals showed this insecure stance. They both approached food with caution with bodies elongated and close to the ground.

Douglas Co., ^{state} Lake, Douglas Co., Kansas

June 11, 1967

made census of birds between Haskell Bottoms (Haskell Ave), to turn-off at Baldwin Woods via regular highway. Wakarusa High. Started 5:22 P.M.

Cuckoo 1

Cardinal 2

Farm swallow 1-1

Eng sparrows (at farm houses).

Mourning dove 6 singles, 1 pair. Cowbirds 2

Ouckissels 55 singles

red-wing blackbird 13 singles

meadowlark 17 singles

grackles 6 singles

In the area of Douglas Co Lake, lateral roads etc. noted

bobwhites 2

redheaded woodpeckers 3

eastern Kingbird 2

eastern bluebirds 4

green heron 2

turkey vulture

brown thrasher 3

indigo bunting 3

farm swallows

no crows

noted a sparrow hawk chase a redtail and a redwing chase a crow.

1620 Tenn., Lawrence, Douglas Co., Kansas

June 17, 1967

At 8:30 P.M. noted 22 night hawks moving directly toward the setting sun at about 1000 feet high. They moved in formation without feeding action and occupied an area of about 100 x 200 feet. They sailed mostly in contrast to flying in the usual feeding behaviorism. Other night hawks were feeding at lower levels in the usual manner.

Hidden Valley, Girl Scout Camp, W Lawrence, Douglas Co., Kansas

June 18, 1967

Annette C and I walked to Hidden Valley via main road that leads directly into camp from the E. Census of birds began at Dowd Street (Highway 54). Mourning dove, meadowlark, starling, Eng. sparrow, loggerhead shrike, blue jay, indigo bunting, crow, chipping sparrow, field sparrow, pewee, brown thrasher, mockingbird, cuckoo, eastern kingbird, red-bellied woodpecker, barn swallow, cowbird, chimney swift, killdeer, purple martin, great crested flycatcher, dickcissel, catbird, yellow shufted flicker. At the scout camp noted the following: woodrat under board near shelter, yellowshufted flicker, grackle, cowbird, phoebe, barn swallow, mockingbird, indigo bunting, cuckoo, cardinal, chipping sparrow, bobwhite, martin, goldfinch, chimney swift. Noted one golden eagle resting in tree about 1/10 mi. S shelter. It flew to large cottonwood about 2/10 mi. S beyond. It was probably a ^{second year} bird as there was considerable white in its upper ^{base of} tail.

Douglas Co State Lake

Lone Star Lake, Douglas Co., Kansas

June 18, 1967

Listed kinds of birds noted between bridge over Wakarusa River on Haskell Avenue to Baldwin Woods near the lake. Do not include deciduous area at Baldwin Woods. This area is uplands of cultivated fields, farm house and valley areas but not deciduous forests as is found at Baldwin woods.

grackle
redwing blackbird
dickcissel
cardinal
mourning dove
loggerhead shrike
bluebird
indigo bunting
goldfinch
mockingbird
brown thrasher

eastern kingbird
barn swallow
English sparrow
cowbird
starling
bluebird, eastern
crow
phoebe
blue jay

Lawrence, Douglas Co., Kansas

June 21, 1967

Pally, Chris, Annette & I left Lawrence at 3:35 P.M. at mileage 92284. to visit Dad. Will follow Interstate to Denver, hence Wyoming. Last night with heavy rain with Kaw River out at Reempton and Perry and all minor creeks including Wakarusa. N. Lawrence is advised to evacuate to higher grounds. Temp 83°F. Between Lawrence & Topeka mainly grazing land. all vegetation, except wheat, green. All farm ponds overflowing. Contours on farms filled with water. From W of Topeka (70-40 junction) at mileage 92324 will record first occurrence of birds to Denver; (Consecutive observation next page)

- | | | | |
|---------|---------------------------|---------|-------------------------------|
| 92325 | Blue Jay | | |
| 92325 | Dickcissel | | |
| 92326 | yellow-shafted flicker | 92812 | golden eagle |
| 92326 | meadowlark | 92899 | magpie |
| 92327 | red-wing blackbird | 92913 | sparrow hawk |
| 92327 | morning dove | 92935 | Avocet |
| 92328 | Crow (Mission Creek) | 92963 | brewers blackbird |
| 92328 | starling | 92984 | spurred towhee |
| 92329 | grackle | 92990 | cliff swallow |
| 92332 | barn swallow | 92036 | ring-billed gull |
| 92334 | Cockoo | 92155 | ruddy duck |
| 92334 | mockingbird | 92155 | godwit |
| 92336 | Cowbird | 92155 | green-winged teal |
| 92337 | Swainson hawk | 92155 | Coot |
| 92339 | eastern kingbird | 92155 | mallard |
| 92340 | great blue heron | 92155 | avocet shoveller duck |
| 92340 | redtail hawk. | 92155 | Cinnamon teal |
| 92344 | killdeer | 92155 | yellow headed blackbird |
| 92348 | horned lark | 92155 | spotted sandpiper |
| 92350 | scissor-tailed flycatcher | 93434 | western grebe |
| 92354 | bank swallow. | 93434 | Kingfisher |
| 92365 | turkey vulture. | 93436 | Calif. gull |
| 92374 | bluebird (eastern) | 93438 | yellow warbler |
| 92392 | green heron | June 25 | |
| 92396 | western kingbird. | 93685 | northern violet green swallow |
| 92546 | night hawk (sundown) | 93627 | Tree swallow. |
| 92561 | lark bunting. | 93759 | Sage thrasher |
| 92565 | ring-necked pheasant. | 93882 | great h. owl |
| June 22 | | 93979 | red-shafted flicker |
| 92413 | roven | 94021 | Canada jay |
| 92620 | burrowing owl | 94550 | Red-headed woodpecker |
| 92622 | rabbit | 94811 | bob-white |
| | | 94696 | L. shrike |

Will keep complete record of hawks, raven, crows, magpies, antelopes

- 92328 3 Crows.
- 92340 redtail.

all creeks flooding, ponds overflowing + brown with silt
 92347 Mill Creek crossing, adjacent fields flooded. Smaller creeks (10' or so wide) are not in flood stage, mainly larger creeks. There seems to be a function of size to flooding, the larger the creek the greater the flooding.

92360 Riley Co. Temp at 5:25 70°F. Flint Hill in beautiful green vegetation. Creeks (small) with clear water.

92365 Creek clear and low but has been at flood stage.

92365 redtail. Turkey vulture being chased by eastern Kingbird.

92368 Manhattan Turnoff.

92374 McDowell creek. 1/2 flood + silted + has flooded previously.

92377 turkey vulture.

92379 Clark Creek 1/2 way up banks, silted, has flooded.

92384 Smoky Hill River 3/4 flood, silt + has not been much higher. Some local runoff flooding.

92397 River near Chapman flooding + 1 foot from bank, silted but has not been higher. wheat in this part of Kansas seems to be a lighter color (light-washed out yellow) in contrast to golden brown in Lawrence area.

92403 redtail hawk, Swanson, redtail hawk.

92414 abilene

92416 Swanson hawk.

92417 Creeks not flooding in sandstone area. Redtail.

92419 Salomon turn off. all the time interstate .70,

92420 Saline Co line. Temp. 78.

92421 Salomon River. full, silted but has not been higher.

92432 Salma River. 1/4 up + has been slightly higher. 8:45 P.M., Swanson hawk.

92434 Salma turnoff. 6:50. Gas. Left 7:00 P.M. Have been out of storm area for some time. Decked a common bird along road all along the way. Ponds about 1/4 full.

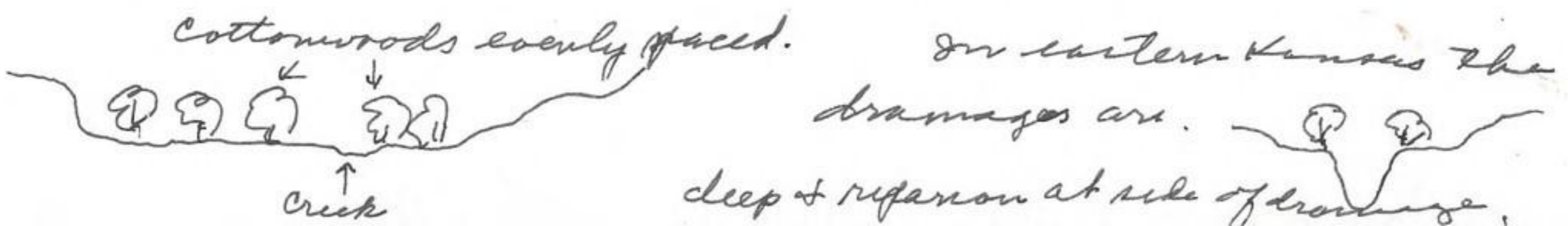
92445 Mulberry Creek not flooded but with algae + semi-clear water.

92461 Ellsworth Co. line 7:30 P.M. Temp. 73°F.

92475 Swanson Hawk.

92479 Scissor-tailed flycatcher (second one observed so far).

92485 Russell Co. line. Mourning dove mainly in pairs, some singles but uncommon more than pairs. Drainages in middle + western Kansas are broad + shallow water course:



field produced fewest, the grazed field the greatest number.
Dickcissel & lark bunting⁽¹⁾ both observed at beginning of census.
Dunnell 92614, 92617 dickcissel still in area and singing.
census for 10 miles is (92618): birds only.

- dickcissel 1-1-1-1-1-1-1-1-1-1-1-1-1-
- meadowlark 1-1-1-1-1-1-1-1-1-1-1-1-1-
- mourning dove 1-1-1-1-
- horned larks 2-1-1-1-1-1-1-
- blackbird 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
- burrowing owl 1
- robin -1

no lark bunting
horned larks along side of road.

Rexford 92630 (8:50 A.M). Temp. 67°F. Redwing blackbirds are not associated with down situations unless, of course, there are such permanent communities. 92641 dickcissels still

in area. 92652, new highway, lark bunting are increasing in number. Dickcissels still present. Brewster 92666

Begin census (complete) of birds starting meadow 92668, 9:30 A.M, temp 68°F.

- dickcissel 1-1-1
- meadowlark 2-1-1-1-1-1-1-
- mourning dove 1-1-1-
- lark bunting 1-1-1-1-1-1-
- redwing 1-1-1
- horned lark 2-1
- roven 1-1
- marsh hawk 1

There is a decided decrease in birds with more bunting and fewer redwing & dickcissels.

Goodland 92686 9:55 A.M. Gas. Cool wind from ^S~~W~~.

no dickcissels beyond goodland nor jackrabbits. The birds in general are fewer in number.

92706 Kansas - Colorado line, (Clocks set back 1 hr so now

9:26 A.M. Temp. 75°F. 92709 roven

Burlington 927~~15~~²⁰.

There is an increase in horned larks w of Bethune and a decided decrease^(but present) in redwing & meadowlark. Birds in general are scarcer. First ground squirrel (13-lined) observed at Bethune.

92736 2 burrowing owls. meadow at Stratton 92738

Sagebrush & yucca; especially sagebrush, making their appearance. Creeks & rivers dry and with sandy bottoms.

at mileage 92741 begin complete bird censuses ⁶⁷⁰⁶²²⁻⁵⁷ for ^{10 miles}. Temp 76°
 horned lark 2-1-1-1-1-1
 redwing 1-
 meadowlark 1-1-1

strong wind may be a factor in numbers of birds

mourning dove in area are found associated with outskirts of towns & seldom between towns. Just beyond last census area noted 5 lark bunting in 1/2 mile.

92761 S. Fork Republican River. Oreg. Redwing along river.

92765 7 lagler.

92766 beginning 10 mile bird censuses.

meadowlark 1-1-1-

l. bunting 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-

mourning dove 1-1-1-

horned lark 1-2-1-

western kingbird 1

downward glide of bunting ♂ like slow wing beat of a bat. 95% ♂♂'s.

92767 Arriba

92778 begin 10 mile census.

l. bunting 1-1-1-2-1-2-1-1-1-1-2-1-1-1-1-2-

mourning dove 2-

meadowlark 1-1-

horned lark 2-

Swanson lark 1-

92790 Genoa, temp 76 mi, 11:00. Beyond Genoa land drops down from plateau to lowlands.

arrive Lemon 11:10 A.M., mileage 92801.

92802 2 ^{adult} golden eagles circling to right about 1000 ft high not much white in upper base of tail but heads golden and lighter than body.

92810 begin 10 mi censuses. 11:25 A.M.

swallows (sp?) 2

l. bunting 1-1-1-1-1-1-1-1-2-1-1-1-1-2

meadowlark 1-1-1-

horned lark 1-1-1-1.

This area was away from influence of river valley, and of short grozy lands.

41 ~~west fork~~
 92809 ¹ Vijou River Crossing & beginning 10 mi census. (has flood, now in normal channel & silted. 12:00 o'clock. Area cultivated.

l bunting 1-1-1-

m. lark 1-1-1-

m dove 2-

Strausberg 92855, 12:15, 82°F

Denver at 1:00, mileage 92898⁴ approx. 670622-58 in out-
skirts in groups of up to 8. Doves have not previously been in
groups over 3. 92909 magpie. 92912 magpie.
92913 sparrow hawk, 92914 magpie. Sparrow hawk.
meadowlarks, m doves, l. luntings in area. 92918 now on
highway 25 from 85. Arrive Fort Collins (via 25) 3:00 P.M.
at mileage 92966, Temp 82°F.

92972 junction 28 + 287. 3:35 P.M.

92976 beginning 10 mi census, and leaving main canyon valley,
at R.R. crossing. Temp 78°F sky cloudy.

Redwing 1-1-1-1

m. dove 2

m lark 1-2-1-1-1-

spurred Towhee 1

Brewer blackbird 1-1-1-1-1

Cliffrose at end of census area.
Countryside green.

92987 Livermore junction + beginning of census ^{for 10 miles.} 73°F

redwing 1-1-1-1-1

cliff swallows 1-1

Brewers blackbird 1-1-1

nighthawk 1

m lark 1-1-2

horned lark 1

m. dove 3

93002 Vergennes Dale + beginning of census. (Ponderosa pines now)

Brewer blackbirds 2-

Creeks clear

+ Cliffrose + rocks

no other birds observed.

93007 Wyo. line

just down from divide into Laramie ^{Plains} Valley one finds many
redwings, brewers, meadowlarks because of water + open grass community.

93016 magpie, just beyond Tie Siding village.

10 mi census across Laramie Plains beginning at mileage 92019

at R.R. overpass

horned lark 1

hawk (sp?) 1

redwing 1-1-1-2-1-1-1

Brewer 2-1-1-

no ground squirrels in usual places of
Laramie.

Arrived Laramie 4:45 P.M. at mileage 92034. 74°F

4 ring-billed gulls just N of town.

93042 Swainson hawk, (2)

92053 Crossing Big Laramie River. Flooding and forming lakes. 92054 Basler. 5:15 P.M. Stopped 10 mi.

93061 - raven eating antelope carcass at roadside. 93063 - antelope. 93066 female antelope and one young, $\frac{1}{4}$ height of mother. 93072 three antelope and one raven. 93075 Rock Creek flooding fields, 1 stripe skunk $\frac{1}{3}$ - road kill, 1 raven, water clear. 93078 Badger - road kill. 93082 Swensen hawk, 1st lark hunting since Ft. Collins. 93086 Badger crossed road. 93087 three antelope. 93088 1 antelope. Medicine Bow - 93095. 93106 antelope road kill, adult + young. 93111 adult antelope road kill. 93136 3 antelope. 93139 No. Platte River. 93146 1 antelope. 93149 W. Sunday.

Arrived Rawlins 7:30 P.M., 93157 mi: at a small lake about 3 mi. E of Rawlins on N side of road (fresh lake arrowing from E) noted the following birds and mammals:

2 killdeer	yellow-headed blackbirds 12
ruddy duck 2 ♀, 2 ♂	night hawks 30
godwit 12 ♀ 12 ♂	spotted sandpeper 1
greenwing teal ♂ + ♀	shoveller duck 2 ♂ 2 ♀
Coat 4	
mallard 22 ♂ 21 ♀ plus 2 ♀ with young	
avocet 5	muskrat 2
Cinnamon teal ♂ + ♀	

The most common bird and most generally distributed between Laramie & Rawlins (last $\frac{2}{3}$ distance) was the Brewer's blackbird which did not seem to be associated with damp or wet situations which is where one normally finds this bird. They are certainly better adapted for drier situations than other blackbirds. Only hawks observed were those listed in running account which is few for this area in contrast to winter when the Am roughlegs are in the area. There is quite a contrast in numbers of birds thru this area in contrast to grasslands of Kansas.

Rawlins, Wyoming June 23, 1967

Left 5:00 A.M. at 93166. Rained last night. Temp 43°F Road kill antelope outside Rawlins. 92178 4 antelope (2 on each side of road). Brewer's blackbirds along route.

93182 antelope. 93185 antelope. There 670623-60, generally associated with artemisia or low shrubs in contrast to open grass slopes. 93189 9 antelope, 2 others about 1 block away 93190 antelope. Passing through fog bank which is leaving a wet pavement. 93191 antelope. Sun just striking upper clouds.

93192 20 mi census. grass & sagebrush, flat.

horned lark - 1
mourning doves 4-3-3-2

Brewers blackbird:

2-2-
2-1-2-2-2-4
1-3-2-1-1-2-

 [93197 Continental Divide]

antelope, 1-1

lark bunting!

The Brewers are associated with drainage (dry) vegetation but not in all cases. They are most frequently observed on the road or at edge of pavement. Greatest concentration of antelope between Rawlins & Continental Divide.

93217 Red Desert. The lark bunting are extremely uncommon thru this Wyoming area. The Brewers are much less rare in their tolerance of the hot desert and their habit of feeding on carrion along the road.

93223 20 mile census of Brewers blackbirds. Temp. 45°F, 6:25 A.M. sun blocked by clouds to E.

2-2-1-1 (also one lark bunting) fewer Brewers along here than elsewhere.

93239 antelope, among oil drilling operation:

93240 antelope. These are the first noted since Continental Divide. During thru fog bank and temp down to 43°F. area.

93256 Point of Rocks and begin¹⁰ 20 mi census Brewers. Rd runs in valley with rock cliffs as edge of valley.

1-1-2-1-1-1-1-1-2-2-1-1-2-2-1-1-2-1-1-2-2-2-1-1-1-2-1-1-

3-1-1-1.

Brewers are more common along valley drainage than upland but their presence in valley is not obligatory. They are also found on flat upland desert. In the above census observed 8 mourning doves and one magpie.

93275 flock 4♂ 4♀ lark bunting. One antelope road kill.

Arrived Rock Spring 7:25 at 93282. Left 8:15. Temp 52°F

93304 Green River (proper) 1 magpie.

93312 3 magpies and 1 redtail hawk (sp.?).

93313 Black Forks River. all rivers high

93315 magpie

93323 Little America, 9:05 A.M., temp 52°F. Temp varies up to 2 degrees according to plateau - valley positions. a Brewer's blackbird at laam at Little America.

93347 Smith Fork River. water fills river bed & silted.

93251 magpie, magpie. 93253 Legman 670623-61
 Fort Bridger 93359. 93560 Black Forks River. ^{93356 magpie} The three
 creeks that pass thru Fort Bridger area are at flood stage &
 silted. Rain ahead. 9:50 A.M. First juniper trees. Temp in
 main area 44°F Landscape of sage turn blackish in
 color during a rain. Previously dry gulches now with reddish
 colored water. Lowlands and relatively flat area with
 standing water. Water may be a factor in the type of plant
 community in valleys versus better drained slopes of valleys.
 93377 Artemisia in even stands (N of road). The dark
 color in sage is due to wet branches showing thru foliage,
 more deciduous shrub in plant community as we move west
 in this area.

93388 ~~to~~⁴ mi. censes of ~~two~~ Brewer's blackbirds.
 Brewer's blackbirds 3-1-2-1-2-1-1-1-1-2-1-1-2-

93395 Evanston, 10:30 A.M. 93405 sparrowhawk at
 watch.

93423 Road construction revealed the
 following cross-section at canyon floor
 level.



93432 junction 189, now to S.
 93434 Echo Res. 5 w. gebes, water
 high & covering cottonwood trees along edge.

Calif gulls n lake 2 magpies.
 93453 3 magpies. 93472 magpie. Spring is late with
 lilacs just in blossom. Higher area tree with new yellow leaves.

93475 Heber. 12:40 P.M. 93480 magpie
 93494 Rock Slide at Moran Park not ~~flora~~ revegetated except
 few shrubs near base.
 93505 Provo, 1:15 P.M. Temp. ~~44~~⁶⁰°F, raining. but blue skies
 in places.

~~93507 Fruited~~

Provo, Utah Co., Utah June 24, 1967

visited Dad & Grace, stayed at home. all rivers and creeks high.
 Utah Lake high but ~~just~~ not as high as flood stage. at
 mouth of ^{Provo} river many boats and activity but no pelicans, Caspian
 terns. There were a few gulls & western gebe. This lake
 does not offer refugia to birds

Provo, Utah Co., Utah

June 25, 1967

Left Provo, 93573, 8:00 A.M. temp 58°F

Photo of 7 spots 93575. No 670625-1

Station 93603. Leaf tail. The attendant of Station stated that the route to Evanston was open yesterday and there is 5 feet along road & lakes (mirror) is covered with ice and snow and only a few lakes have started to thaw. The season is 6 weeks later than normal.

release at divide of ~~Provo~~ ^{Daniels Canyon}

93622. Aspen at higher elevation to W not in leaves but yellow at divide & lower parts of valley. 93639 Divide on other side of valley.

Across Strawberry valley noted ground squirrels at about one per 250'. no sages noted. Beyond divide to E of divide.

93651 Fruitland. 93657 marmot road hell (in pinyon forest area)

93673 Strawberry River, full, silted. Pinyon forest east of here is of smaller trees and more widely spaced, which appears to be a function of soils. 93677 ^{11:00 A.M.} Duckweave. Red wings along Straw-

Berry River in marshlands. 93620 turkey vulture. 93701 sparrow hawk. 93707 Loosenelt. 93710 yellowheaded blackbird.

93715 Uintah River flooding & silted. Other small creeks are normal & clear. 93718 yellowheaded blackbird in well formed cattail marshes. Redwings in damp to wet situations. Brewers like redwing & yellowhead but also in dry greasewood & artemisia. Not associated with wet situations. The degree of aquatic tolerance from wet to dry is: yellowheaded, redwing, Brewers blackbird.

93733 birds rare thru this general area. 93736 sparrow hawk

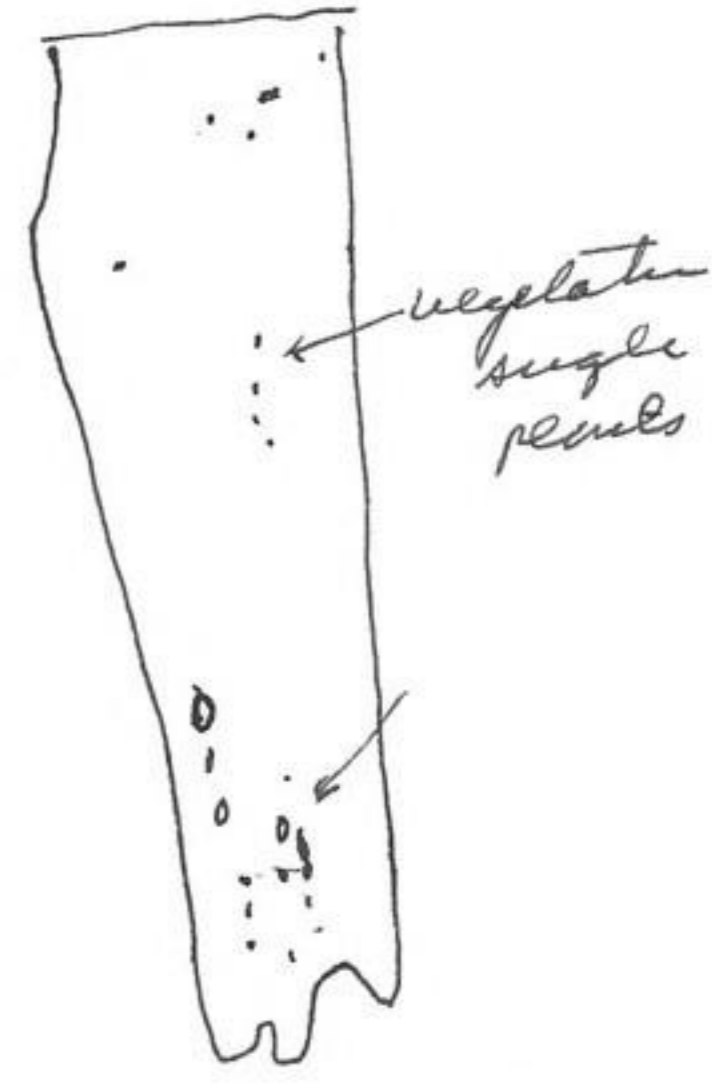
93740 Vernal 93744 sparrow hawk. 93748 weasel road kill.

93749 Ashley Creek, full, silted, magpie. 93753 Green River. River high & red in color.

93758 Beginning of ¹⁶ 20 mi census of birds: artemisia, bare rocks juniper-juniper. ~~Brewers~~ Indian paint brush dominant flower.

- Brewers blackbird 1-1-1-1
- mourning dove 1-1
- sage thrasher 1
- prairie dog (18) [93773]

Colorado State Univ 93772
Wiley Resort 93777



Rock slide at Urran Park in Provo Canyon

93917 Crow, 93920 magpie, 93919 Crow ⁶⁷⁰⁶²⁵⁻⁶⁵ and bottom [↑] of mt. road and leaving valley, 93922 magpie, 93934 Robbed Egg & now going down slope. Higher slope with aspen, just starting, lower are yellowish leaves. Snow among conifers. On drainage to E noted 5 single ducks on beaver ponds, a large duck and a smaller one. 93944 Crow & sparrow hawk, & 4 magpies, 93945 Diamond Creek, 93948 magpie. 93956 magpie ^{of} at Big Muddy Creek, 93955 5 magpies & 1 duck. (Pass Creek) 93975 group yellow-headed blackbirds, 93979 Corral Creek and magpie. 93983 Colorado River. 93986. Not Sulphur Springs Striped skunk road kill. 93992 3 magpie. 93997 Strasburg. 94008 sparrow hawk 94030 Berthoud Pass, 6:50 P.M., 11367 ft. [↑] result of high altitude (unk flow).

94048 magpie (at Lawson). 94089 5 magpie. Denver at 94095 at 8:30 P.M.

Denver, Colorado (East Colfax), Colorado

Sun up at 5:30 A.M. June 26, 1967
 Temp 5:30 is 54° F. Left Denver at 6:00 A.M. at mileage 94121. Between 94121 and 94126 on Colfax noted 4 jackrabbit road kills & 2 flocks of blackbirds. From ~~junction of 70th Colfax (94126)~~ Strasburg to Lawrence will keep complete record of those birds ^{5 Strasburg} mention at first entry of trip plus the lark bunting and the first occurrence of the duck cove. Skies clear to east, some to west. Stopped walking at 6:12 A.M. bunting since we left.

Strasburg, 7:00 A.M., 6²/₁₀° F, mileage ⁹⁴¹⁴⁹ (Complete census between towns)

m. dove 1-1-2-1-1 [1 per mi]
 redwing 1-2- [0.50 per mi]
 l bunting 1-1-1-1-1-1-1-1-1 [1.50 per mi.]
 m. lark 1-1-1- [0.50 per mi]
 h. lark 1- [0.17 per mi]
 w. kingbird 1- [0.17 per mi]
 Eng sp 2 [0.33 per mi.]

Birds within cities are not listed. Census starts from outskirts beyond influence of trees and building, generally about 1/2 mile beyond villages

Byers 94155

m dove 1- [0.13/mi]
 redwing 2-1-1-1- [0.71/mi]
 l bunting 1-1- [0.30/mi.]
 m lark 1-1-1- [0.43/mi.]
 swainson hawk (?) 1- [0.13/mi]
 w. kingbird 1 [0.13/mi]

Peoria (exchange) 94162

Deer Trail 94168

m dove 1-2-2-[.83/mi] m dove 1-1-1-1-1-1-1 [.54/mi]
 l bunt 1-1-1-[.50/mi] l bunting 1-1-1-1-1-1-1 [.54/mi]
 m lark 1-[.17/mi] m lark 1-1-1 [.23/mi]
 w kingbird 1-1 [.33/mi] kingbird 1-1 [.16/mi]
~~red wing~~ red wing 1-1-1-1-1 [.39/mi]
 ducks 2 [.33/mi] robin 1 [.07/mi]

starling 1-1-1 [.23/mi] _____ [.15/mi]

golden eagle, 2 (93176) both on top
 telephone line with backs to sun. One
 40 feet from highway & 100' from highway.
 They left when I approached by walking
 to within 400'. They flew to river to W and
 circled over trees along river about 100'
 high 7:35 temp 64°F sky 98% clear

swamp sparrow hawk 1 [.07]

Agate (exit) 94181

m dove 3-1-1-1 [.40/mi]
 l bunting 1-1-1-1-1-1-1-1-1-1-1-1-2- [.13/mi]
 kingbird 1 [.07/mi]
 m. lark 1-1-1-1-1-1 [.47/mi]
~~red wing~~
 swallow 1-1-1-1 [.27/mi]
 horned lark 1-1 [.13/mi]
 red wing 1 [.07]

River Bend (turnoff) 94196

sparrow hawk 1 [.14/mi]
 m. lark 1-1-1-1-1 [.71/mi]
 swallows 1 [.14/mi]
 l. bunting 1-1-1 [.43/mi]
 w kingbird 1-1 [.29/mi]
 m. dove 1-2-1-1 [.71/mi]

Limon 94203, 8:05 A.M.

l-bunting 1-1-1-1-1-1-2-1-1-1-1-1 [.27/mi]
 m. dove 1-1-1-1 [.36/mi]
 m lark 1-1-1 [.27/mi]
 w kingbird 1 [.09/mi]

Landsman Creek 94274

m. dove 1 [1.0 per mi]
m lark 1 [1.0/mi]

Bethune 94275 9:27 A.M.

horned lark 2-1- [0.30/mi]
w kingbird 1-1-1 [0.30/mi]
m. lark 1-1 [0.20/mi]
m. dove 1-1 [0.20/mi]Burlington 94285, 9:36 A.M. (there are more ^{planted} trees associated with
meadow lark 1-1-1-1-1-1-2-1-1 [0.77/mi] ^{roadside legend here})lark bunting 1-1-1-1 [0.30/mi]
Swainson-like hawk 1 [0.07/mi]
horned lark 1-2 [0.23/mi]
raven 1-1-1 [0.23/mi]
w kingbird 1-1 [0.15/mi]
quack 1 [0.07/mi]
m dove 1 [0.07/mi]
~~lark bunting 1-1~~
barred swallow 1-1 [0.15/mi]

Kansas St. Line 94297 10:55 A.M.

Kansas 94298 (change clock to 1 hr later)

m. lark 1-1-1-1-1-1-1-1-1-1 [0.58/mi]

w. kingbird 2-1-2- [0.26/mi]

m. dove 1-1 [0.10/mi]

lark bunting [94305] 1-1-1 [0.16/mi]

redwing 1 [0.05/mi]

eastern flycatcher 1 [0.05/mi]

~~decussate~~ 1-1-1-1 [0.21/mi]

Goodland 94317 10:18 A.M. Left 11:38

m. lark 1-1-1 [0.27/mi]

m. dove 1 [0.09/mi]

dickeye 1 (first one heard but observed one which I considered
doubtful at about 10 miles W of Goodland) which was
the first one observed travelling E) 1-1-1- [0.27/mi]

redwing 1-1 [0.18/mi]

raven 1- [0.09/mi]

Edson 94326

m. lark 1-1-1-1-1- [0.50/mi]

redwing 1 [0.10/mi]

m. dove 2-1- [0.30/mi]

w. kingbird 1 [0.10/mi]

Swainson-like hawk 1- [0.10/mi]

lark bunting 2-1-1-1-1- [0.40/mi]

dickeye 1-1-1 [0.30/mi]

(All observations
will be on right
hand side of
road only.)(this one first observed travelling
east at 94307 mileage or
10 mi. W Goodland.)

Brewster 94336

670626-69

m. dove 1-1 [.10/mi]

~~duck~~

redwing 1-1 [.10/mi]

w. kingbird 1 [.05/mi]

m. lark 1-1-1-1-1-1-1-1 [.42/mi]

duck 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1 [.79/mi]

E. kingbird 1-2-1-1 [.26/mi]

94348 mainly

94351

lark bunting 1-1-1-2-1-1-2-1-2-1-2-1-1-1-1-2-1-2-1-2-1-1-1-1

horned lark 2 [.10/mi] -1-2-1- [1.73/mi]

w. kingbird 1-2- [.16/mi]

Colby 94355 12:20 P.M., temp 80°F, sky clear

m. lark 1-1-1-1-1 [.55/mi]

94370

lark bunting 1-1 [2.22/mi]

horned lark 1-2-1- [.44/mi]

duck 1-1-1-1-1-1-1-1 [.77/mi]

13 lined ground squirrel 1 [.11/mi]

mingo (turnoff) 94364

lark bunting 1-1-1-1 [.50/mi]

m. lark 1 [.12/mi]

redwing 1-1- [.25/mi]

duck 1-1- [.25/mi]

m. dove 1- [.12/mi]

Oakley (turnoff) 94372 12:42 P.M.

" " " 12:55 P.M. back on highway again

meadowlark 1-1-2 [.57/mi]

redwing 1 [.14/mi]

lark bunting 1-1-1-1-1-1-1 [1.00/mi]

duck 1-1-1-1 [.57/mi]

Frequently see a duck & a lark bunting sitting on fence line and separated by 2 feet.

W. Oakley (turnoff) 94379 & beginning of Goble Co.

redwing 1-1-1-1-1-1 [.60/mi]

m. lark 1-1 [.20/mi]

horned lark - 1-1-1-1-2- [1.60/mi]

lark bunting 1-1-1-1-1 94387 [.40/mi]

duck - 1-1-1-1-1 [.50/mi]

horned lark on pavement
lark bunting rarely on pavement

Grinnel (turnoff) 94389

redwing 1-1-1-1 [.44/mi]

meadowlark 1-1 [.22/mi]

duck 1- [.11/mi]

94394

lark bunting 3-1- [.44/mi]

eastern kingbird 1- [.11/mi]

barrowing owl 93396 [.11/mi]

Sylvan Grove (turnoff) 94521

670626-72

redwing 1-1 [1.90/mi]

scissor-tailed flycatcher (94523) [.1/mi]

meadowlark 1-1-1- [0.40/mi]

W. flycatcher 1-1 [.20/mi]

Ellsworth (turnoff) 94531 3:48 P.M

redwing 1-1-1-1- [1.66/mi]

meadowlark 1-1 [.66/mi]

Lincoln (turnoff) 94534 ~~3:48~~ 3:52 P.M

End of Census (next 34 miles ~~not~~ no census taken)

94550 Red-headed ~~wood~~ tailed hawk

Salina 94568 Supper at the Hub 5:00

Left 5:45

Saline River at 94569 Start of Complete Census

Dickcissel 1-1 [1.45/mi]

m-lark 1-1 [.85/mi]

redwing 1-1 [1.88/mi]

scissortail flycatcher 1 [.09/mi]

E. flycatcher 1-1 [.18/mi]

m. dove 1- [.08/mi]

Cowbird 1-1 [.76/mi]

Crickets still calling. Survey on right side of road only.

Redwing about the only bird that sets on posts at edge of shoulder of road. (10 feet from ~~road~~ passing car, or closer.)

Salamon River 94580 6:00 P.M

redwing 1-1-1-1- [0.44/mi]

Dickcissel 1-1-1-1-1-1-1-1- [0.88/mi]

m. ^{dove} lark 1-1-1 [0.33/mi]

W. flycatcher 1-1 [.22/mi]

meadowlark 1-1-1-1-1- [0.55/mi]

scissortail flycatcher 1- [.11/mi]

blue jay
blue jay 1 [.11/mi]

Talmage (turnoff) 93589 6:13

W. Kingbird 1 [.33/mi]

redwing 1-1 [.66/mi]

meadowlark 1-1 [.66/mi]

Abilene 93592 6:17

redwing 1-1 [.33/mi]

Dickcissel 1-1-1-1-1- [0.84/mi]

scissortail flycatcher 1 [.16/mi]

meadowlark 1-1-1-1-1-1- [1.00/mi]

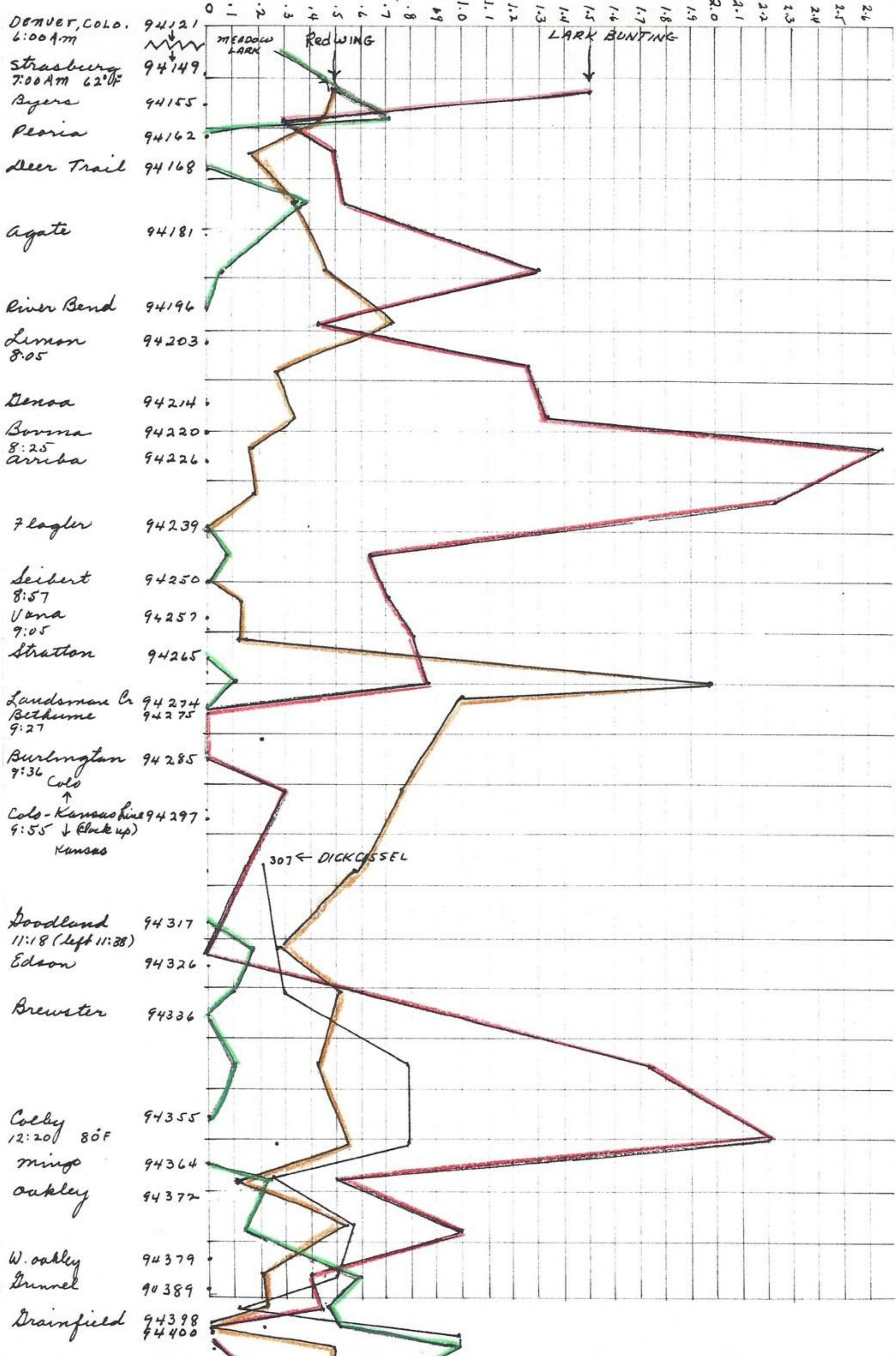
grackle 1 [.16/mi]

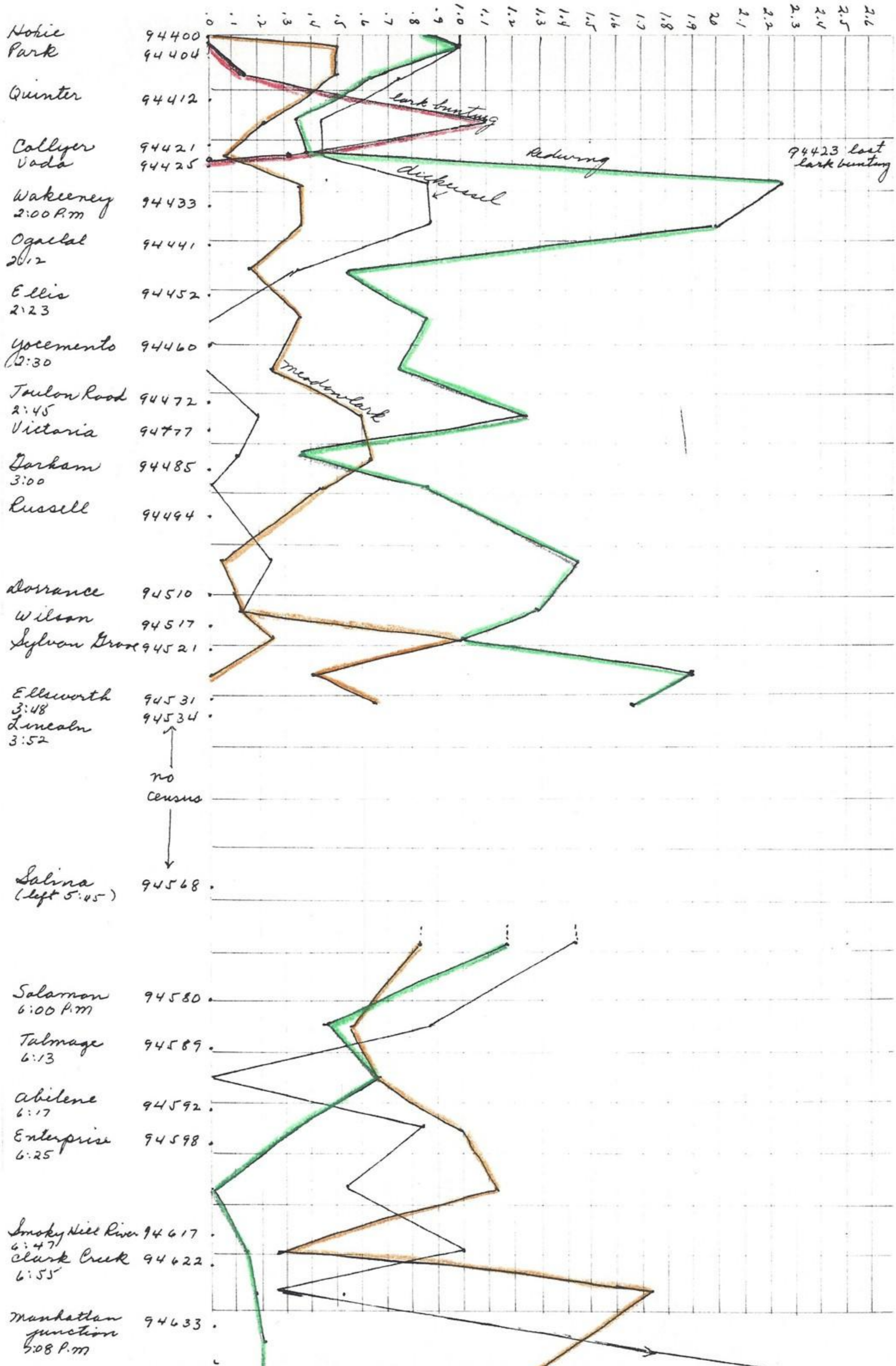
eastern Kingbird 1 [.16/mi]

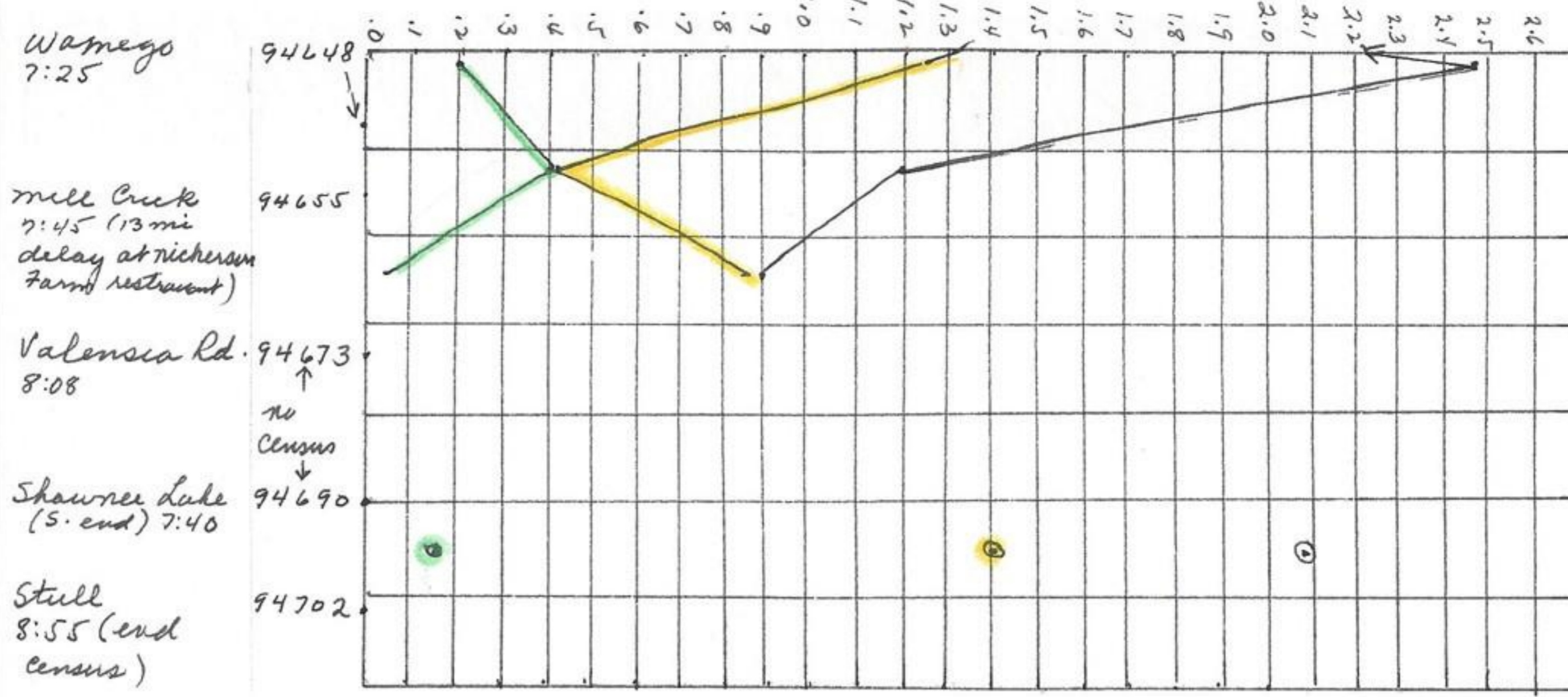
7. Feeding time of adults or period of feeding of the young.
8. Post-breeding flocking and movement.
9. migration, etc.
10. Behaviourism of birds and mammals such as attraction to roadside for feeding etc.
11. Influence of road kills on prey or carrion feeding populations
12. Variations in vegetation, state and type of cultivation, fences, ^{cattle,} poles, trees, houses, cities, etc.
13. Slope, exposure and drainage.
14. Speed of cars + numbers in general and speed of car used for census.
15. width of census area.
16. Used of calls in addition to sight records.
17. Road kills as part of census.
18. Influence of poisoning programs
19. alertness of observer.

Mileage along Interstate 70. Mileages at exchanges or turnoff roads. If several exchanges, one nearest main part of city.

numbers of birds per mile 670626-76





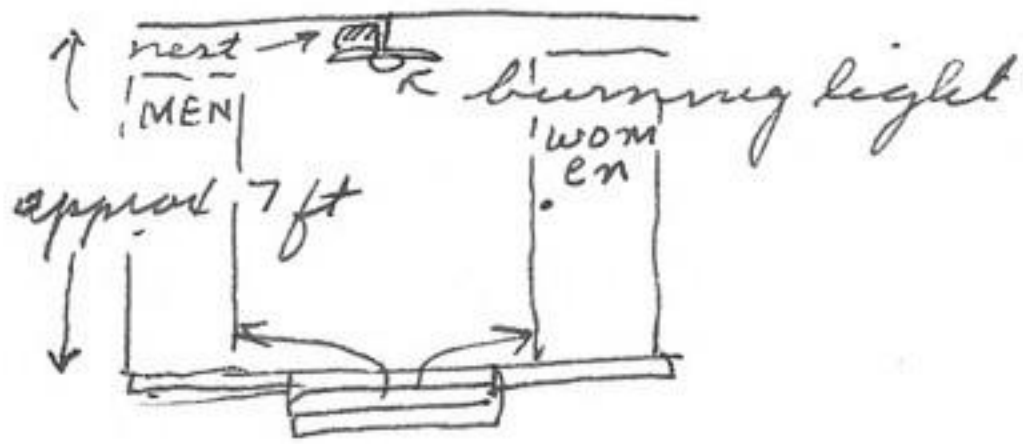


Lone Star Lake, Douglas Co., Kansas

670706-79

July 6, 1967

Mary P and I went to Lone Star Lake via regular route. Left 4:20 P.M. made complete census of birds starting at bridge over Wakarusa on Highway 59. Day with 99% clear sky. mileage at bridge 871. m. dove 1-1-2; dickcissel 1; Eng sparrow 3-2-1; lark sparrow 1. Banner's Corners at mileage 874, dickcissel 1-1-1-1-1-1-1; Eng sparrow 3-8-2-1-1; m. dove 1-1; redheaded woodpecker 1; redwing blackbird 1; barn swallow 2-1; m. lark 1; robin 1; scissortailed flycatcher 1 (at mileage 878). Lone Star City at mileage 880. (no census of birds in village). Eng sparrow 6-1-3; dickcissel 1-1-1-1-1; turkey vulture 1; crow 1; bluejay 1; Arrive Lone Star dam at mileage 883 and end of census. At the boat dock noted an eastern phoebe on nest on light shade at restroom



The light burns all night and many times all day. (60 watt). This continuous light and heat at night does not seem to have affected the breeding and nesting cycle of this bird. During weekends these toilets are being used all day and people walk within a few feet of the nest. A unioned *Quadrula quadrula* from Lone Star Lake no. 670706-3

Campus, Univ of Kansas, Lawrence, Douglas Co., Kansas

July 8, 1967

(sandwich)

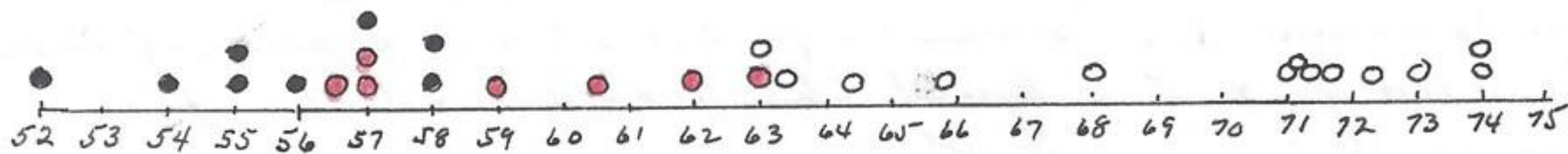
A female Eng. sparrow had picked up the edge of a piece of bread and had flown 50 feet to adjust the bread. It then flew awkwardly for 20 feet when a ♂ Eng. sparrow alighted and challenged the ♀. At this moment 2 bluejays sailed into the fighting sparrows and interrupted the activity. It was obvious and according to the timing, that the bluejays recognized the variation of the usual behaviorism of the sparrows and reacted accordingly. I have noted this kind of bluejay reactions on many occasions when they were attracted to other species of birds when slight irregularity of behaviorism occurred. Bluejays take advantage of an disadvantage of other birds on a predatory-prey basis.

1620 Tennessee, Lawrence, Douglas Co., Kansas

July 11, 1967

With storm clouds in sky and at daybreak, recorded the sequence of calls of birds. The first bird was the cardinal. It started with a plaintive call of three high and 2 low notes ' ' ' ' ' , later it called in a series of 5 calls all on same note ' ' ' ' ' . This call changed to a

Variation of length of exposed Culmen of Limnodromus sclopaceus
and L. griseus.



red = Fort Churchill July 22 and 24, 1967
 white = Cheyenne Bottoms, Great Bend Aug. 27, 1967
 solid black = Texas. Nov. 12, 1967

series of 7 or 8 notes or an increase in 2 or 3 notes of the previous call. The bluejay was heard next, then the mourning dove, catbird and night hawk in sequence. Rained hard for about 1 hour after day break.

Lawrence, Douglas Co., Kansas
July 15, 1967

Purchased 12' Sante Fe Trailer. (12 foot Cub Convertible) from ^{Howard L.} Lee's Compl. at 950 North 3rd, Lawrence, Kansas. Serial number SF K 2 1118. Wt 1360.

6/10 mi. E and 1 1/4 mi. S Leavenworth (P.O.); Jefferson Co., Kansas.

July 28, 1967

Collected a big brown bat, *Eptesicus fuscus* from cave.

It measured:

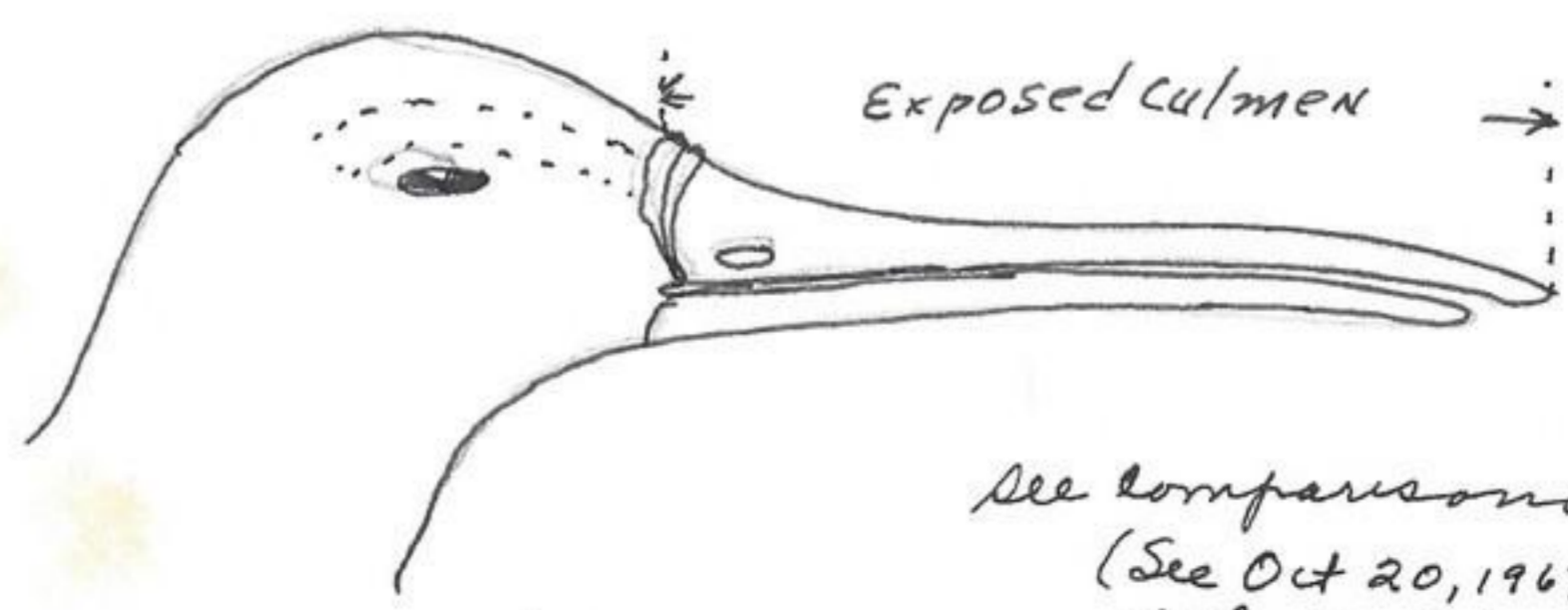
670728-1 *Eptesicus fuscus* 110-43-10-16-18 gms ♂ testes 8 mm. wingspread 335 mm. Prepared as specimen.

Lawrence, Douglas Co., Kansas.

July 28, 1967 heads of

Dr. William Coil presented me with 7 *Limnodromus griseus* which he collected at Churchhill, Manitoba, Canada. on 22nd + 24th of July, 1967. They measured:

670722-1a (Coil's number)	exposed culmen	length from anterior nostril	width nostrils	width base
670722-1a	60.5	54	5.0	8.8
670722-1b	57.0	50	5.6	8.8
670722-1c	62.0	56	5.0	8.3
670722-1d	63.0	52	5.0	9.2
670724-1	57.0	51	5.7	8.0
670724-2	59.0	52	4.5	9.5
670724-3	56.5	51	5.0	9.0



See comparisons opposite page (See Oct 20, 1967 for measurement of *H. sceloporus*).

Lawrence, Douglas Co., Kansas
July 28, 1967

made preparations for vacation. In organizing trailer made the following observations on the structural features of the trailer

Remarks about improving trailer.

1. support for table inadequate. Screws pulled out of panel on which the metal runner was attached. Should have structural support in back of panel. Drill hole burrs should be filed smooth for better ^{contact}.
2. support for table on outside of trailer, except for one screw, is attached to thin outer shell of trailer. Screws were loose and pressure of table had bent shell of trailer.
3. screen on door $\frac{3}{8}$ inch low and would not close. Hinges replaced this distance lower to raise screen off of threshold and to fill in cap at top. Hinges bent (attempt) to adjust for incorrect door, and required straightening out.
4. door stop not mechanically precise and door had been bent out of shape in attempting to release. Both adapters loose. Bolt on door without washer or lock washer. Plate on body without back support and although screws were in solid form there was an inch between shell of trailer and support and plate pulled in out of body alignment. Water had entered thru screw holes and had rusted screws to point where the screws entered wood.
5. There is 23 feet of seam on top of trailer. This should be of one piece.
6. mechanism ^{for closing} of windows (upper berth) not good.
7. screen is pulling out of windows, especially at corners.
8. stabilizing jacks at back of trailer weak and feebly secured to trailer. Will be dislodge if trailer is backed into rock or obstacle. From their closed position, they must be extended to place ^{under} trailer which is time consuming. ^{Should be placed on bumpers.}
9. Staples securing trailer shell to underneath are not completely seated and are rusting. A metal strap should be place at that contact. ^{Some} Bolts & screws missing in body construction.
10. Body bolts either put in at a slant or not completely seated or turn to far and not tight.
11. Undercoating minimal and in some places floor & two-by-fours are without undercoating. This area should be completely sealed.
12. Curtains should run beyond end of window (when ~~closed~~ ^{opened}) to give maximum window operation.
13. finishing strips (especially on back window) are not secured and can be pulled out an inch from panel.

- 670728-82
14. Seats backs are uncomfortable and ^{height should be} increased to support back and also to allow for complete coverage of bed when so used (from side to side).
 15. upper berth should be 1 foot wider to permit two people to use this bed. as it is it is too narrow for 2 people.
 16. Pipes, ^{hose} and gas pipes should follow front contour of trailer and not stick out into middle of subboards where they interfere with storage.
 18. Electrical socket should be water-proof when cord is inserted into position. Proper cord should be supplied and at least 50' longer.
 19. Butane lamp improperly placed. Electric light at sink improperly placed. Should have outlet at rear of trailer and ~~at~~ the door on outside.
 20. water intake, light box should be recessed in side of trailer.
 21. stove hood does not reach back of trailer.
 22. outlet holes for water tank drain, ice box drain ~~and~~ ^{and outs} electrical wires are not sealed and allows for water ^{to} enter trailer.
 23. Edged of holes with long splinters instead of clean edge.
 24. wheels not primed ^{completely}
 25. wheel cowls not sealed to floor when fully opened
 26. awning not far enough to cover door, & door too near top of awning.
 27. bunk bed migrates forward when brakes are applied.
 28. screws above boards supporting bed stand and digging into overriding board.
 29. upper edge of seats higher than flat top & causes friction on sliding bed steel.
 30. Installation of heater improper, ventilator interferes with door.
 31. Refug drain into angle iron
 32. drain from sink outlet down side of trailer to underneath.
 33. Cushions top hard. Bunk beds too small & hot.
 34. Gas lamp too hot
 35. angle iron under trailer not strong enough
 36. hub caps come off wheels
 37. staples rust
 38. upper window drops water on lower water when it rains

Trailer:

- ✓ 1. repair door, screen, hinges
- ✓ 2. undercoat and paint all metal of trailer hitch, back on car and trailer. Place metal runner on bottom of sides.
- ✓ 3. build awning
- ✓ 4. add 30 inches to trailer seat.
- ✓ 5. extend upper bunk 12 inches
- ✓ 6. install heater
- 7. Construct shower
- ✓ 8. bring lights from under trunk of car.
- ✓ 9. purchase 50' of extension + adapt for waterproofing. Get adapters if necessary. Tool kit (hammer, saw, nails, metal screws, vice clamps, waterproof material, hose clamps.)
- 10. purchase necessary hose for drainage and for connecting to water supply, the latter should be pressure hose.
- 11. provide extra lights for lamps of 12 volt, 120 watt, mantles for lamp. Have emergency lights (battery) available.
- 12. Stock trailer with food, sleeping equipment, pillows, and cooking ^{and eating} equipment; all of light weight. These are itemized as follows:

- ✓ 12.a cartools (jack, pliers, wire, screwdriver, wrenches.)
- ✓ 13. spare tire and wheel.
- ✓ 14. pack wheels with grease.
- ✓ 15. side mirror for car
- ✓ 15.a stabilizing jacks to bumper.
- 15.b. long tow rope for adjusting trailer.

food

butter
 salt-pepper-spices
 bread
 peanut butter
 lettuce-salad dressing
 apples
 jello
 cold drinks
 sardines
 spam.
 cereals
 powdered milk
 cocoa-pasture. Coffee
 sugar
 bisquick

Cooking + eating

8 spoons, forks, knives.
 spatula
 knife
 cups
 plates
 2 fry pans
 pans for heating water.
 can opener
 soap, rope, scouring pads.

misc.

Catalyst heater
 2 light weight
 camp chairs.
 hibachi
 heat bricks
 starting fuel.
 hatchet
 hand saw.
 shovel.
 bucket for
 heating water +
 carrying water.
 water jug (5 gal).
 extension light
 to awning area.

- ✓ 16. repair car speaker and install second speaker
- 17. waterproof tent and modify
- ✓ 18. drying box for mammals, collecting jars
- 19. light wt sleeping bag, tent, pack.
- ✓ 20. car fender repair
- ✓ 21. car tune-up, brakes, carbs, eliminate static in radio, flat part on tire.
- ✓ 22. paper & transparent film
- 23. fill out vitae report, ^{clear} Stacker 6930 Kessler, Merriam, Kansas 66204
- ✓ 24. register trailer.
- ✓ 25. materials for labels
- 26. mileage meter for right side of car.
- ✓ 27. film
- ✓ 28. field kit - skinning equip, cotton, wire, pins, gun, net, jars, pins, board. Camera, film,
- ✓ 29. scales.
- ✓ 30. material for petroglyphs.
- ✓ 31. Tch.
- ✓ 32. Baats,
- 33 string for toys
- ✓ 34. Car & trailer registration, Sears Credit card, gas credit cards.

Preparation of house.

- ✓ pull all electrical outlets
- ✓ shut off all electrical circuits not attached to refug. etc.
- ✓ Cancel paper, milk.
- mail
- ✓ water tomatoes

Procedure for car-trailer mobility:

1. turn off gas
- Close all windows and especially top vent.
- disconnect electricity & hoses
- remove jacks - beds & table.
- secure hardware & lock doors.
- Connect lights
- secure safety chain
- adjust tension of hitch.
- Check cotter pins

Lawrence, Douglas Co., Kansas

July 29, 1967

Mr. Turner reported the following information about angleworms which he raises & sells to fishermen. He has the following kinds:

1. African (from Mexico but now in U.S).
2. tumbles.
3. tough
4. zebra
5. river bank (green ^{in color} and inhabit wet sandy soils and because of their presence at edge of rivers and lakes are favorite food of fish. They have not been successfully propagated. Wherever found are generally only kinds there, distinct species.
6. Florida
7. Night crawler (flat tail)
8. sod or garden. small
9. jumper. large and hybrid between night crawler and garden worms. are very active and with pointed anterior and posterior. Keep well in hot, cold or dry conditions. In nature are generally found under leaves.
10. red.

- 1).
Mr. Turner says that worms live in separate communities.
2. if one handles soil without gloves, the grease on hands and finger will effect eggs.
 3. worms will reach adult in one month & complete cycle in 90 days.
 4. good food is lettuce and newspaper.
 5. some worms live in super saturated soils.
 6. farm land can produce angleworms as a crop and more valuable than wheat or corn per acre.
 7. soil produced by worms a good fertilizer.
 8. crosses always produce hybrid vigor.

He had not attempted to develop strains by selecting the ^{most} live and active worms but only for hybrids.

Lawrence, Douglas Co., Kansas

July 30, 1967

In the last 2 weeks, have noticed several robins resting on one side on the ground and exposing the greatest area of belly to sun. In the evening observed an eastern kingbird chase a chimney swift. It followed the swift for about 75 feet and appeared to be in contact or near contact with the swift, although the swift did not deviate in its flight pattern.

1620 Tennessee St., Lawrence, Douglas Co., Kansas

Aug 1, 1947

Recorded information from diary of James R. Bee on summer trip to SE Alaska. My own interpellations are in parenthesis. James R left for Alaska the year after graduation from high school. His diary is as follows:

"Ride #1 Sales manager from Lawrence to Hayes, Kansas. Trailer power equipped. next, service station mechanic to n. next Old man, women and grandson to 36/183 (Phillipsburg). next Phillipsburg all night in open field, 36 no luck, 183 no luck after several hours - CURSE! newsdistributor to Holdrege, Anesthesiologist to Alma, Distributor to 81. After a ridiculous wait and just as I gave up a distributor representative gave me a ride to North Platte. next a Ranger trainer and wife to 430 intersection then retired restaurant owner to Provo, Utah (2 BYU students gave me a ride into town from the turnpike). Salt Lake City with working man. "Lagoon with high school students. Salesman to 80. Truck driver to 3/80 junction. Truck again to Towne Home. man and wife and about 30,000 kids to Boise. young marrieds thru Boise. Then old shot Chevy with back-end nearly out clear thru night to Portland. Stopped to get permit (waited until morning), ate breakfast and then to Seattle in same truck, then by Shamrock Van Lines (unloaded trailer into Land and Sea a land water trucking concern) and then after much searching found ferrys and after saying goodbye to trucker, took ferry to Winslow Island (60¢ charge). After the ferry ride a man who I took to be a panhandler or quier gave me a ride to Paulsbo. From Paulsbo to Hood Canal floating bridge (30¢ Toll). I had to walk a mile to other side where after a wait got a ride to Anderson [?] (about 15 miles outside Port Townsend where I called Max ^[BEE] and he took me in.

Spent til Tuesday 30th at Max's. He took me to Seattle and then by jet to Annette Island, Alaska, then by Autibian to Ketchikan. After much time spent I asked the Salvation Army about a room. They directed me to where I am now - a tuberculosis ridden 8x10 room in the New York Hotel. Looked for Chris and no luck - the second day I was getting impatient and found that the card I sent General Delivery when I got here the clerk overlooked and Chris didn't

2
get it! That night while walking up town he was standing with a man he worked with - hooray. He and Oscar Amarral were camped about 1 1/2 mile into the woods and about 1 1/2 - 2 miles from town. They'd built a shelter with floor and plastic walls and ceiling.

On the afternoon of the 31st (May) I was walking along a fallen tree when I slipped and fell 10' onto my head, back and palm. The next day we were sitting in a cafe discussing plans for finding a job (Chris looked for a job for 2 weeks, Oscar for 4) and a Scrooge-type said, you wanna job? I said yes sir - well stand up so I can see you - so pulling in my gut I stood and after 2 visits to the Union office and a visit to the outfitter (\$24.46) worth of sloths, I was working in a deep-freeze packing plant! (God my back!)

June 2, 1967 Chris to work at 3 A.M. Oscar and I talked from 5:00 A.M till work about music, travel plans and how were wasting time here. Coffee house opens for first time and - 20W Flamenco guitarist who studied with famous artist, credentialed individualist types. Learned that there are more than drinking whore mongering bums here. There are more degrees per capita than elsewhere, guy playing Chess has Ph.D. in math, but prefers to work fishing boats and spend summers bumming around Mexico. The guitar player has a history major making enough money to go to Spain (will teach later), all individuals with guts.

June 19. more bars than churches. Quit job because he stuck me in the freezer again. Everybody in the hotel is waiting out the time in Ketchikan in a sort of limbo until they go home and do anything to forget where they they all drink and play with the girlies. I'm too broke to drink and the sluts make me sick.

I climbed Deer Mountain with Oscar and nearly got killed because we took a "different" way home, 3 vertical cliffs we scaled by hanging on to trees.

We are going to leave in 2 weeks but surely I'll go nuts before that.

June 20. Chris decided he'd had it last night. Oscar soon recapitulated and reluctantly I agreed to split, but decided to try for one of their jobs. Chickened out on Chris' job because of my leg. About noon we found out that the

new England Cold Storage had called both Oscar and me. We went there at 1:00 P.M. - I started working and Oscar quit. The new job is great so far. Got room with (sleep on floor) a guy named Chris. We walked Chris Wahl and Oscar to the ferry (about 3 mi.). We had chili. Chris had an ice cream cone. joking and talking I realized I'm sad to part. They left at 10:55 P.M. Walked back all the way because I can't afford 30¢ for bus fare. Saw 2 booze bottles on some steps and it looked like milk bottles left for a milkman. Tomorrow I'll try to find a place to stay (probably in the forest).

June 21 Chris is a psych. grad. and he will feed us if we pay the rent. Deer mountain shrouded with mist-rain. Ketchikan must be 1/2 hour early because nobody is around. No real good rain while Chris and Oscar were here (except before I arrived) but its living up to its "Land of Liquid Sunshine" nick name right now. 8:00 A.M. and breakfast, that means 2 more hours of overtime. I'll be rich but new guys arrived from Cal. and looks like another no sleep night. Lettuce head for lunch. Don't know where I'll sleep tonight. 10:10 Sleeping in Bob and Dave's room because others drunk. Worked 12 hours and walked home in the rain, \$80.50 in two days.

June 22, The weather here is so unpredictable - yesterday rainy, today overcast with promise of sun. I had about 1 pound of halibut for breakfast and at breakfast they serve coffee with evaporated milk and I usually mix half and half. I had five bucks to make it thru an entire pay period. maybe I'll grow gills but I might make it without starving. The night I sle on Chris' floor we had an interesting conversation about money in society, independence and self and other things. 8:00 A.M. breakfast and realized that when caught up in the immediate job at hand you aren't as depressed as when you consider the whole (eg. the piles of boxes you've done and the piles to be done). maybe an anthology there about life.

June 23, 10:30 P.M. and I've worked the hardest day in my life but as of today (Friday) I have made \$152.95 in 4 days, that's \$38.23 per day average! In 4 hours overtime I did what the regular guys (2 people) take 32 hrs.

to do. my main thoughts are motorcycles and guitars
 just bought a pen for 50¢ - god that's 10 candy bars!
 Worked 12 hours today, 11 Sat. and 8 Sunday - hell
 with it I'm tired. I think I have made \$334.80 so
 far - wow!

July 3. Last week end (July 1-2) I made \$97.60
 with today's earnings I will have made \$123.36 after
 my first check. I am now living in a kiddy shelter
 and spent last night and the night before that in the
 company of a rat. I was sleeping when the damn thing
 ran across my face. The floor is awfully uncomfortable
 but the rat is unacceptable.

July 11 Haven't made any entries because either too
 busy or too rained out. Have had some G.I. infection
 and chills which I have started to recover from after
 staying at the rooms of John Gilbert and 2 of his friends
 Looks like back to the woods tomorrow. I am
 entertaining thoughts of going to Europe with the money
 I've earned. The weather has been steady rain for
 weeks and I'm becoming awfully in need of intellect-
 ual stimulation as well as physical.

July 13 Because I too sick of being sick and living
 in topor so am now in ferry terminal awaiting arrival
 of the ferry which is 1 hr and 20 min. late at 12:20 A.M.
 John Gilbert gave me his address and I will miss him
 and the unforgettable Don Ramon de la Frieria de
 Ketchikan. The fine people and interesting individuals
 are all to be memories now. I am still in the forced
 limbo I put myself into but I'm starting to come out in
 preparation for full living again. The drinks, the Indians,
 the coffee house crowd, Chris and Oscar experiences will be
 remembered for a long time. After suffering in the woods,
 that even the natives could not believe, I have attained
 the rank of "Sourdough" which is rarely accomplished by
 those in complete sanity. The hike above my abode to the
 wild blueberries m-m-m-m. The people would "stone" me
 if they knew that I was leaving their wet town without
 ever becoming plastered. I hope the people in Prince Rupert
 are decent about hitchhiking.

July 14. They aren't. I had to walk about 1 1/2 miles
 into town when the customs men stopped me and I got

into their car. After we had reached town we found my sleeping bag had fallen off. They went back and couldn't find it. I cursed them soundly and took a bus at 10:00 A.M. for Prince George which explains the shaky handwriting. Have stopped in Prince Arthur and will depart at 11:45 P.M. and will go to Cache Creek. Sleep has not been one thing I've had since Ketchikan that was yesterday. Met a girl from Brittan going to school there, Meirdre Delap, Dublin Trinity College. I will have slept (?) thru most of the beauty of Canada - for tomorrow perhaps I'll get up the nerve to start hitchhiking.

July 15. Bus arrived in Kamloops about 10:00 A.M. and will leave about 2:40 P.M. Many people stare at my appearance (old felt hat, grabby clothes) but don't make any comments because I look like some tough hood. Seeing sun is a complete novelty, no coats and the hat is hot! Winnipeg tonight I hope and tomorrow to Minneapolis and rest awhile because sleep is hard to come by.

July 16 (I suppose) Last night (actually this morning) arrived in Calgary and last day of roundup. Everybody in that giant city was wearing a sawboy hat and whooping. Around the terminal there was a real heterogeneous mix of people. I was really strange. I'm getting damned sick of being sick and much to my chagrin I just found out that I'm out of money. Maybe Winnipeg Tonight. The country is somewhat homelike in Saskatchewan, slight nostalgia but soon I'll be in Minneapolis and if I'm not too sick I'll take on some blues. Winnipeg and the next bloody bus doesn't leave until 6:30 in the morning. I'm starting to wonder what a decent night's sleep would feel like. I just found out that my seat hasn't sore place left and standing all night doesn't sound too good either.

July 17 Last night I ended up going to the local YMCA where the little squirrely man after much self debate finally let me sleep on first the floor and at 4:00 A.M. on a conference room couch after his superior left. He risked his job by doing this he he really felt the \$5.00 must have been awfully important to me. Now I must look like a 1st class bum. There are a few Christian

types around yet evidently. The town at 5:30 seems dead as I feel. Wouldn't some bouncy next on the bucking bus sound good now. Another \$5.00 down the drain today for more bus fare.

July 18 (Tuesday) (I guess). Finally got into Minneapolis and found Chris. Saw Dove Lyle and heard many of the songs like that I'd heard on record - waw. Will stay 1 more night and then try to hitch back to Kansas to see about shots for Europe. Anderson has bought a 650 Norton and drives it like a mad man. If he gives me another ride I'll die either in a wreck or from fright. Last night we had 2 harps, Chris & me plus 2 guitars going all at once with everybody stoned and the music was unbelievable. Now, after seeing Leo Kahlki (sp.?) a marvelous guitar artist. I have made up my mind to stay and learn guitar. Two girls walked up saying they admired our beards - Oh no - I seem to be a hippie (crap).

July 19. Left Chris and walked down town - quite a distance and with a heavy pack. Girls of all descriptions and most of them pretty. Talked with bus driver who gave me a transfer slip and advise as to best hitch-hiking place. Sign on building about quality screws struck me kind of funny.

Ride #1 College type who took me in his Triumph to 13-65 intersection and the prospects on this freeway entrance look rather dim. Motors can be nasty in tone while standing here at the entrance. The old white collar boys gun their engines about when they get even with me - a sign of authority - what great luck. After 4-5-6 hours of waiting a guy picks me up in a Lincoln and we go merrily zipping at about 70-80 mph and after a mile and a half the goddamn thing shorts out! Now I am again waiting a ride in the hot sun.

The guy got his car repaired and picked me up and am now in Faribault - still no luck. Another ride - 1/2 mile into 1st stop light. At 5:30 P.M. and bad luck was temporarily interrupted by crazy old man driving a mack. He had a ton load and the front end wouldn't stay down but he didn't let that bother him - 65-70 mph. I'm now in Iowa. That guy was sane compared

to the following man. His wife was the worst nag-bitch I've ever heard. They were both drunk and she was bitching, drove 90 and 85 on corners and at 69/18 hit one spot at 95 and correct 3 times because the front end kept bouncing. The more nag, the more speed. Am now in Ames (I think) with 2 success type salesmen \$60,000 per year, silk ties buying me drinks, go go girls etc. and I can't even remember now drunk in Des Moines Clayton House motel.

The Grass Hut Cocktail Lounge and my future destination and highway 69 etc are very distant. Fantastic the guy let me off at some Holiday Inn and I don't know where I am but don't care. Now to find my way out of here where ever here is! He was pre-med but made a fortune selling insurance etc.

Have now climbed some hill somewhere in U.S. and will attempt to pass out. Nope I'll find my way out. I'll have to buy a compass and walk. Hey, I'm in Des Moines

Somewhere I seem to have acquired the most gigantic fat lip I've ever run into in my life and don't remember ever getting my knuckles bruised. My head doesn't hurt because I'm still drunk. I slept in a beautiful highrise apt in complete rest and I'm thoroughly dusty. The millionaires from last night must have spent a fortune on me. I can't see how I ever woke up at this early hour of the morning, my feet are killing me because I've walked about 12 mi. since last night and 4 this morning. There's another 5 to go and nobody knows my name in those autos. Well a kid picked me up for a short way in town and the next post college type was the first non-crazy individual to pick me up. The highway smell was a very romantic flavor as I sniff around. I hope it's not getting into my blood because these blistered feet tend to be very sore. It was a six mile walk.

What an out of the ordinary place to break my alcoholic fast after resisting Ketchikan. Ride to Indianola with student type, Jewish, who looked like he could buy 1/2 daddy all of Iowa.

This trip has been a good education in a number of ways. Human relations (sociologically speaking, nat

mine) have been shown to me where someone trying to teach them couldn't even touch me. And the recognition that you have to experience it or else you've learned nothing at all.

Man and son went off on a country road and he told me about the area - very honey. Now in Leon. Next a fantastic ride in the back of a pickup - winding roads, trees, creeks, farms. The whole tranquil country. Lamonis. Just bought a bus ticket to H.C. The people are so un-receptive to hitch-hikers and the heat and last night's spree and all the sleepless nights have beaten me down a bit. Good Lord this little burge is the college town, Greeland, Loy Brownes alma mater. I discovered this about 20 minutes before bus time and so grabbed the pack and ran to see it and I looked unbelievably po dunk.
 [trip continued to Lawrence, Kansas]

Lawrence, Douglas Co., Kansas

Aug 2, 1967

Left Lawrence at 12:10 P.M. at mileage 95541 for Provo, Utah. Will travel 40 to Topeka, thence interstate across Kansas to Denver. James Robert will meet us in Utah. He left Sunday via cycle for Montreal, New York and then back to Utah.

Temp about 100° F, slight breeze, high cirrus clouds and some cumulus to N. Trailer in tow. Car temp 104° F, humidity 25. Abilene 4:10 95648 (1/2 hr stop before)

Rivers in this area and along route (including Kaw) are high, especially Solomon River. In area of Salina ^{some of} the bellboards have been blown down toward the east from woods from the west or N.W. 95~~67~~⁷⁰⁸ first red-tail hawk, will keep complete record of hawks, raven, magpie. 95726 redtail hawk.

Arrive Lawrence at 6:00 P.M. at mileage 95750 or 13 miles per gallon. Because of overcast sky, the car temp is now 90° F. 95770 burrowing owl. (6:30 P.M.). 95771 2 burrowing owls at burrow (181 mileage post of highway). 95783 second redheaded woodpecker since last one noted above, 95785 Swainson hawk. 95802 first jack rabbit. 95810 jack rabbits common along side of road (Edwards area). 95812 Swainson-like hawk. 95819 Swainson hawk. Jack rabbits still common. More weeds than in June & more difficult to see. 95842 Swainsonlike hawk. Jackrabbits still common. 95851 Swainson hawk. Sundown at 8:55 P.M. Arrived rest area just E of Grainfield at mileage 95864 at 9:10 P.M.

Approx 3 mi. E Grainfield, Kansas

Aug 3, 1967

Left camp at 8:00 A.M. at mileage 95864. Will start ^(R side Rd only) complete census at Grainfield. Sky 90° clear. Temp. 65° F

95867 Grainfield.

Meadow l 2-

W Ringbird 1-2-

jackrabbit 1-1-4-4-1-2-1-1-3-

burn swallow 1-

(most rabbits on native, closely grazed areas & are suspicious there)

List of birds

- 95541 robin (Lawrence)
 95543 blue jay.
 95545 dickcissel
 95550 meadowlark
 95556 redwing blackbird
 95563 mourning dove
 95573 red-headed woodpecker
 95574 Eng sparrow
 95582 E. Kingbird.
 95596 cowbird
 95623 scissor-tail flycatcher
 95626 crow.
 95632 barn swallow
 95688 yellow warbler
 95689 burrowing owl.
 95690 grackle
 95692 night hawk
 95708 red-tail hawk.
 95732 western kingbird
 95738 horned lark.
 95783 Swainson hawk,
 95864 mockingbird
 95864 lark bunting.
 95879 marsh hawk
 95910 ring-necked pheasant
 96134 herring gull
 96197 magpie
 96253 northern green swallow
 96253 audubon warbler
 96253 mt. Chickadee
 96253 black gray-headed junco
 32 96253 spotted sandpiper
 96253 Steller jay
 96261 Sparrow hawk
 96339 white-throated swift.
 96416 great blue heron
 96428 Golden eagle

lark bunting 1-
 95876 Grinnel (8:30)
 lark bunting 1
 m. lark 1-1-1-
 marsh hawk (95879)
 horned lark 1-
 redwing 1-1-
 barn swallow 1

95882 Cornpus Road

barn swallow - 8
 horned lark 1-
 m lark 1-

jack rabbits 2-

95887 Oakley (40 highway) turnoff. Continuing on I 70.

jack rabbits 2-1-

(S. Fork Saline dry)

marsh hawk 1-

(quick jerk of wings diagnostic)

m. lark 1

Refford 95893

m lark 1-1-

l. bunting 1-

Mingo Road 95901

w. kingbird 1-1-1-1

lark bunting 3-2-2-4

m. lark 1-1

barn swallow 1-

redwing 1-

Colley 95911 (9:20, relative humidity 32, temp 78°F) wind n nw 6 mi per hour.

pheasant.

m. lark 1-1

w kingbird - 1

Lovant Rd 95919

redwing 1-1-

lark bunting - 6-1-1-

horned lark 1

m. lark 1-

m. ^{dove} lark 1-

w kingbird 1

Brewster 95930 (mileage gas 13 per gallon) left 9:55 A.M.

horned lark 3

Edson 95939

roven - 3

horned lark 8-2-

meadow lark 1

lark bunting 1-1-1

Goodland 95949 (temp 76°F, 10:20 A.M) 670803-97

- w. Kingbird 1-1-1-
- l. bunting 1-1-1-1-1
- redwing 1-
- 13 lined ground squirrel 1-
- barn swallow 3-2
- meadowlark 1-2-1-1-
- marsh wren 1
- m. dove 1
- cowbird 36-

Kanorado 95967 (10:47)

State Line (Kansas - Colorado) 95968 (set clock back one hour)

more roadside trees w of line.

- w Kingbird 1-1
- cowbird 1
- redwing 2-280-

Burlington 95981 (10:04)

- lark bunting 1-1
- m. lark 1

Bethune 95990

- m. lark 1-1
- lark bunting 1-
- m. doves 2-

Stratton 96001

- m. dove 1-1
- swallow sp? 2-

Vona 96009, 10:45, temp 85°F

w Kingbird.

Siebert 96016

- meadowlark 1
- lark bunting 1-1-1-1-2-3-1-

S. Fork Repub Riv. 96024

- cowbird 40- horned lark 3
- meadowlark 2
- redwing 1

Flogler 96028

- mourning dove 1-1-1-1-1-1
- w Kingbird
- m lark 1
- lark bunting 1-3-1-2

Arriba 96040.

- lark bunting 2
- m. dove 1-1

Bovina 96047

lark bunting 1-4-3

m. dove 2-1

m lark 1-1

Denver 96053 (drop down off high plains at this point).

m. dove 1-1-2-

lark bunting 1-4-3-1-1-1-2-1-1-2-

badger wood peck

m lark 1-

w kingbird 1

cowbird 1

junction (287-40) 96062.

Limon ^{muskegeter} 96063

11:52 (end complete census).

96100 Deer Trail - Red ^{Tail} Hawk

96135 Herring gull

Arrived Denver 96159 2:30.

96197 magpie - 12th Clear Creek Canyon

Arrived Dillon Reservoir (Heaton Bay) at 8:30 P.M., mileage 96253

Heaton Bay, Dillon Reservoir, Colorado

Aug. 4, 1967

Temp at 6:30 A.M. 39°F. Fog on lake. Sky clear. Photos 670804-1 and 670804-2 of Dillon Lake with Chris & Polly in foreground.

Earlier fog circulated thus

Birds observed at lake were:

Audubon warbler. Steller jay.

mt. Chickadee

robin

spotted sandpiper

northern white green swallow.

raven, gray headed chickadee

These birds, except raven, were on shore and were feeding on insects, mainly mosquitoes. Forests cool, shore warm. Islands in lake without trees very but good veg.

Left 9:00 A.M.

photo 670804-3 family at Veil Pass - mt. Hawk

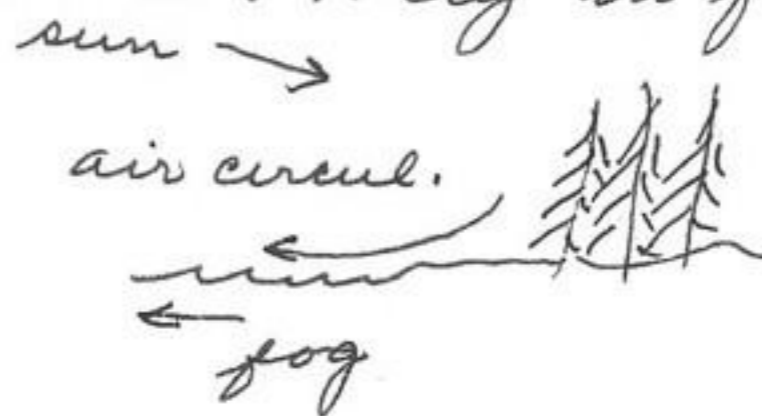
9000 feet 11000 ft.

Photo 670804-4 Cabin & valley at 96281 in Vale Valley.

One group of 18 magpies at Edwards. Many others in this valley. At mileage 96339 photo of Colorado

River. ^{670804-4a} White throated swift and magpies in area

This area about 2 or 3 miles above Shoshone outlet (Shoshone Electric Co) no water in river below outlet.



Tamiasciurus and golden mantled ground squirrel at camp.

Have not kept record (complete) but 5 sparrows hawks since 10°
 Vale, Colorado. Grandvalley, 96396, 1:55, temp 94, humid ~~10~~
 Bald Cinnuleus forming. 96416 great blue heron on Colorado
 River. also deer. 96428 Golden Eagle circling above Cliffs
 SW of Comeo. 96429 crossing Colorado River to right side
 Arrived Fruita 3:30 at 96456, now to Nat. Monument.

Photo 670804-5 of Coke Owens from Artists Point.
 " 670804-6 Monument Valley with canyon & Book Cliffs beyond
 " 670804-7 " " " monument.

Left Fruita 6:20 at mileage 96485. Beyond Mack at
~~96497~~ 96497 noted 2 prairie dogs. 96510 roven. 96522 roven.
 at Cottonwood Wash. 96527 roven. Arrived Colorado River
 8:30 and camped approx 1/2 mi. down river from bridge. Bats active
 beginning 8:30 P.M. and averaged about 15 per hundred feet
 along (over) the river. They ranged above and beyond. mileage
 96552

Colorado River, ^{E moab,} 1/2 mi. SW of bridge, Utah.

Aug. 5, 1967
 Last night ~~fox~~ ^{owl called} ~~barbed~~ at camp. Tracks ^{of fox} common in area.
 Bats active to 6:30 A.M. Bats in area.

maggie, rock wren, ash-throated flycatcher, lazuli bunting,
 robin, m. dove, cliff swallow, house finch, Chipping sparrow,
 great blue heron tracks in mud along river. Tamaracs
 dominant along river. will keep list of birds thru river
 gorge to moab.

Left 7:45 A.M. at mileage 96552 Temp 80°F
 great blue heron, magpie, Photo 670805-1 Camp of
 above.

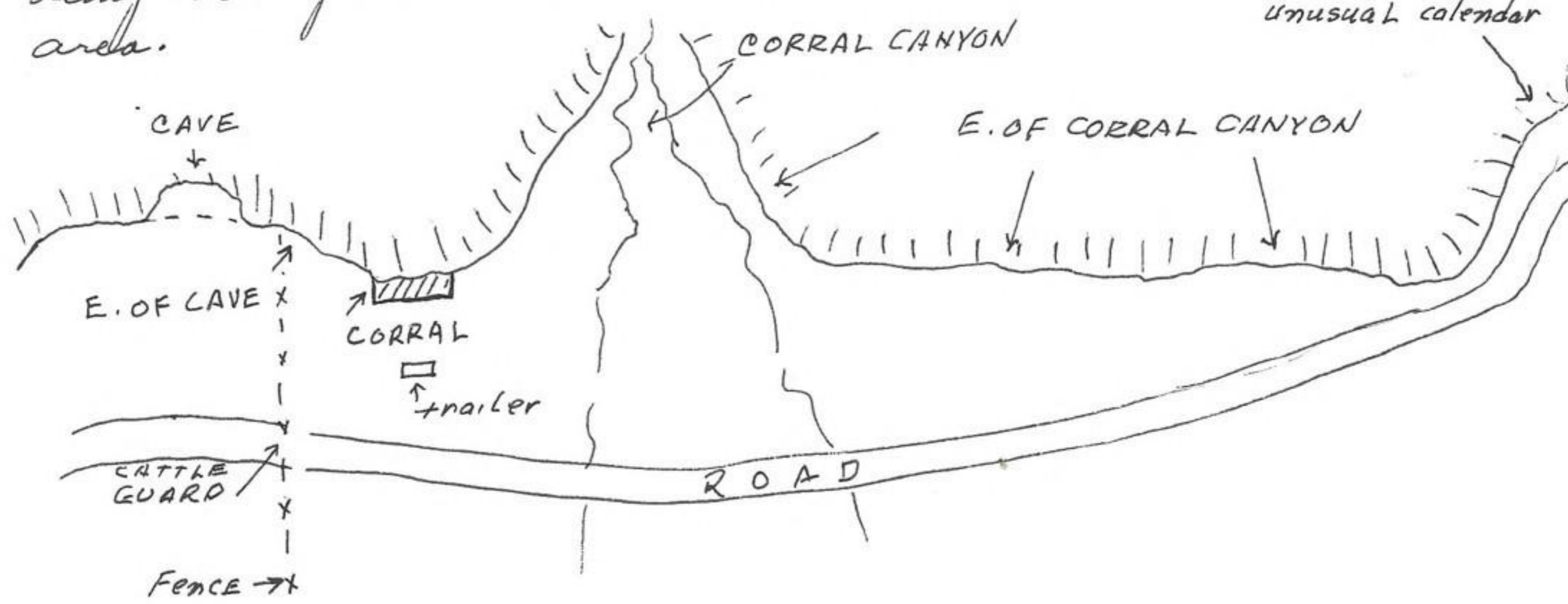
- maggie
- ash-throated fly catcher
- robin
- chipping sparrow
- rock wren
- deer
- lazuli bunting
- phoebe jay
- sharp shinned hawk

Photo river - 96555 67-08-05-2 (La Salles)

mourning dove
 sparrow hawk

96569 - 2 photos # ^{3 (Paley)} R + B of fort + corral
 George E. White ranch # ⁴ with some
 5

Photo 670805-6 and 670805-7 of dry, cracked soil from ephemeral pond and desert varnish (left) Sparrow hawk average 1 per 2 miles along river. Rock wren most common bird. magpies uncommon. 96577 Chukar partridge crossed road and gained sidehill above steep road cut. 96581 photo up Canyon (no-670805-8) ^{with Chris} showing dominant Wingate formation as it dip to the S. ^{670805-9 as above} Novato loaded from river edge of Wingate. 96586 Arrived moab at 11:25 A.M. Left 12:50 at 96588 continued n to Green River, thence to a few miles E of Wellington and thence n toward nine mile Canyon. In wide valley on n drainage noted group of 10-20 bluebirds. These birds prefer open fields of broad extent. Continued to nine mile and stopped at Nutter Ranch. The daughter of Mr. Nutter, now owner of the ranch was in Salt Lake City for a short visit. The ranch is of newer buildings than when I visited Mr. Nutter some 38 or so years ago. The penobes are still the ranch watchguards. noted a few petroglyphs on cliffs about a block up canyon from ranch. Continued down canyon and arrived at corral which is associated with the 3rd cattle guardrail. I would estimate that the distance is approx 5 1/2 miles from the Nutter Ranch. The canyon floor is cultivated but erosion has destroyed much of the flat canyon bottom and parts not effected are now inaccessible by road because of the deeply eroded gully. The grass fields harbor great swarms of mosquitoes. Road to the 3rd Cattle guard is just possible with trailer. Camped at Corral. The general area of petroglyphs are associated with this ~~area~~ Corral. Other petroglyphs were noted on cliffs along the way but not in the same concentration as in this area.



unusual calendar

Corral Cove, Nine Mile Canyon, Utah,

Aug. 6, 1967

This morning recorded petroglyphs showing variation of the mountain sheep. Measurements and statistical analysis might show common origin, relationship with other localities and identity of artist. The concentration of petroglyphs in this area were associated with the cove. Other sections of the canyon supported ideal flat cliff surfaces but did not have the number of glyphs, as was with the case. Most of the glyphs were on perpendicular walls on the canyon floor level. A few were on other surfaces and some noted as ^{high as} 100' above the floor. There was not much evidence of

vandalism. It would be interesting to check the cliffs out the high vantage points. A cellulose acetate transparent film was layed

over the petroglyph and secured with masking tape. A special wick pen, adapted for acetate film, was used to trace the image. Other than a close color photograph, the acetate film is the best method of reproducing the petroglyph.

The following petroglyphs were selected and recorded:

Corral Cove:

670806-1. warrior on horse. warrior complete with outstretched arms and head gear. Horse with reins and legs suggestive of movement. Body & neck elongated. Ears & feet in proper perspective.

670806-2 Hunting scene with Indian, bow & arrow and mt. sheep. The arrow is connected to body of sheep. Horns connected to body & hooves enlarged.

670806-3 5 legged animal with circular head (one circle within another). Posterior end a globe (solid).

670806-4 Elk (head & neck) on wall of cove. Red paint.

E. of Corral Cove:
670806-5 mt. sheep. normal outline

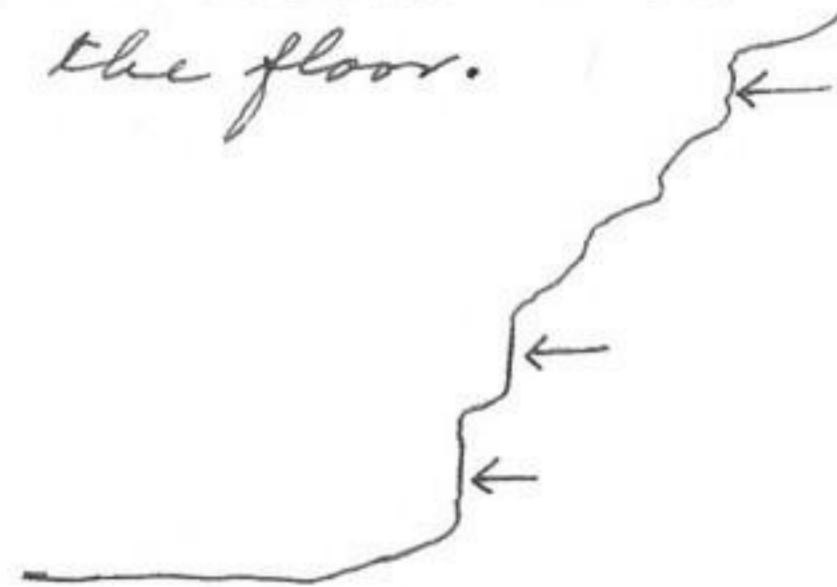
670806-6 Deer and mt. sheep enclosed in double circle attached to a many radiating base. Sheep attached to base.

670806-7 Elk or deer with large feet.

670806-8 Buffalo with wheel-like feet

670806-9 mt. sheep with horns attached to back. Body massive.

670806-10 mt. sheep with massive body.



670806-53² mt. sheep with accentuated horns + rump.

Corral:

670806-11 Buffalo with massive body.

670806-12 square shouldered man with sidelocked hair. Fingers 5 and 7.

670806-13 square shoulder individual with horned head.

670806-14 man with side-locked hair.

670806-15 mt. sheep, square body & long nose.

670806-16 mt. sheep.

670806-17 mt. sheep, square body. single horn.

670806-18 mt. sheep, ovoid body, single horn.

670806-19 mt. sheep.

670806-20 mt. sheep, square body, head horizontal.

670806-21 mt. sheep, large legs, horns large & attached to body.

670806-22 mt. sheep, legless, body at 45° angle, normal otherwise.

670806-23 Buffalo, hunched back.

670806-24 Buffalo, good form, horns attached to back. Amorphous mass in rear.

670806-25 mt. lion, tail short. Could be a bear.

670806-26 mt. sheep. horn attached to back

East of Corral Canyon:

670806-27 mt. sheep, elliptical body, large horns, prominent rump.

670806-28 mt. sheep.

670806-29 mt. sheep, body axis perpendicular, single legs, head down.

670806-30 mt. sheep, body, ^{and leg} single line & interrupted pecking.

670806-31 mt. sheep. well formed.

670806-32 mt. sheep, front feet & legs elevated.

670806-33 mt. sheep, leg in extreme jumping motion.

670806-34 deer, antlers (one prong) attached to back. neck constricting anteriorly.

670806-35 Elk. neck constricting anteriorly like deer above.

670806-36 mt. sheep, body square, large leg & feet.

670806-37 mt. sheep, square body, large legs & extra large cloven feet, head elevated.

670806-38 mt. sheep, large horns.

670806-39 mt. sheep (?), long tail, horns more perpendicular.

670806-40 mt. sheep, inclined 45° with down.

670806-41 mt. sheep, large horns, leg incompletely pecked

670806-42 bear^(?) feet.

- 670806-44 mt. sheep, gait motion, single horn.
 670806-45 mt. sheep,
 670806-46 mt. sheep, elongated neck, large tail.
 670806-47 mt. sheep, highly segmented body, horns + legs, prom. rump.
 670806-48 mt. sheep, frontal view of head, large legs & feet.
 670806-49 mt. sheep, elongated neck and prominent rump.
 670806-50 human form, antlers.
 670806-51 human form, antlers or horns, ring arms, like dragon
 fly of Bannock tube of Idaho
 670806-52 warrior-horse, 5 figures, all stages of warrior, ^{trace of} last horse lost.
 670806-53 mt. sheep, no detail in horns.

Left Corral Camp in Nine Mile at 11:20 A.M. Best time for recording petroglyphs is early in morning before hot sun arrives. Mileage at Camp 96763.7 Photo 670806-54 from Corral showing Nine Mile Canyon to SW. Temp. 95° F.
 96768 36 pinyon jays in close formation, feeding along side of road. 96769.8 Myton turnoff or 6.1 miles from Corral Camp. (as the mileage meter is 1/10 miles ~~too~~ more than intrinsic mileage the distance is actually 5 1/2 miles) Nutters Ranch is approx 2/10 miles beyond the Myton turnoff. In this 5 1/2 miles noted 5 sparrow hawks, 3 towhees and 8 mourning doves in addition to other kinds of birds. Continued to Nutters Ranch and left at 12:15 at mileage 96770 to return to Myton turnoff & thence N. Only birds noted were 2 rock wrens at mileages 96771 and 96772. Canyon divide 96778, 96780 mountain bluebird
 96781 rock wren and jackrabbit road kill.
 96784 mountain bluebird, 1 pinyon jay.
 96785 exceptionally large golden eagle feeding on road kill (jack rabbit). This bird was surprised as car travelled over knoll and immediately left (at 50') and alighted on slope some 200' away. It remained there for about 1 1/2 minutes and then flew a hundred feet away and alighted again for a few (30) seconds before leaving area. It placed more confidence in man than I have witnessed for some time. Second year bird with some white at base of tail.
 96787 pinyon jay. One flock of 28 in one group by old rock foundation near mile Post 55.
 96788 loggerhead shrike and sparrow hawk
 96789 mourning doves and group of 2 and 4 mt. bluebirds
 96790 cottontail roadkill.

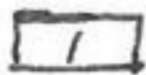
- 96790 loggerhead shrike
 96790 rock wren.
 96796 jackrabbit road kill
 96798 jackrabbit road kill, one group 2 and a single
 96800 jackrabbit road kill.
 96801 jackrabbit rd. kill.
 96803 mourning doves and first butterfly
 96804 Brewer black birds
 96804 barn swallows.
 96805 junction highway 40 - Interstate 71 and end of census.
 yellowhead blackbirds along highway 40 in permanent
 marsh areas.
 Red foot road kill at Strawberry River bridge on highway 40
 Continued W and at Strawberry Valley noted considerable
 change in replacement of sagebrush by grasses.
 Calif gull at Deer Creek Reservoir. Arrived Provo, Utah.
 at approx. 96931 mileage

Provo, Utah Co., Utah

Aug. 7, 1967

This morning recorded the following petroglyphs at home,
 255 E. 1st So. Provo. These petroglyph rocks were taken
 several years ago (at least before 1938) from Lincoln Beach
 and preserved at the above address. These glyphs were
 of importance to preserve before vandalized or destroyed.
 The locality is: Lincoln Beach, West Mt., Utah Co., Utah.
 From Provo Level. Rock a red sandstone. This is the same
 locality as those taken by Dr. George Hansen and now on
 Brigham Young University campus.

rock no.
670807-1



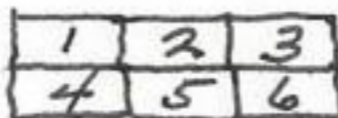
rock no.
670807-2



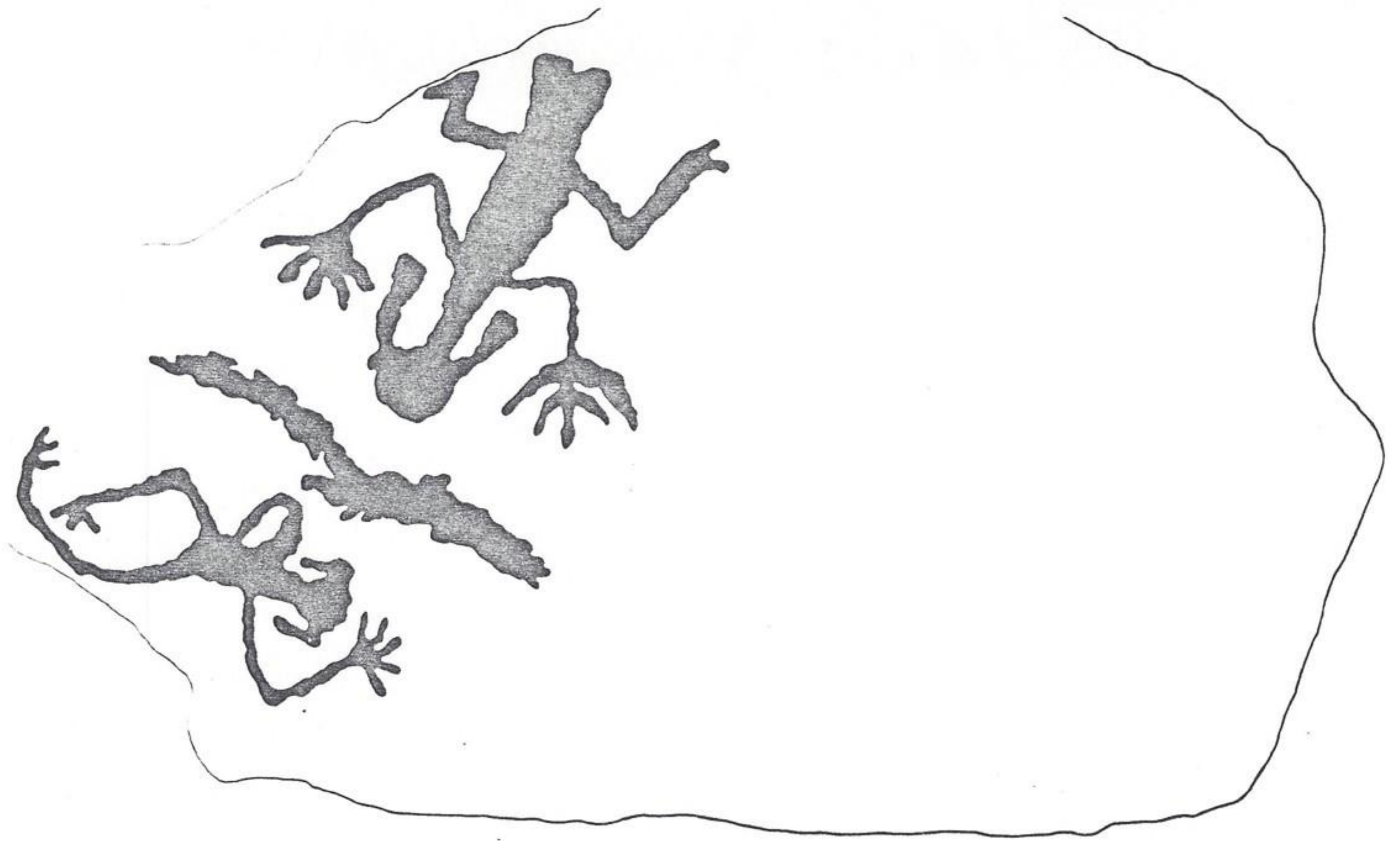
petroglyphs on 3 sides of rock.

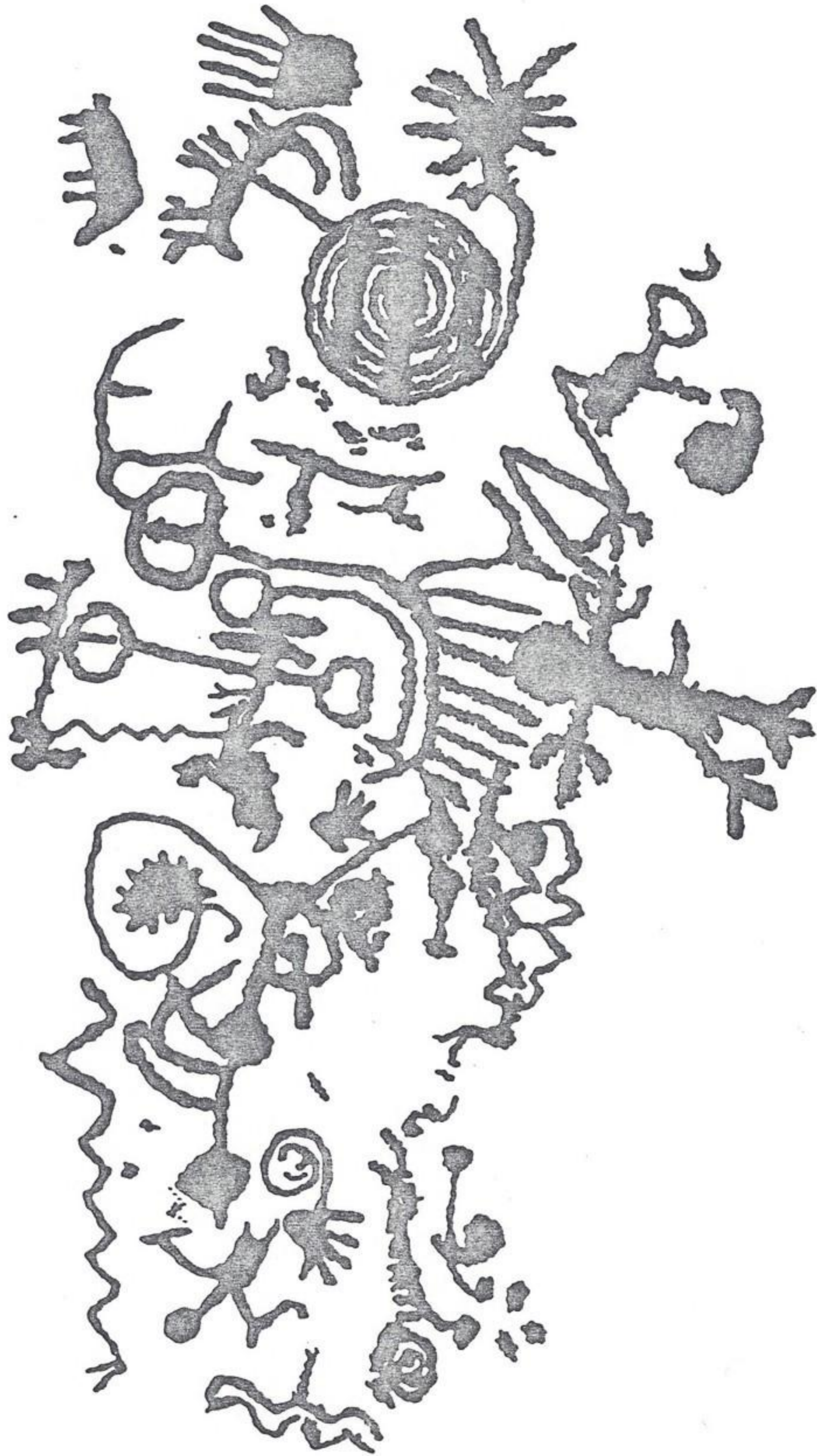
This afternoon recorded petroglyph rock at Gateman Point
 in Provo Canyon, Utah Co., Utah. Gateman is a name given
 to the site because of the gate-like cliffs converging on canyon
 from both sides. One large boulder supports the petroglyphs,
 a second one a few feet away has recent glyph impressions.
 This rock is:

rock no.
670807-3

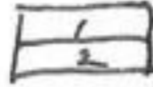








The following petroglyphs are recorded in journal this date but collected in about 1935. They were traced from rocks by forcing tissue paper into rock surface with a tooth brush and then outlining the impression with a pencil and then traced on to paper. In nearly all cases the subject was part of a complete picture and were made to illustrate the form of the mountain sheep & deer. As I recall there was a question as to exact locality in Utah Co. and information was recorded at a later date. I believe this applied in only one case, however.

- 670807-4 (1) and 670807-4 (2) from Red Cut, West of Fairfield, Utah Co., Utah.  many fingered bear paw figure and connecting lines. a mitochondria-like figure incorporated.
- 670807-5 Red Cut, W. of Fairfield, Utah Co., Utah. deer.
- 670807-6 (1) and 670807-6 (2) " " " " " " " of deer, hooves, bear paw etc.
- 670807-7 Red Cut W of Fairfield, Utah Co., Utah. deer; bear paw.
- 670807-8 Lincoln Beach, ^N end ^{west} Lake mt., Utah Co., Utah. Snake
- 670807-9
- 670807-10 " " " " " " " eagle
- 670807-11 " " " " " " " jugler
- 670807-12 " " " " " " " cradle
- 670807-13 " " " " " " " circle figure
- 670807-14 Knolls, S. of Pelican Point, ^{Lake mt.} Utah Co., Utah. mt. sheep.
- 670807-15 " " " " " " "
- 670807-16 " " " " " " "
- 670807-17 " " " " " " "
- 670807-18 " " " " " " "
- 670807-19 " " " " " " "
- 670807-20 " " " " (maybe W of Lake, sheep)
- 670807-21 Knolls, S. of Pelican Point, Utah Co., Utah. ^{mt. sheep} circled headed figure
- 670807-22 " " " " circled headed figure
- 670807-23 " " " " neckless
- 670807-24 " " " " mt. sheep
- 670807-25 " " " " "
- 670807-26 " " " " "
- 670807-27 " " " " " 40' above lake level
- 670807-28 " " " " " 90' " " "
- 670807-29 " " " " " mt. sheep
- 670807-30 " " " " " "
- 670807-31 " " " " " (head only)
- 670807-32 " " " " " 3 arrow point figure
- 670807-33 " " " " " chevrons
- 670807-34 " " " " " man
- 670807-35 " " " " " { man & radiating head dress

1-1-1- (97676, 3 horned lark) - 1-1-1- (97677) 1-1-1- (Red Deer Creek 97682) there
 is definitely a decrease in rabbit road kills because of less artemisia
 1-1-1- (97687) - (afternoon clouds in sky) - 1- (Wamsutter turnoff 97691)
 (97692 bodger rd. kill) 1-1- (97697) - 1- (97698 sp. hawk & horned lark) -
 prairie checker³ rd kill) - 1-1-1- (Continental Divide Rd 97703) 1-1-1-
 (more wind on E side divide) (97705 sp. hawk) - 1-1- (97707) - 1-
 (97709 4 antelope) - 1-1-1- (97711 3 horned larks) - 1- (River Rd,
 97715) 1-1- (97717) (3:16 P.M.) - 1 (97719 Carbon Co.) - 1-1-1-1-1-1-1-
 (Daley Rd 97721) - 1-1-1-1-1-1-1-1- (Knobs Rd, 97724) 1-1-1-
 1-1-1-1-1-1- (97727) 1-1-1- (97730 Barnes Rd) (first exit to
 Rawlins 97733 and end of census. (3:30 P.M.), Left 4:30 at
 97736. At 4:45, 97751 at Platte River started complete
 census of road kills ^{and birds} per 10 miles, 1-1-1-1-1-1-1-1-1-1-1- 97758
 Saratoga turnoff and continuing S. 1-1-1-1-1-1-1-1-1-1- (97761) - 1-1-1-1-
 1-1- (97767 antelope road kill) - 1-1-1-1-1-1- (97771) - 1-1-1- (rabbits
 mainly on west side of roadway and in pairs) - 1-1-1- (97777 Lake
 Creek and red tail like hawk) - 3 mdoves - 97778 Lake with ducks
 and gulls - 97779 marsh hawk, - (Saratoga 97780) + N Platte River
 (97781) - 1- magpie - (97782 Spring Creek) - (97784 striped skunk rd kill)
 1- (97787 magpie) - 1-1-1- 6 mdoves. (97789 130 highway turnoff)

and following, 97790 3 magpies, 4 mdoves, sp hawk.
 97790 N Platte River end of rabbit census. weel
 keep magpie census, 97791 sp hawk, magpie; m. dove; 97793
 sp. hawk; 97794 ♀ + faun on open sidehill, magpie; 97795
 1 ♀ antelope, sp hawk. 97797 8 antelope, 97798 sp hawk,
 few rabbit rd kills. 97799 first aspen at mt canyon, 97801 N. Break
 Creek. 97807 Chickadee; 97810 ♀ Deer 97816 3 marmots.

97819 Mirror Lake, 6:55 P.M. Camped on slope W of Lake. at 8:20
 2 night hawks passed camp (twilight) and 5 minutes later 3
 large brown bats started to forage. Clarks nutcracker, Canada
 jay, white Cr. sparrow in area. also marmots (3), piha 7 N of camp.
 snowshoe rabbit, chipmunk, golden mottled ground sq.

Mirror Lake, 10240 ft, Snowy Range, Wyoming

Aug. 20, 1967

at 7:00 A.M., temp 38°F. Photo 670820-1 of trailer & range
 beyond, Photo 670820-2 Lake & Chris Photo 670820-3 family at camp
 Photo 670820-4 old pine at lake

Left 9:00 Lehigh Flats. at mine before flats noted 2 marmots:
 Chipmunks & prairie dog common. noted that snow cover
 or cover protects white rocks from collecting lichens and denmark
 previous snow cover. Duck (mallard) in Haurglass Lake,
 ♀ and 4 young (3/5 length adult) in adjoining part of Haurglass Lake.
 Buck at Barber Lake. Tameasaurus calling. First magpie⁽³⁾
 at Centennial (mileage 97835). Will keep census (complete) to Laramie.
 97836 18 Brewers blackbirds, marmot, redtail like hawk.
 97837 Brewer's blackbird. 97838 14 Brewers. 97839 8 Brewers.
 97839, 2 antelope, 6 Brewers, 97840 4 magpies, redtail hawk.
 97840 porcupine rd hill. (3/10 mi. w little Laramie River), 8 bluebirds.
 97841 jack rabbit road hill. 97843 jacks Plover. 70 Canadian geese
 hawk (roughleg) tail base white. 97844 jack rd hill. 97845 jack
 rd hill.
 97846 hawk sp.?, jack rd hill. 97847 2 jack rd. hills. 97849 2
 jack rd hills, 97850 jack rd hill, cottontail rd hill. 97851 2 jack
 rd hill. 3 horned larks. Artemesia rare. 97852 horned lark.
 97854 jack rd hill. 97855 jack road hill, horned lark, 97856 horned lark.
 97859 redtail like hawk. 97860 28 antelope to S. 97861 airport, ^{Breastfield.}
 97864 at 230 junction & end of census. Now in Laramie at 10:30 A.M.
 97876 Badger rd. kill. 97877 Lincoln Memorial. 97883 vulture.
 97886 18 crows on snow drift fence. 97891 sp. hawk. 97906 first
 lark hunting. (12 miles W Cheyenne). Grasses more luxuriant east
 of Sherman mts than in Laramie Plains. 97918 Little America
 in Cheyenne (12:00). Left Cheyenne. 97934 badger road kill.
 97940 5 antelope. 97955 badger road hill (Egbert turnoff).
 Arrived Alma 11:55 P.M. Mileage 98295

Alma, Nebraska

Aug. 21, 1967

Left 7:40 A.M Great Blue heron, Franklin gull & shorebirds on Republican
 River. Will keep complete record to S. from river.

- m. dove 1-1-1
 - m lark 1-1-1
 - E. Sparrow 40 -
 - red tail hawk 1 -
 - town swallow 6 -
 - red-headed woodpecker 1
- badger road (98302)

Kansas State Line 98303

(more shrubs than 670821-112 typical prairie)

m. lark 1-1-1-2-2-1-1-1-1-
barn swallow 1-1-2-3-
m. dove 1-1-1-1-1-1-1-2-
E Kingbird 1-1-1-1-1- 4

Eng sp. 6-18-6-
red shafted flicker 1-
? dickcissel 1-1-1-
red tailed hawk 1-1-
crow 2-

Phillipsburg, 98328 (8:15)

E. Kingbird.

m. dove 1-1-
m. lark.
Eng sp. 15-2-
red tail 1

Blade 98330

Eng sp. 1
m. dove 2-1-1-1-1-1-1-1-1-1-
m. lark 1
redheaded (on telephone wire)
woodpecker

E Kingbird 3-1-
barn swallow 2-

Bow Creek 98339

swallow 1-1-
m. dove 1-1-

m. lark 1-
barn swallow 1-1-

not many birds
between Bow Cr.
& Stockton

Stockton 98349 (9:05, temp 64).

m. lark 1-
m. dove 2-1-1-1-1-1-
turkey vulture 1-

pheasant 1
Eng sp. 10.
swallow 1-2-
butterflies rare

Plainville 98364 (9:25 A.M)

(first grackles in town).

redheaded woodpecker 1-
cowbird 6-
m. dove 1-1-2-1-1-1-1-
E. Kingbird 4-
m. lark 1-

Eng sp. 7-
baldpate rd hill at 98368.
barn swallow 2-2-1
bank swallow 12
blue jay 1-

m dove flying
at 50 miles per hr.

Saline River 98374

m. dove 1-1-1-1-1-
m lark 1-1-1-

swallows 6-2-1-1-2
barn swallow 4-2-2-

N Big Creek 98383

m. dove 1-1-1-1-2-1-1-
E Kingbird 1-
W Kingbird 1-

Eng sparrow 12
barn swallow 4
swallow 1-3-4
m. lark 1-

Swanton Bank 98388

Junction (I 80) 98389 (10:00 A.M)

Left Hayes (10:30 A.M). (same junction)

marsh hawk (98393)
m lark 1-
m dove 1-
red headed woodpecker 1-

W Kingbird 2-
E Kingbird 1-

many fences grown to sunflowers & weeds; mainly along cultivated fields
in contrast to grazed fields

Garham Turnoff 98408

barn swallow 1

meadowlark 1-1-1-

swallow 2-

keeldeer 1

m. dove 1

redstart flicker 1

E. Kingbird 1-

m. lark 1-

Russell Turnoff 98418

m. dove 1-1-1-3-

Swainson hawk (98423)

swallows 2-1-1-

m. lark 1-1-

barn swallow 28-2-1

redwing 2

redtailed hawk (98426)

E Kingbird 1-1-1-

Dorrance Turnoff 98433.

effect of mowing ^{or plowing of} grasses or crops on wildlife. Also to check change of animal community across country as result of plantings along roadways such as deciduous and conifer trees in prairie land etc. There is better visibility in spring than weedy fall.

m. dove 1-1-1-1

m. lark 1-1-

Swainson h. (98437)

swallow 1-

Lucas Turnoff (98440)

E. Kingbird 1

m. dove 2-4-2-1-

swallow 4-2-1-

Sylvan Grove Turnoff 98445

next town ^{or road} jacks 1-1-1-1

badger rd. kill (98446)

E. Kingbird 1-1-

m. dove 1-

2 Stripped skunk 98449
rd. kill

Verper Road Turnoff 98451

m. dove 2

m. lark 2

Elsworth Turnoff 98455 (11:55)

m. lark 1-

E. Kingbird 1-

Lincoln 98458

m. lark 1-1-

swallows 1

m. dove 1-1-

or cooltail rd. kill
will make jackrabbit ^{causes to}

Great Bend Turnoff 98462
m. lark 1
2 Swainson h. (98465)
m. dove 1-1-
swallow 2-1-

lost 80-100 miles with crickets calling
Suckers not evident with positive
identification.

Beverly 98470
m. lark 1-
b. swallow 2-4-

Glendale Turnoff 98476
m. lark 1
E Kingbird 1-1-1-1-
bobwhite 1-
swallows 2-1-3-6-
barn swallow 3-1

goldfinch 4-
baldpate (98487)
m dove 1-1-1-1-

Salina (Municipal) Turnoff 98491 (12:40) Left 1:30 P.M.
m. dove 1-4-1-1-1-1-
m. lark 1-
W Kingbird 1-2-1-1-
redtail hawk 1-

E Kingbird 1
Cuckoo 2-

Salmon Turnoff 98507
swallow 2-1-
E Kingbird 1-

Talmage Turnoff 98513
m lark 1-

Abilene 98517 (97°F)
m lark 1-1-
m dove 1-4-1-2
swallow 1-

W. Kingbird 1
E " 1-1

Maryville (to) 98538
swallow 1-2-

Smoky Hill River 98542 (2:35 P.M.)
barn swallow 1-3-2-

~~Humboldt~~ River 98547
swallow 2-1-

Mc Dowell Creek 98552
E Kingbird 1
m lark 4-

Birds uncommon this time of day. may
be expression of inactivity or season.
Daily

Manhattan Turnoff (Council Grove) 98558 (3:00 P.M.)
barn swallows 1-1
m. dove 1-

m lark 2-1-1-1-1- (all typical upland prairie)

Mc Farland Turnoff 98576 (85°F)
quackles 3
cowbird 2
E Kingbird 1-1-

m. dove 2-
swallow 1-2-2-1-
m. dove 1-

Valencia Rd 98597 more deciduous 670821-115
m. dove 1- forests beyond here.
Kansas River bridge 98604 (near to 24 highway) (3:55 P.M.)

E Kingbird 1
swallows 2-1-
junction 75 to 5 three Tapes 98612
m. lark 1- E. Kingbird 1-
m. dove 1-1- swallows 2-1-1-
cuckoo 1
turkey vulture 1-1-

Tepee Junction, N Lawrence, 98840 4:40 P.M., temp 95°F.

End of Complete Census.

Compare trip out with return + of June trip. Birds consid-
erably scarcer this trip. It will be interesting to com-
pare the bird population across the country with
the census made earlier in the year, especially the
one made June 26, 1967, when the population of birds was
high and the birds made themselves conspicuous. A
great surprise was the almost total lack of Brewers
blackbirds across Wyoming on the return of this
trip as compared to an unusually high population
earlier in the season. Will make graphs for the
Wyoming census.

Lawrence, Douglas Co., Kansas
Aug. 23, 1967

Photos of James Robert Bee upon his return from Alaska.

- | | | |
|-----------|--|---|
| 670623-1 | James Robert and mouth of beard. | |
| 670623-2 | " " with rain gear used in fisheries factory in Ketchikan. | |
| 670623-3 | " " | |
| 670623-4 | Car repaired + painted and later sold | |
| 670623-5 | James + motorcycle in back yard (1620 Tenn.) | |
| 670623-6 | " " | |
| 670623-7 | " " and trailer | 670623-18 James Robert. |
| 670623-8 | " " | 670623-19 " " |
| 670623-9 | Close-up of speedometer of motorcycle. | 670623-20 Donald Jenkins |
| 670623-10 | " " motor | 670623-31 James Robert
and his entire band. |
| 670623-11 | James Robert. | 670623-32 James Robert
and first haircut for the
season |
| 670623-12 | " " and quick getaway | |
| 670623-13 | " " and his guitar | |
| 670623-14 | " " " " " | 670623-33 James Robert
the Mohawk. |
| 670623-15 | " " " " " | |
| 670623-16 | " " " " " | |
| 670623-17 | " " " " " | |

Wakarusa Valley, Clinton area, Douglas Co., Kansas

Aug 23, 1967

made census of Wakarusa Valley from east end of proposed Clinton Reservoir to west end and beyond to Shawnee Lake. Mileage at S end of proposed dam at 96.5 at 11:00 A.M. Sky hazy. Wind approx 20 miles per hour from SW.

00.5 Clinton and not one bird so far. 00.6 Chimney swift. 02.9 Wakarusa bridge. 03.5 sparrow hawk. 03.6 sparrow hawk. 03.8 2 mourning doves. 04.1 1 mourning dove, 8 barn swallows. 05.0 4 eastern bluebirds. 06.4 now to S, 1 mourning dove. 06.6 sparrow hawk, 2 cowbirds. 07.4 4 crows on hill & now to W. 08.8 3 turkey vultures. 10.1 road to Richland but continuing W. 8 barn swallows. 11.1 barn swallow. 11.9 barn swallow. 12.3 5 crows. 13.1 Crossing R.R. tracks. 14.0 now N on Paulen Road toward Shawnee Lake. 2 barn swallows. 14.5 tree fox squirrel. 15.6 38 grackles. 17.3 4 robins. 17.7 Cardinal. 18.0 Shawnee Lake road & to W. 15 barn swallows circling above herd of cattle which were responsible for the insects above. 2 crows, 1 turkey vulture

Arrived Shawnee Lake (east side at mileage 20.4, Fished east shore and found that the bluegills were feeding out about 20 feet from shore while the green sun fish were near shore under rocks and other protection, noted a water snake in water.

Summary of area between S end of proposed dam to Richland turnoff:

Chimney swift 1

sparrow hawk 1-1-1

mourning dove 2-1-1

barn swallows 8

eastern bluebirds 4

cowbird 2

turkey vultures 3.

Lawrence, Kansas

Sept. 10, 1967

Prepared to leave for Provo for Dad's funeral.
 Left for Provo, Utah, at mileage 99467, 10:00 A.M. Mary and
 Chris to remain in Lawrence. Temp. 66°F. Sky foggy + 40% clouds.
 Red-headed woodpecker 2 mi. W Lawrence. Will keep
 complete census.

Sparrow hawk (1 1/2 mi. E Perry)

Perry.

shrike

redwing

m. dove 2-2-1-1

Turkey vulture 99490,

sp. hawk 99492, 99501.

Crow 3-

monarch butterfly 1-1-1-1-1-1 (all to S)

I 70 just across bridge (Kaw) 99505

monarch butterfly 5-5-5-

barn swallow 6-

m. dove 1-1-

mill cr. 99531

m. dove 2-2-1-

redtail 99533

monarch b. 5-5-7-5-5-5-5-

redtail hawk 99537

swallow 6-

Geary Co line 99550

turkey vulture 2 at 99553 - 1 at 99561 -

monarch b. 5-5-5-N-7-7-

m. dove 1

goldfinch

Smoky Hill River 99569

monarch b. 5-5-5-5-5-5-5-

sparrow hawk 99584

barn swallow 1

m. dove 1-

m. lark 1

Solomon Turn off 99603

m. butterfly 5-5-5

Salina (minneapolis exit) 99618, 12:45 P.M.

Left 1:30 P.M.

m. doves 2-2-1-4

m. butterfly 5-5-5-5-

marsh hawk 99635

E Neworth Co. 99646

Cowbird 18-

redtail 99653, 99662,
99665,
99668

swallow. 2

few hot turtles and occasional jack rabbit road kill.

Only slight evidence of
 yellow birch tree foliage
 as we travel W.

Ponds full and brown from silt,
 especially ponds
 with dirt banks or
 cattle traffic.
 Some ponds, stabilized
 and with vegetation
 around sides clear.

Some Lawrence there has been
 approx 12 stripped skunks + 4 opossums
 road kills

Wilson Turnoff 99669
 Killdeer
 redtail 99681, 99691

m. dove

Russell Turnoff 99692. ^(rabbits unspecified) Begin jackrabbit road kills. Rare
 up to this point. moderate wind from S
 Few pheasant road kills.

meadowlark 1-

m. doves 1-2-

rabbit road kill 1-1-

horned larks 6-

cowbird 8-

Fort Hayes Turnoff 99720

m. doves 5-

Yocemento Rd Turnoff 99726.

Eles Turnoff 99734

red-shafted flicker

cowbird. 1-3-

rabbit rd kill 1-1-

redtail hawk 99744

Ogallah 99745

horned lark 1-

Wakeney Turnoff 99753 (3:50 P.M.) (E. exit)

m. dove 2-1-1-

m. lark 1-

marsh hawk 99763,

first teal (2) 99766.

hairy swallow 1-2-

m. lark 1-1-

Quarter 99765

rabbit rd kill 1

m. dove 1-1-

marsh hawk 99769⁸⁰

Park 99783

Granfield (Highway 23 junction) 99790

rabbit rd kill 9803

Oakley (40 junction) 99809

rabbit rd kill 1-

skunk rd kill 1-1-

m. lark 1-1-

m. dove 2-

h. lark 1-2-1-

swallows 6-

Colby 99832 (5:10 P.M.)

m. dove 1-1-

pheasant 1-1-1- (all in 3 miles) 99843 - 2-1-

horned lark 2-

Brewster 99852

burrowing owl 3 (99855)

budger bond hell 99857

m. dove 2-1-

striped skunk - 3 in one mile 2 miles E Goodland.

Goodland 99871 (6:00 P.M.) Skies with storm clouds to W. Rain

slightly just E of Goodland,

Left 6:15 P.M.

marsh hawk 99878

m. dove 2

pheasant 10-

night hawks 8-

rabbit + skunk rd kill

m. lark 1-1

Kanorado 99890

State Line 99891 6:35 (new time 5:35)

Sky 100 clouds, rain to W,

pheasant 1-1-

sp. hawk 99899-99901

night hawk 1-

Burlington 98904 rain

peeldeer 8

Bethune 99913 out of rain

m. lark 1

Strotton 99924 Clouds open to W and sun will soon shine.

m. dove 1-1-

Vona E lit 99932

m. lark 1

sp. hawk 99938-

Sabert 99939

lark hunting 3 8-

m. dove 1

teal 30 99947 at S Fork Republican.

Fogler 99950 6:40 P.M. (new times.)

l. hunting 6

m. dove 1

m. lark 3

6 night hawks

wind to 28 m.p.h.

Lark bunting 1

Arriba 99862 7:00 P.M.

and Densa Hugo 99876 7:15 P.M. End census. Sundown at 7:15

Arrived Denver 9:30 P.M. at mileage 00007.

Denver, Colorado

Sept 11, 1967

Temp. 60°F.

Left Denver 7:20 A.M. at mileage 00086. Cloud banks to W and E. In summary of yesterday's observation; bird rare, possibly because of wind. Hawks of summer probably redtails. Jackrabbits ^(road hills) in usual area of Kansas, ^{practically} non-existent ~~in~~ did not see single line jackrabbit. Lark bunting near W edge of Highlands. autumn population low & between summer & winter highs.

Left Denver 8:15 from W Calfax,

- m. dove 1 -
- sp hawk 00103
- striped skunk ^{rd hill} 00143.

None noticed that super high-ways in canyon vertically destroy all riparian association and stop prairie form from extending up such canyons (for example *Meratus ohioensis*)

Berthoud Fall 00144. Temp 52°F

^{and willow} Aspen turning yellow. moss-lichen above timberline a brownish-yellow color.

Berthoud Pass 00150. Temp 44°F (Birds rare)

- Clarks Crow
- Chipping

roven eating a *Tamias* 00163, Temp 46.

Idlewild Park 00165 9:45 A.M.

Cowbird (Tanager) 3

Tabernash 00171

- Sp hawk 00172
- Mourner 00179
- Cowbird 4
- bluebird 1
- Brewers 1-1

Teal 1

Kingfisher 1
Grackle 00183

- sp. hawk 00185
- Brewers bluebird 2
- bluebirds 5

Cottonwoods along Colorado River.
turning yellow

jackrabbit size rabbit rd. Hill (Kinney Cr.)

Cowbird 2-8-
Brewers 6

Aspen yellowist at edge of growth



Parshall 00200 (10:30)

maggie 1-3-
red shafted flicker 1-
bluebird 1-3-1-1-
redtail (00204)
redwing blackbird 4-3
teal 1

Sulphur Gutch 00207

swallow 2-1-
bluebird 2
great blue heron 1
teal 2-

Kremmling 00213 (10:45)

maggie - 1-
rabbit rd hill - 1-
bluebird 1-

Park Creek 00221

Sp. hawk 00221
bluebirds 3-1-
maggie 4-

Diamond Creek 00237

bluebird 1-

Muddy 402

Canada jay 00245
redtail 00248 9,500' elevation temp 55°F.

Aspen not as far advanced as range to E. (W of Denver)

porcupine rd hill 00259

sp. hawk 00262 (base of hill and now in valley)

redtail hawk 00263

Brewers blackbirds 3

Cowbird 4

Steamboat Springs 00269 (11:50 A.M.) Left 12:20 P.M.

Brewers 8-450-300

Cowbird 2-1-1-

barn swallow 4-

maggie 1-1

milner 00281

teal - 1-20-

swallow 2-

maggie 1-1-

^{Creek}
 Sage, 00290
 Brewers blackbird 2-2-12-6-
 magpie 4
 crowbird 8-12-2-
 swallow 4

Hayden 00295
 barn swallows 1
 striped skunk rd kill Strong wood from SA.
 Brewers blackbird 1-
 magpie 1-
 Turkey vulture 00307 (Elkhead River)
 Brewers 18
 cow 4

Craig 00314 1:05 P.M.
 magpie 1
 sparrow hawk 00320
 Brewers - 4-3 (00329)
 bluebirds - 2
 magpie - 1
 redtail hawk 00336
 " " " 00338

Yampa R. - 00344
 Brewers - 2
 mourning dove - 1 } at river
 cotton tail road kill }

Maybell - 00347
 Brewers - 100
 magpies - 2 00348
 1st evidence jack rabbit - road hills west Maybell
 horned lark - 1 00357
 turkey vulture - 1 00358
 prairie dog - 00363 road hill

Elk Springs 00372
 red tail hawk - 00378
 raven - 4
 Brewers - 8 } 00379
 prairie dog - 1
 raven - 1 - 00364

Massadama - 00387 - 2:35 P.M.
 magpies - 3 00395

003 79.7 - prairie dog census

8
 9 -1
 80.0
 1 -1
 2 -1
 3 1
 4
 5 -1
 6
 7 -1
 8 -1
 9 -1
 81.0
 1
 2
 3 -1
 4
 5
 6
 7 -1
 8
 9
 82.0
 1
 2 -1
 3
 4
 5
 6
 7
 8
 9
 83.0 -1
 1
 2
 3
 4
 5
 6
 7
 8 -1
 9

Wolf Creek

84.0
 1
 2
 3
 4
 5
 6
 7 -2
 8
 9
 85.0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 86.0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 87.0
 1
 2 -1
 3
 4
 5
 6
 7
 8
 9
 88.0
 1
 2
 3
 4 -1
 5
 6
 7
 8 -1
 9 -1

89.0
 1
 2 -2
 3
 4
 5
 6
 7
 8 -1
 9
 90.0
 1
 2 -1
 3 -1
 4 -1
 91.0 -3
 Miller 1 -
 creek 2 -1
 4 -1
 5 -1
 7 -2
 8 -3
 92.2 -1
 3 -1
 5 -1 -1
 93.6 -1
 7 -1
 94.0 -2
 4 -1
 8 -1
 95.0 - Red Wash
 3 -1
 4 -1 -1
 6 -1
 Red Wash 7
 Gulch 9 -2
 6 2 -1
 3 -1
 Raven 4 -1
 3 magpies 6 -1
 Raven 9
 47.6 blue birds
 3 magpies
 68.2
 magpie 7 1

lark sparrow - 1 00400
 mourning dove - 1
 " " - 1 00402
 prairie dog 2 00401
 raven 1
 prairie dog 2 00405

Dinosaur Nat. Mon 00406.9 - mourning dove
 (in area 22 years)
 Informant at Dinosaur said:
 Prairie dogs from Elk Spring
 to Green River and
 from road 5 to mountain
 across valley.
 always in area and flock back
 from year to year.
 Black footed ferret in
 some area as prairie
 but away from roads.
 See upto 3 a day or none
 on hunting trips.
 Coyotes reduced by sheep
 men hunter. area winter
 range and start
 in about a month.

mourning dove
 410.9 (p dog) 1 rd kill.
 411.4 (p.d.)
 412.2 Utah State line
 413.5 p.d. g
 414.4 p. dog
 415.8 p. dog. m. dove
 419.6 p. dog
 420.4 p. dog
 421.0 (p. dog)
 421.3 p. dog
 421.4 p. dog

Green River (bridge) 00430 3:45 P.M.
 Brewer's blackbird 8-2-3-1-10-6
 Cowbird 4-18-
 Pheasant 1
 Magpie 1-
 Swallow 2-4-2-3-
 Sp. hawk 00441

I noted that the greatest concentration of rabbits (cottontails) were associated with p. dog area and exceeded p. dog road kills by 3 to 1. This applies to entire trip from Lawrence to Pecos.

Vernal 00445. 4:00 P.M.
 Brewer's blackbird 3-2-1-
 m. dove 1
 porcupine rd kill 00454
 Swallow 200
 magpie 1
 Gopher 00467
 magpie 2-1-
 sp. hawk 00468
 Kingfisher 1.
 bluebird 1-
 Brewer's 35-
 Cowbird 4-1-2-
 Roosevelt 00476
 Swallow. 30 over cattle pens.

nearly all birds associated with valley & not uplands.

Provo, Utah Co., Utah

Sept 14, 1967

Left Provo 1:30 P.M. at mileage 00663. Saw ^{Bee} & mil on return at Keetley a marmot & porcupine road kill. Smog in Provo Canyon up to north fork and 3/4 way up canyon walls. 00707 hadger road kill. Evanston 00773, 3:15 P.M. Cedar mountain road 00836 12 antelope, no Brewers across desert area but fairly common at Lymon & Fort Bridger. Little America 00846. Left 5:05 00864. prairie dog ran over into middle of road to a p. dog recently killed and then ran off road again as we approached. 00867 magpie and only one observed since Lymon. 00897 prairie dog along side of road. 00900 prairie dog along road and 1 road kill 50' along. about 1/10 mile beyond 5 setting at mounds. 00901 1 prairie dog, some road kills. 00903 Scorpion Turnoff. 905 live prairie dog. 00909 magpie. 00916 prairie dog. 00950 Red Desert, 18 Brewers blackbirds. 00959 Wamsutter, 30 Brewer blackbirds and as associated with above, a town. Grasses on right of way west of the continental divide from have not invaded artemeser beyond. Between Continental Divide & Boygs were 2 groups of antelope (14-9). Boygs 00973, 00981 55 antelope in dispersed groups and greatest aggregation so far. Between Rowles & Laramie (after dark) noted 5 live jackrabbits. At 1/10 mi N of Doster noted 1 gray fox which ran across the road. Arrived Laramie 10:30 at 01127.

Laramie, Wyoming

Sept. 15, 1967

Left 6:50 A.M. rd. kill 11 jackrabbits between Laramie & Cheyenne. Arrive Cheyenne 7:45 at 01179. Between Cheyenne and Pine Bluffs approx 30 lark buntings in group of ~~1-2-3-4-6-6-10~~ - 1-3-4-6-6-10. at 3 miles W Pine Bluffs. 23 grouse (sp.?) flew N. Pine Bluff at 8:45 at mileage 01226. Lodgepole Lake State Wayside 01242 saw magpie. Dove & m. doves rare.

Franklin gulls (approx. 150) between ^{Capton + Hershey} ~~Capton and Hershey~~
 Left North Platte 2:10 at 01421. Borrow pits along inter-
 state without noticeable bird population, except occasional
 sandpiper. One lake with algae growth, all others clear.
 4 ducks associated with lake supporting algae. Farmers
 using water for irrigation. Most lakes with sandy beaches
 and only occasionally with ^{small patches of} rushes. These lakes should
 be investigated for succession of new lakes. Arrived Omaha
 7:30 P.M. at mileage 01722. Just large flock of blackbirds
 (1000) in City limits, our trip today. Arrived Lawrence
 12:30 A.M. Sat.¹⁶ at mileage 01934

Lawrence, Douglas Co., Kansas

Sept. 22, 1967

Chimney swifts in air in usual numbers. The following observations on the swifts will attempt to determine their date of departure from the Lawrence area and are made at 1620 Tennessee Street.

Sept. 23, 1967

No swifts in area at 6:00 P.M. but only observed for 5 minutes. A ♂ fox squirrel fell 32 feet to ground as result of vigorous fighting with another fox squirrel. This fighting was noticed by neighbors and not of the usual fighting. One black walnut tree which has produced the highest crop of nuts in my memory, is being used by a fox squirrel and 3 gray squirrels. The fox travels 100 to nest to N + the gray approx same distance to nesting tree to S. They are comfortable in the tree. Monarch butterflies as moving S above tree tops. Collected 6 Cressida killers (670923-1 to 670923-6) from damp spot below facet at 1620 Tenn St. and 17 Cressidas (670923-7 to 670923-22) from general area at 1620 Tenn. Lawrence, Kansas.

Oct 4, 1967 from general area at 1620 Tenn. Lawrence, Kansas. 10° W of at 9:30 P.M. approx. 40 snow geese flew S at 8th & Massachusetts Street in downtown Lawrence. They flew approx 200' above the city and called.

Oct 5, 1967

Rained all day.

Oct 6, 1967

Fog in morning and rain in afternoon. Chimney swifts in evening and in more than usual number. They flew fast as they fell. (7:00 P.M.). at about 9:30 P.M. started to rain and in about 1 hr put down approx. 3 inches. Streets like rivers.

Oct 7, 1967

Rained all morning and wind from N at 11:20 A.M. Leaves mainly green but some yellow and have been falling for about the last week. Reds rare but starting.

Oct 8, 1967

Cold wave in area but swifts in area (4:00 P.M.). This time means that they were observed at this time & does not mean that the swifts have not been in area at other times of the day. Swifts in good numbers at 6:45 P.M. There is a tendency for swifts to feed high in late afternoon & then move to lower levels above trees as evening approaches.

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Lawrence, Douglas Co., Kansas

671009-129

Oct 9, 1967

(ingress)

Swifts in area in A.M. Noticed a fox squirrel dig a hole, bury a nut, tamp soil with front feet, then cover with leaves from 2-3 inches beyond hole area. Chimney swifts in usual numbers at 6:00 P.M. Skies clear & cool.

Oct 10, 1967

At 12:30 P.M. approx. 60 snow geese flew S at approx. Tenn. Street. They were almost out of sight, so much so that it was difficult to see. They called. Today is first cool day of fall with temps down to 38°F (8:00 A.M.). Day with clear skies. Chimney swift in evening up to beginning of early twilight and only 1/10 numbers as previous days. They remained in same general area. Temp. is expected to go down to 28° degrees F with frost.

Oct 11, 1967

At 8:15 A.M. 3 balloons slowly passed SW (?) at high altitude. 68 geese flew S and wing movement just visible with 7x binoculars. 98% of the Chimney swift, of which there were hundreds in the sky and generally distributed, passed S. 62 bluejays flew S at about 400' high and higher than usual, ^{smaller} flocks passing by in the summer. One crow noted one in top of tree and it called in a voice I was not familiar with. at 6:00 P.M. Chimney swifts in usual numbers and height as summer population and remaining in same area. 6 night hawks all morning S and about 500' high. Sky extremely blue. Temp this morning 37°F. and call N of Kansas.

Oct. 13, 1967

Did not see chimney swift in either the morning or evening. yesterday, Oct 12, noted only a few ^{Oct 13} in morning (8:00 A.M.) and evening (6:30 P.M.), perhaps 5 on each observation. It would appear that the main migration of swifts was in the morning of the 11th and only a few local resident stragglers remained on the 12th to at least evening of that date. Cool weather, although clear, seemed to be the factor for migration. Earlier excellent weather, rain and winds and fog, did not seem to influence their movement. S.

Oct 14, 1967

At 5:00 P.M. noted only 1 swift & 1 night hawk. no others during day.

Lawrence, Douglas Co., Kansas

Oct 15, 1967

at 1620 Tenn. St. and viewing skies to the E, noted an unusual movement of chimney swifts. (From 11:00 A.M. when observations were first made, to late twilight the chimney swifts moved NE into winds from the N.E. Day with high overcast of clouds moving with considerable speed. Rain in morning and day cool. From 2 to 10 or so swifts were nearly always in sight and the procession lasted all day. During the day they flew high (approx 800') and in evening moved to lower elevations of about 100' above trees. The last ones flew just above top of trees and some below level of tree tops. At 6:50 P.M., at a time when the colored light left the upper layers of clouds, the last swift left the skies. This behavior of flying high and then moving to lower levels before moving into roosting positions, is a characteristic pattern. At 6:55 P.M. 4 night hawks flew S. At 7:00 P.M. a large flock of ducks (mallards?) flew S in rapid flight. Temp at this time 56°F.

This afternoon noted a gray squirrel chase a fox squirrel and succeeded in removing it from the area without challenge from the fox squirrel, although the latter was considerably larger. At 6:30 a fox squirrel started to carry green leaves into a ^{dry twig} nest ~~leaf~~ in a ^{crotch of a} walnut tree ^{the nest} some 40' above the ground. It made about 7 trips when a ♂ + ♀ grey squirrel approach nest and the male vigorously drove the fox squirrel from the tree. On two other instances this fox squirrel has been physically removed by being dislodged and falling 30'-40' to the ground. At 6:35 the gray squirrel started to carry leaves into the nest. The ♂ + ♀ frequently paused on limb 2 feet from nest where they scratched themselves. At one time they copulated and both (at 6:45 P.M.) retired to the nest and as far as I could ascertain, remained.

Oct 16, 1967

At 5:40 P.M. started observation of skies for chimney swifts and behavior of the fox + gray squirrels. Skies clear, slight wind from N and temp. 58°F. At 6:00 P.M. a fox squirrel arrived at the nest described in above account (Oct. 15). Keep record of nest construction. The squirrel made 32 trips to collect green leaves, each trip separated by an average of 10 seconds (6"-30") inside the nest where the leaves were being deposited. The following times represent the moment the squirrel arrived at the nest with the leaves:

6:00-00' P.M.

6:00-15"

6:00-45"

6:01-20"

6:01-30"

6:01-40"

6:02-15"

6:02-25"

6:02-55"

6:03-25"

6:04-15"

6:04-50"

6:05-20"

6:06-10"

6:07-05"

6:07-30"

6:08-10"

6:08-35"

6:09-20"

6:09-59"

6:10-25"

6:10-55"

6:11-15"

6:11-53"

6:12-48"

6:13-40"

6:14-05"

6:14-30"

6:15-32"

6:15-25"

6:15-50"

6:16-20"

6:16-55"

Seen on tree & nest at 6:00 P.M. and at
6:18 P.M. seen off nest but still on top of tree.

at 6:16-56" a gray squirrel arrived at nest while the fox squirrel was in the nest and when the gray squirrel entered the nest laterally exploded with green leaves flying in all direction. The fox squirrel was repelled without challenge. For the next 3 minutes the chase continued without bodily contact in the nest tree & adjoining tree. at 6:⁴³~~35~~ the gray squirrel returned to nest and smelled the branches adjacent to the nest but did not enter. After about 30" ^{seconds} it left and descended to a box nest near ground and about 10' from nesting tree where it entered and remained for about 20" ^{seconds} and then left to the E. At this same time the fox squirrel was noticed 40' away in a low branch of another tree. No further action up to at least 7:00 P.M. (late twilight) ^{moon already yellow} when observations were concluded.

During the above observations from 5:46 to 7:00 P.M. did not see a single chimney swift in an area of the sky (or elsewhere) where yesterday evening there were many swifts. These birds must have left the area last night or in the morning of this date. It was of considerable interest that yesterday the swifts all moved NE against the wind and after it was assumed that these birds had left ^{the area on a} the previous day. (Oct 11 was the last major movement to the south).

Oct 17, 1967

There has been no evidence of chimney swifts in area today

Oct 18, 1967

No swifts in area since evening of Oct. 15. Since that date the weather has been clear and cool. Temp today at 9:00 A.M. is 48°F. sky clear and blue.

of Univ. Kansas Biology Dept (Limnologist)

Dr.

Corns, relates the following:

1. Two University museums have closed because of change of interests in departments.
2. Botany at Philadelphia Academy of Science is practically extinct and one curator is performing entire job. As old botanist die they are not being replaced. Field of algae main interest there. At Univ. of Michigan the botany interests are equal to zoologist.
3. museums ^(public) should educate the common layman on simple levels of knowledge.
4. museums should present present conditions as well as the idealized exhibits.
5. Museum Directors News Letters deal with present day problems.
6. many museums are supported by commercial interests and research is ~~so~~ directed at the detriment of free research.
7. Researchers should be given complete control of their activities and schedule. The greatest men at the academy were those individuals of the past who come and went at their own schedules. Modern regimentation is detrimental to research.
8. Exhibits should be of higher quality and on a naturalistic basis.

Mr. Alan Kamb, curator of the paleontology museum of the geology dept. at Univ. of Kansas reports:

1. When specimens are loaned 3 slips accompany the specimens, one to be immediately returned when specimens arrive, one when returned and one to be retained by the receiver as record. The fourth is maintained at the museum.
2. Metal case made in Topeka. \$98.00 per case. Drawers are extra, metal ^(drawers) ones too heavy and bottom sag and then spring up. Weight is objectionable. Wooden are best.
3. Each fossil specimen is given a consecutive number.
4. Each specimen has a label including name of fossil, locality and collector. Collectors field numbers are not included as collectors rarely have field notes.
5. Collection is a systematic one and no other info. is needed.
6. Specimens arranged according to genus & species and then by consecutive catalogue number. (not by locality)
7. If 10 specimens are in one sample, the 10 are given numbers for each specimens, although not each specimen is labelled. If one is removed, the first or last number, or for that manner, any number of the assigned numbers, is given to the removed specimen and that number is removed from the assigned group of numbers. This also applies if fossils are mixed. Misidentified specimens retain original catalogue number, but name is changed.
8. Graduate students must leave specimen with museum when used as material for thesis.
9. Specimens of collections are signed out and in if used in class.
10. Study collections in laboratories and separate from ^{main museum} collection.
11. no material is sold or given away.
12. R.C. Moore objects to digit numbers for catalogue numbers. and objects only to minor principles of the museum's operations.
13. A full time director or curator guarantees the perpetuation of a museum. Individuals build up collections and then when ^{fully} researched, the collection is allowed to deteriorate. These collections must have permanent care, even if not used for 50 years. A high level of authority is important for continual propagation of a museum, such as the authority given Congress to establish or abolish a national Park etc.
14. Museum should have built-in buffer area for expansion.
15. 10,000 specimen can be catalogued in 1 year (2 people)
16. Faunal assemblages are broken up to genera distribution
17. Researcher work on a group and then take with them when they leave.
18. Microfossils ~~require~~ ^{require} more ~~more~~ time in curating than large fossils.

Lawrence Douglas Co., Kansas

Oct. 18, 1967

made the following observations at 6:35 P.M. at 1620 Tenn. St. (area in back of our residence). Fox squirrel started to carry green leaves to nest site (see previous accounts) at 6:35 P.M. Will keep record of activity. Between 6:35 and 6:44 it (♂) made six trips, travelling out to pick leaves and stems in the following sequence of distance - 8'-8'-8'-8'-3'-9'. at 6:44 it remained in nest for 2 minutes (usually only long enough to place leaves in cup (6-15 seconds). Between 6:44 and 6:49 made 5 trips in this sequence 8 feet - 9'-2'-3'-3'. at 6:47 a gray squirrel passed thru tree 20' below but did not interfere with fox squirrel who was on outer branches (10' from nest) collecting leaves. at 6:49 went in nest and did not return until 6:52 and between 6:52 and 7:00 made 9 trips thus: 12'-8'-8'-12'-8'-6'-8'-6'-3'. at 7:00 it went in nest for 1 minute, then out for one more trip of 8' and then in at 7:01 to stay. By this time the high cirrus clouds had lost all light & color and foreground in yard had lost detail. would consider it late twilight. At beginning of observations the high clouds were in brilliant color and light. No swifts today

Oct ¹⁹ 20, 1967

Approx 120 snow and blue geese flying about 400' over home at 1620 Tenn. They flew WSW and called. Approx 4% were blue geese. Day cloudless and temp 47°F.

Cheyenne Bottoms, Great Bend, Kansas

Oct 20, 1967

The following information is recorded on this date of specimens collect by Gary Cooter on Aug. 1967 at the above locality and measured by Mrs. Ruth Dugus Fahl:

	Culmen	tarsus	wing	sex.
1	74	36.5	135.8	F
2	71	35.7	146.3	F
3	63.2	39.4	140.	m
4	71.2	40.	150.9	F
5	73	42.4	141.5	F
6	63	37	136.6	m
7	64.3	36	138.8	m
8	72.2	34.4	142.3	F
9	68	38.9	143.2	F
10	65.8	35-1	142.4	F
11	71.8	34.8	141.4	F
12	71.1	34.4	146.6	F
13	74.	35.8	149	F

These specimens of the long-billed dowitcher, *Limnodromus senopaeus* are compared with the short-billed dowitcher collected at Fort Churchill on the Hudson Bay (see July 28, 1967 for comparisons).

Sandpits, NE Lawrence, Douglas Co., Kansas

Oct 20, 1967

On opening day of duck hunting observed 1 great blue heron and 130 ducks (3/4 of which were flying 5 at high elevation). Shot 2 greenwing teal. Blue ducks in area were predominately blue-wing. Water highest I have seen.

NW Lawrence, Sec 2, T128, R 20 E, Leavenworth Co., Kansas

Oct 20, 1967

Checked area in SW part of sec 2 on Hemphill property. Followed west along N side of ridge (cleared and in grass). There is an unusual aggregate of birds in this area including approx 600 starling in large flocks, 30 meadowlarks, 20 cowbirds. In the shrubs and small bushes at head of conyons on upper slopes were approx 30 Harris sparrows, many of them calling. At base of hill noted 5 mockingbirds and some small (vesper sparrow?) birds. On the end of ridge, 2 Am. rough-legs hovered over point. One roughleg sat on a post at base of hill. 22 bluewing teal in most westerly pond on Hemphill's property. James R. & Richard Hemphill got 2 of them. On another pond along main highway shot 8 out of 9 blue-wings. The roughlegs have been in area for at least 2 weeks. 6 Canadian geese flew E along top of ridge.

Kaw River, Douglas Co., Kansas

Oct 28, 1967

Annette Christine and I made trip down Kaw River from bridge at Lawrence to mouth of Wakarusa River and upper creek to Wakarusa bridge N of Eudora. Left at 10:30 A.M. Water temp (2 inches deep below surface) 48°F, air temp (in shade) 43°F. Sky overcast. at 11:00 no water birds so far. Crew calling down river. Chickadees, redwing blackbirds and one yellowthroated flicker in riparian vegetation. 8 mourning doves flew down river which is unusual for these birds. The leaves on trees are: young cottonwoods with 80% leaves off with remaining ones at tops of trees. 50% leaves yellow and the other per cent green. The old cottonwoods with 10% leaves off and 50% yellow. Willows with nearly all leaves & 30% yellow

sycamore trees show a yellow-brown color and mostly smaller trees. 11:05 10 crows chasing a great horned owl down river. 11:16 crossing bubbling pipeline. Some beaver cutting here but not as extensive as in previous years. 11:20 utility lines crossing river. 300 redwings in trees and calling. Red leaves here in riparian community. Usual color is yellow & green & some brown. 11:24 major drainage to right. 12:02 shoveller flew up river. 2 sparrow hawks, juncos & redbellied woodpecker on bank. There have been other birds along bank but have not recorded these. All water birds or birds associated with river channel are recorded. 12:04 Capsize Point. bank has eroded farther to E. Horned larks in area on sand. 12:13, channel to right. Lesser scaup on bank. beaver house & tree barking in area. Not much activity on W bank near mouth of Mud Creek where on previous trips there has been considerable activity. 12:19 opposite Mud Creek. 12:39 passing mouth channel (last end) by island. There is sufficient water to form a broad river between bank & island on S side. 1:30 bend of river and pulled out on N bank. G. B. Heron left. Fox tracks in sand. Left 2:10. A fox squirrel left edge of water on E side and ran up into root of tree near top. There are a few dead shad along edge of river but uncommon. 2:42 passing 2 drainage system with intertwining island of trees. G. B. Heron here. Rough-leg circling over oaks on hills to N, hovering in its characteristic behaviorism. ^{2:15}~~3:35~~ beaver tracks in mud and house. 2:25 roughleg. 3:04 horned grebe. 3:10 5 ducks fly to S & high. 3:18 Eudora bridge. Air 60°F, water 50°F. High overcast & wind from SE. Mouth Wakarusa 3:35. beaver activity here. There has been considerable erosion of E bank beyond Eudora bridge and eventually will pirate Wakarusa drainage. Arrived Eudora bridge over Wakarusa at 4:08 P.M. no kingfishers or beeldeer today.

Wakarusa River Valley, Clinton area, Douglas Co., Kansas
Oct 29, 1967

Sigel School house at mileage 03.6 (9:30 A.M.) overcast & local rains. 2 crows. 04.1 to S. 2 crows. 04.8 Y in road 0.5.6 N end (old) proposed dam. 06.8 Peterson road 3 meadow larks. 07.3 Wakarusa Bridge. River about 3 feet above

3 feet above usual height for this time of year and flowing freely. 2 eastern bluebirds left upper structure of bridge. Cardinal + red-bellied woodpecker in trees. Riparian community with 70% leaves on trees. Hillside trees about 50% leaves on trees and these predominately yellow-red-brown leaves of oaks. 08.0 now S to Clinton. 09.1 Clinton. 09.4 to S + return to Clinton. at 10.5 to S. 11.2 2 bluejays. 12.7 3 cardinals. 11.8 bridge over Rock Creek, flicker here, water flowing good. 12.6 to E. 5 crows. 13.7 main road (Ralph Goff) and end of complete census. Continued to Lone Star Lake and fished dam from E side to outlet tower. Caught 50 bluegills mostly 6 inches long. There would be local areas of a few feet along dam. 4' out from dam; where there would be a concentration of bluegills (up to 7 adults). Green sunfish rare. Kingfisher in cove to E. Occasional frog (*Rana pipiens*). An osprey hunted the edge of dam from E to W and flew about 30' above water. It continued S into main lake and dove 3 times without striking water but on the 4th dive went into the water. It then flew ^{across lake} S without further hunting. There was an abrupt temperature change with relatively mild temperatures (wind from S) and in less than a minute changed to a cold temp. (wind from W). This colder temperature made hands uncomfortable to operate fishing gear + coat had to be zipped and head hood installed on coat. I have never witnessed such an abrupt change of temperature.

Lawrence, Douglas Co., Kansas

Nov. 3, 1967

Noted 2 night hawks on Univ. Kansas Campus at 5:20 P.M. Temp today have been in the high 30's up to 41°F. Intermittent traces of snow from large isolated thunder clouds with blue sky separating these storm clouds. The sun has shown today for about the first time in a week. Last few days the cold has brought into the area an influx of ducks. According to Dr. William Coil, the ducks flying west could be easily heard calling while those flying east did not make sounds either because they did not make sounds or because of the direction of the wind which could have interfered with the ~~transmission~~ transmission of the calls.

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Wakarusa Valley, Clinton area, Douglas Co., Kansas 671104-138
Nov 4, 1967

Made complete census of section of proposed Clinton Reservoir. Started at Sigel School at 20.7 mileage (8:45 A.M.). See on shallow ponds and on all roadside water. (mulberry trees shed ^{nearly all} leaves like rain from about 8:00 to noon.) 21.1 new to S. m. dove. 21.5 yellow-shafted flicker. 21.7 Y in road. 21.9 m. dove and meadowlark. 22.0 ~~Wakarusa~~ ^{small} bridge. juncos, 2 cardinals, 1 starling here. Water in creek not frozen and about $\frac{2}{3}$ feet higher than last observed (see Oct. 29). 22.4 5 eastern bluebirds. 22.5 N end proposed dam (old site). 23.1 meadowlark. 23.8 passing Peterson rd. 24.3 Wakarusa bridge. Water 3 feet higher than observed Oct 29. Trees along row about 50% leaves; sidehill nearly all of except oaks that are in beautiful color of reddish brown. 25.0 now on Clinton rd. 25.3 marsh hawk feeding in field, 25.4 m. lark, 5 eastern bluebirds. 25.7 marshhawk hunting. 26.1 Clinton and now to E. 27.6 turning S. 27.2 300 redwing blackbirds. 28.6 Rock Creek bridge and water higher in about same difference as in Wakarusa. Water brownish. 4 bobwhite. 29.2 top of hill. 30.5 4 meadowlarks, 1 sparrowhawk, 4 meadowlarks. now to E. 18 starling at cattle pens. 31.1 main road that goes E to Lone Star. and end of census.

At Lone Star Reservoir fished the identical area along dam as was fished Oct 29, and caught only 2 in contrast to 50 of previous trip. On Oct 29 the wind was blowing waves into the dam and some debris had accumulated, Today the wind was from the NE and waters were relatively quiet. It would appear that the bluegills move into the area from deeper water when feed is washing against the dam. On return to Lawrence counted 6 redtail hawks and 1 marsh hawk which is a relatively high population of hawk.

At Lawrence (1620 Tenn) noted 3 fox squirrels and 3 gray squirrels in trees at back of house which is an unusual high population and results from 8 days of rainy-inclerment weather.


Douglas Co. State Lake, Douglas Co., Kansas
Nov. 6, 1967

William Coil observed the following ducks on lake: mallards, redheads, ruddy (6), canvas backs, blue wing teal, and many coot.

Kaw River, Douglas County, Kansas

67112-139

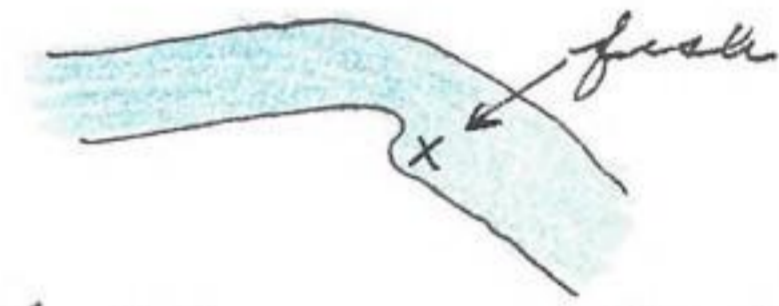
Nov. 12, 1967

made canoe trip on Kaw River from Lawrence bridge to de Soto Bridge. Will keep complete record of birds associated with river proper. Left 8:53 A.M. Compensated for canoe balance by putting equivalent weight in rocks in the front of the canoe so that the front end was slightly heavier than rear of canoe. Navigation is easy but one has less control in movement of canoe and especially going against current or wind. Sky overcast and fog. 8:53 great yellowlegs feeding in deep water beyond sandy beach. It would dash out in water deeper than legs would operate and then with a quick jab pick up material in the water. The object was about 1/4 inch or larger. 9:21 16 mourning doves sunning on south exposure of river on steep bank. beaver cutting sparse but all along N. side river so far. Crows calling to N. 4 blue jays so far. Also juncos, chickadees, all uncommon. 99% of leaves off ^{large} cottonwood trees with the few remaining leaves on tops of trees. 80% willows with leaves off and remaining leaves (greenish-yellow) on tops. Willows (small or young) on sand bars with most of leaves still on. 9:23 passing bubbling geyser from submerged pipes crossing river. 9:30 passing under utility lines. 4 crows calling to S. The air and water temperature were the same 52°F (all temps in shade) 9:38 2 great blue herons ahead and feeding on lee of sand bar . Breeze variable from 7 mi. per hour to 9. 9:39 opposite major drainage to right across river. 9:45 killdeer. 5 crows to S and calling. yellow-shafted flicker, red-bellied woodpecker and starling add to list on riparian birds (these birds are not being recorded as complete census, just water & shorebirds and other water associated birds. except hawks, crows.) 9:56 sun broke thru clouds momentarily. Sighted American merganser in mud on bank. By beating its wings was able to free itself and moved to water ^{1 foot away} where I captured it. It was a male undergoing plumage change into winter. marsh hawk flew across river from W to E. 10:23 capsized point. 10:25 belted kingfisher left hole in sand bank. The hole was 3 feet from top of 15' sand cliff. It flew upwards into air and did not call at any time. (roosting hole approx. 30' W of lens of rock conglomerate in sand bank). There

was no excrement at base of cliff beneath hole. 10:40 passed by main channel shortcut to right. At this point a fox squirrel ran approx. 300 feet from the west side to east side of mouth of channel. This squirrel was on bare sands and fully exposed overhead (no trees). Beaver house to W of channel. From here crossed to N side and found minimum of beaver activity where previous years the area had been extensively used. Mouth mud Creek at 10:50. Many goldfinch and bluebirds in area. 3 large fish jumped so far. 11:06

lesser scoup duck feeding in backwaters of river. 11:30 2 scoup swam ahead and about as fast as one man can paddle a canoe. They swam down river for at least 3/10 mi,

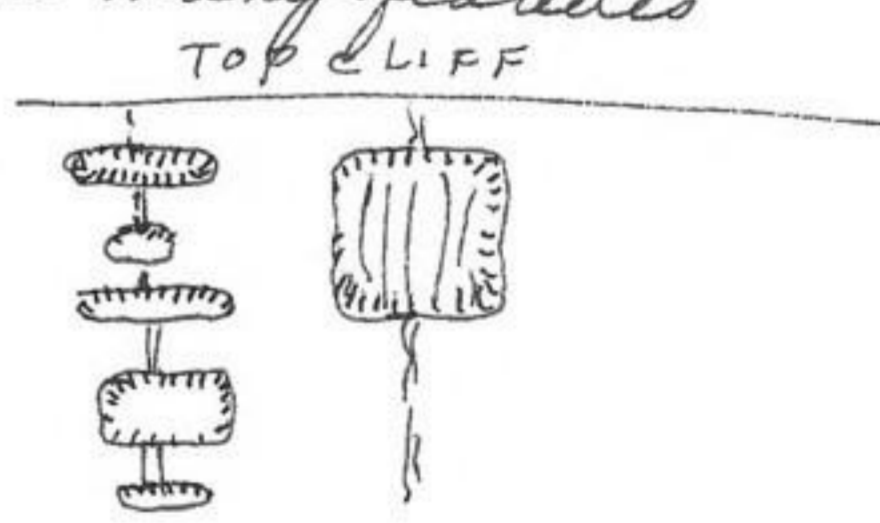
11:42 bend of river. 11:54 now beyond creek from left and trending E. Sky now clear of clouds. Young willows on sands with 80° leaves and greenish yellow. Leaves that have fallen are yellow. Many large fish (carp?) jumping in water on lee side of sand bar. This is the



usual case in fish distribution on the Kaw. Redtail calling from oak covered hills to N. Leaves of oak are brown and dry. Many goldfinches in field today. Air temp. now 58° F + water 52° F. 12:05 double drainage to left with trees between. Sands whiter and finer just to right down river.

Sand erosion ^{on cliffs} from rains produce many features of erosion in sandstones in southern Utah.

Meadowlarks singing in tops of trees to left. 2 redtail hawks circling river and associated riparian community. Kildeer calling. Have been free floating since last bend of river.

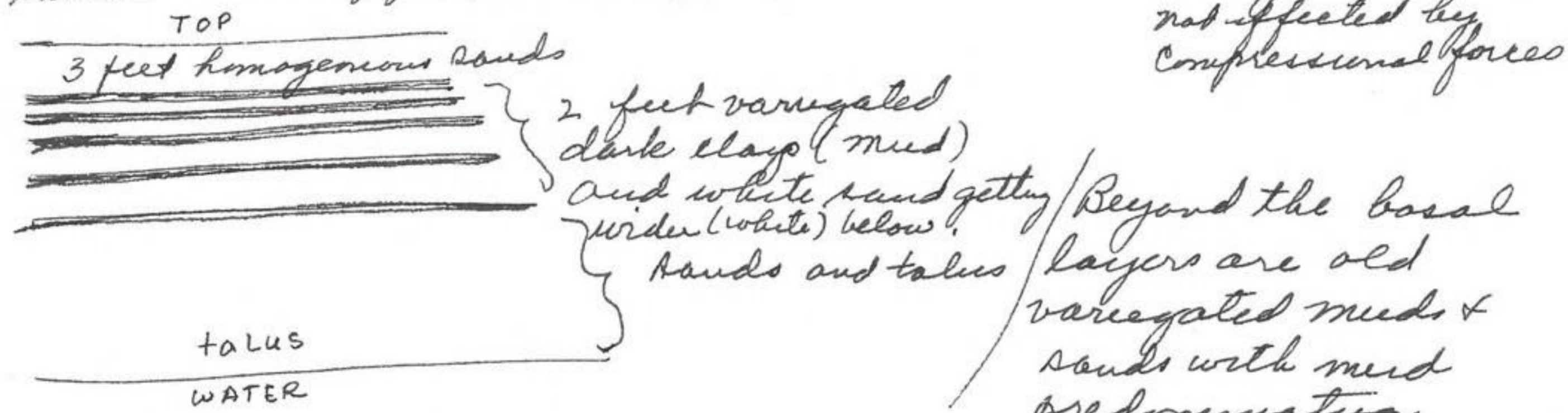


Black wasps and others of variable size averaging 1 per 50' of linear cliffs. The question arises as to whether steep cliffs (sand) are formed by high fast water or slower, low waters. Cliffs now with considerable talus thus

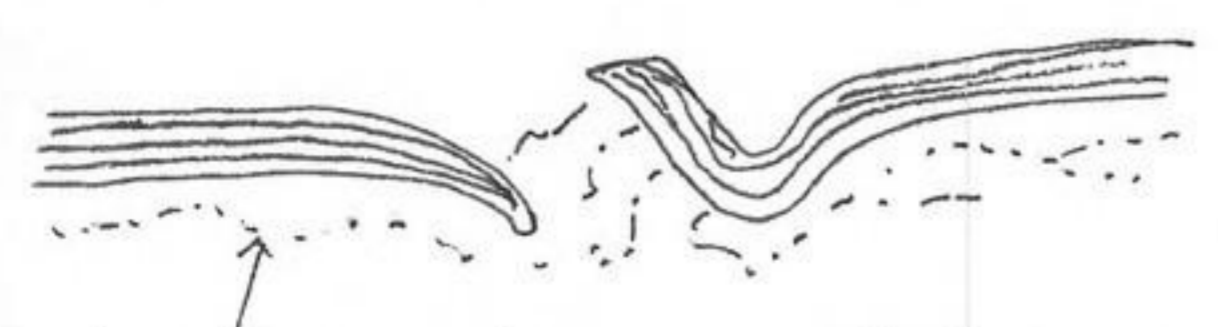
in contrast to later when water is low then: 2:25 stopped and checked sands for Indian artefacts. Left 12:50. white cabbage butterfly alive on sands, One to 3 sets of raccoon tracks along river and

just above water on muddy shelf 671112-141

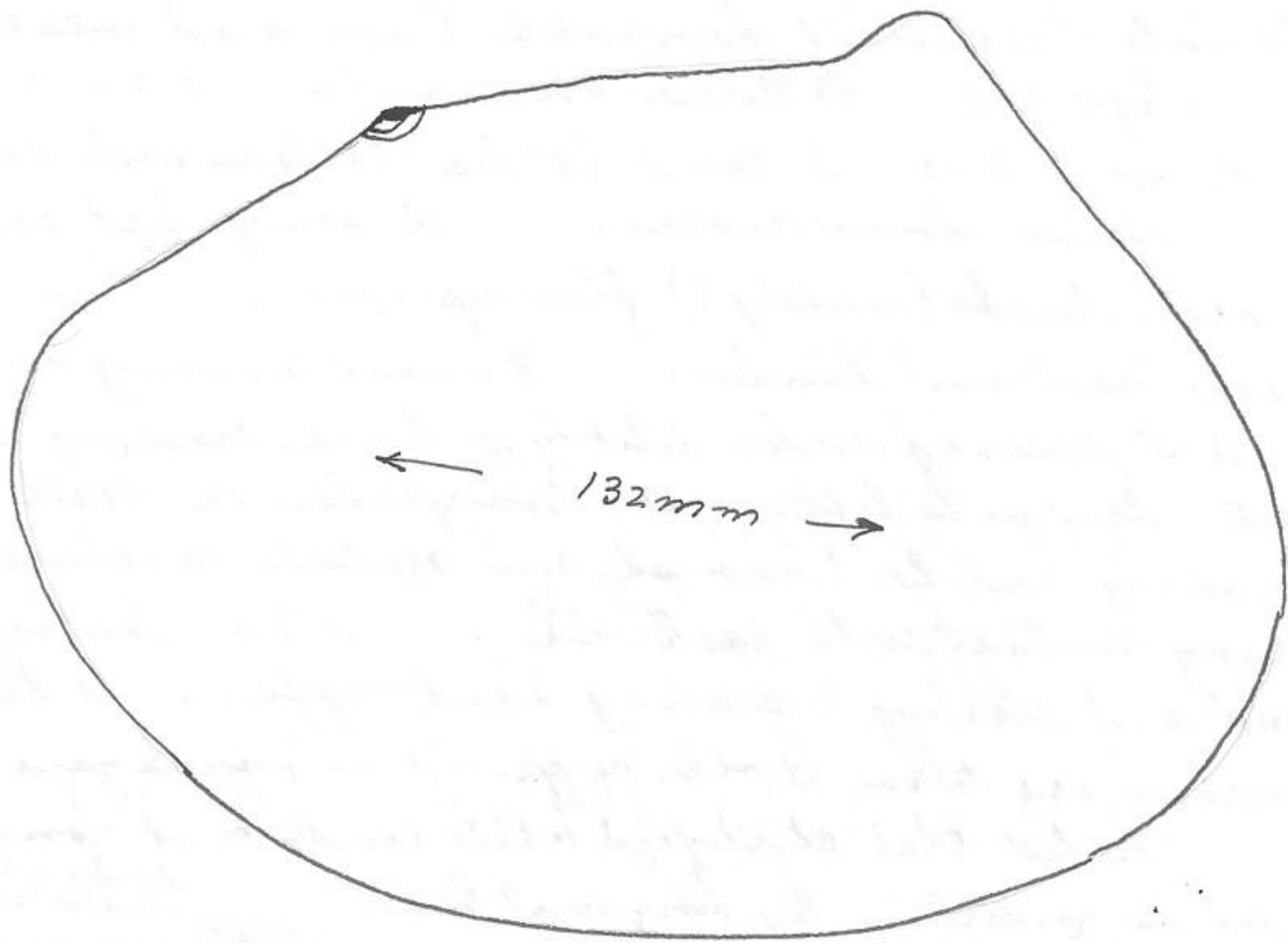
1:00 lesser yellowlegs. 1:05 Eudora 3 inches
 bridge. met Annette Christine and decided to continue down
 river to De Soto because of favorable time and weather
 conditions. Left 1:08. Killdeer on N side. 1:26 mouth
 Waparusa River. 2:00 3 large (8" dia.) Cottonwoods cut down
 by beaver. House down river. 2 seap left side of
 river & 4 other ducks (ruddy?) flew up river. 2:05 N bend
 at creek near railroad tracks. 18 doves running on slope
 of river. 2:15 passing under utility p lines crossing river.
 2:20 at R.R. bridge to left. 2 Kingfisher on south side
 call vigorously and continuously and mildly reacting but
 not making contact with each other. 2:30 leading N
 end of bend and starting SE along sand cliffs. 2:36 wasps
 more numerous here than at other cliffs (1 per square yard of cliff
 surface). noted that stratified white sand-mud zone which
 is distorted is underlain by horizontal beds. beds above are distorted ↓
 A typical stratification along these sand cliffs is thus:



at one point about 1/2 way down stretch of cliffs (to large trees) noted a formation with the following structure:



burrow systems all below variegated layer and down to as deep as 5 feet. These burrow systems are about 3/4 inches in diameter and either hollow or filled with a core. Some burrows extend for 5 or 6 feet and medially sectioned. It is unusual that this length of burrows could be so exposed by sloughing of cliffs from river erosion. They may follow along preestablished fracture



Trace of Leptodea 67112-1
(*L. laevissema*.)

systems. It is interesting to note that in ^{the thrust or} displacement, the worm trails or burrows were between the displaced edges but in no instance above the variegated mud-sand zone. Temp along cliffs 62°F and 3 degrees warmer than elsewhere. At a point approx 1/10 mi up stream from end of cliff at high cottonwood trees, found a ^{shells 67412-1a (front) 67112-1b (back)} Leptodea in black muds 2 feet above water. About 8 feet ⁶⁷¹¹²⁻¹ of the same kind of muds & sands above the shell. This series makes perpendicular cliffs to water edge. Left 2:45. Beaver trail up steep cliff to corn field (no trees in area). 3:02 at big log jam. 3:15 ♀ & ♂ greenwing along edge of river among willow partially obscuring beach. They were loathe to leave and swam down river under protection of willows. 3:23 at bend & across from arched R.R. bridge. ♂ & ♀ mallard resting on log in river. 3:52 good beaver house. 4:00 mouth creek from left and approaching R.R. tracks at bend. 4:08 passing by old pilings (metal). 4:22 song sparrow? left edge of water and flew up a beaver runway up slope. 4:25 3 killdeer. 4:32 greater yellowlegs feeding with killdeer. 4:45 sunflower water gate. Artificial barrier of *--*--* effective in trapping tree trunks & roots but not sands. 4:53 2 kingfishers acting exactly like those witnessed today at 2:20. Sundown at 5:10 P.M. Arrived De Soto 5:20 P.M. a male ruddy duck fed on a riffle about 100' upstream from bridge. Distance covered approx. 2 1/4 miles in 8 hrs & 35 min

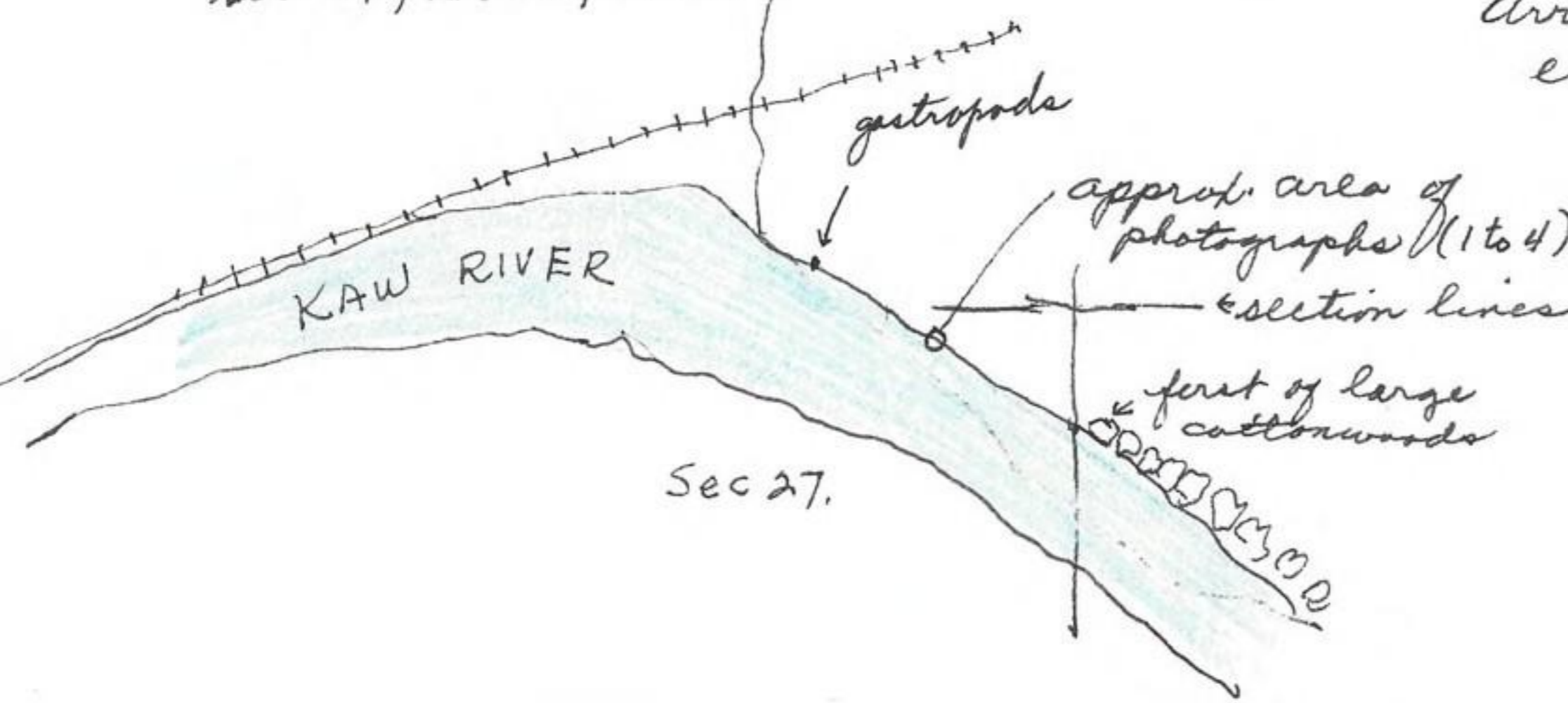
Kaw River, Leavenworth Co., Kansas

Nov. 14, 1967

71

Annette P and I made canoe run from first bend beyond Eudora to 2nd N bend ^(Stranger Creek) with the objective of photographing structures within sand cliffs along river at approx NE corner sec 27, R 21E, T12S

Arrive river 3:20 P.M.
 end river trip 4:50
 return to car 6:00
 return to Stranger Creek 6:20
 Home by 7:00 P.M.



Length of canoe trip approx 4 miles noted 2 killdeer, 4 mallards, 1 marsh hawk & 2 redtails.

photo 671114-1, Thrust in variegated mud-sand zone. It will be noted that the burrow system is below these mud-sand lamination and not above them except in thrust area. See diagrams of the 12th. for this structure.

photo 671114-2 variegated mud-sand showing increase in width of sand (white) toward base and the burrows of invertebrates? below.

photo 671114-3 Close up of burrow system with debris in channel.

photo 671114-4 burrow system below variegated mud-sand.

There were fewer fish jumping this afternoon than 2 days ago. In the last 2 days there has been considerable reforming of the sand cliffs and old structures have been erased or completely destroyed and new ones (as in photo 671114-1) are appearing. This structure (671114-1) did not appear in cliffs when visited last year.

Lawrence, Douglas Co., Kansas

Nov. 14, 1967

Dr. William Coil presented me with the following specimens of Limnodonmus scalopareus collected Nov. 12 at Texas.

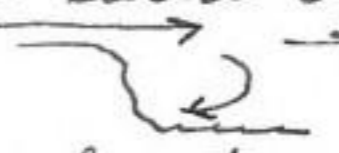
	Et culmen	Ant nasal to tip	width nasals	w. base bill	wing	tarsus.
671114-5	55	47.5	4.5	7.0	141	39
671114-6	56	50.3	4.0	6.5	142	39.
671114-7	55	48.2	4.8	7.0	136	39
671114-8	58	51.5	4.5	6.8	142	39
671114-9	57	50.0	3.9	6.8	144	39
671114-10	54	47.0	3.9	6.8	144	39
671114-11	52	46.0	4.2	6.8	147	39
671114-12	58	51.0	4.7	6.9	147	39

See July 28, 1967 for comparison with other populations:

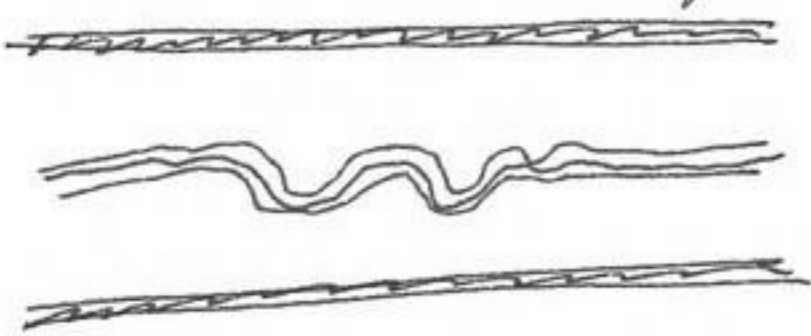
Kaw River, (Lawrence to De Soto), Kansas

Nov. 18, 1967

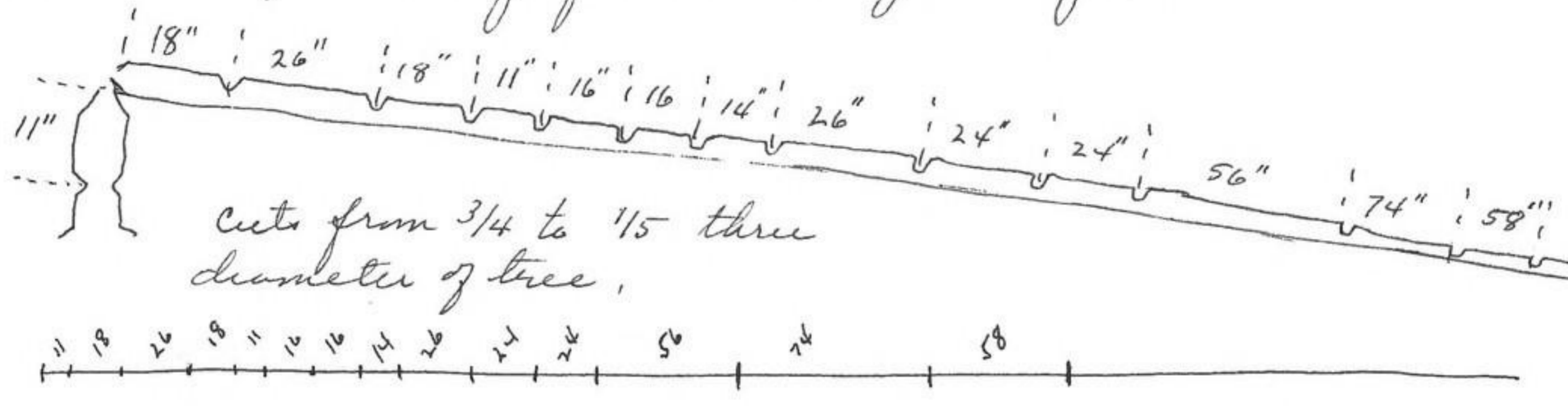
made solitary trip by canoe from the Lawrence bridge to the DeSoto Bridge. Left 8:00 A.M. Day clear, air temp 45°F. water 49°F. Wind from W and about 6 mi. per hour. Belted Kingfisher at bridge. All leaves off cottonwoods, even those few leaves that remain on top (both old & young trees). Willows with leaves off lower 1/2 and yellow of the leaves on upper 1/2. The color change from greens to yellow are most important changes since last week (see previous trip). Green leaves of willow in youngest trees and nearest water. 8:45 passing bubbling pipes. 4 crans to S. 8:50 utility lines crossing river. 8:53 major drain-

age to right. 9:10 great horned owl flew n across river, flying about 10' above water. no crow associated. 9:28 Copsize point. Since about 10 minutes after leaving the temperature dropped abruptly and the wind changed from w to n nw. Temp at 9:28 = 38°F. Shortly after the temp. increased. 9:46 channel to right. 1 great blue heron left and flew E. Gizzard shad, approx 3 1/2 inches long, swimming on side. This is the first one noted in this condition. Approx 12 dead so far. Redtail. 10:00 mouth Mud Creek. This n s section of the river is the windiest section on the Kaw. The wind blew directly down direction of channel although ^{blowing} slightly w. Rovers definitely channel winds in different directions. Temp now 42°F. 10:25 down-stream end of island. 11:50 middle of main bend of river. 12:00 wind blowing sand on beaches. When wind blows into cliff the waters are relatively free of waves unless of white cap proportions. If winds blows from land over cliffs the direction of the wind is reversed 

11:25 duck. Kingfisher. Stopped 20 minutes to check on a shoveller duck that was hit and flew into sand bank where it remain 6 feet above water until approached when it left again. Arrived Eudora bridge at 11:50. 12:10 mouth Wakarusa River. Good beaver house approx 200' upstream (Kaw) from mouth of Wakarusa River. 12:50 2 great horned owl left trees on w side and after flying down bank from tree to tree, left w side and flew E across river (1 foot above water). These owls have been observed in identical circumstances of previous trips on previous years. This bank of river has more small birds and raccoon tracks ^(12 sets) than elsewhere along river. 1:15 now at mouth of ~~the~~ Creek at R.R. tracks. Wind directly down this last stretch of river. 1:27 wilely lines cross river. On n side of river the water is quiet and no wind. (protected by hills. Air of water in protected area 50°F. no clouds in sky today. Beyond bend to SE and about 300' beyond entrance of creek on sand cliffs noted gopher (?) diggings into stratified layer with white land shells incorporated in corridors. Will photograph this and check more specifically on another trip. Also noted a condition in which the conspicuous layer of stratified sand & mud is in anticlines & synclines but layers above & below are horizontal.



Wind is decreasing. 2:38 at bend and crossed R.R. bridge.
 2:45 first crow since those noted in Lawrence. 3:05
 now NE and wind ruffling water ~~but~~ ^{and} not the high waves
 of this A.M. 3:15 4 crows on sands and feeding on carrion.
 3:26 across from mouth Stranger Creek. 3:32 at metal
 pelung in river. 3:35 9 killdeers & first since Lawrence.
 The bend have narrowest channel with sands almost
 crossing entire river. 3:42 beaver house at bare tree, S side.
 3:50 two callonwood trees had been cut by beaver. One of
 these had a periodicity of unusual regularity thus.

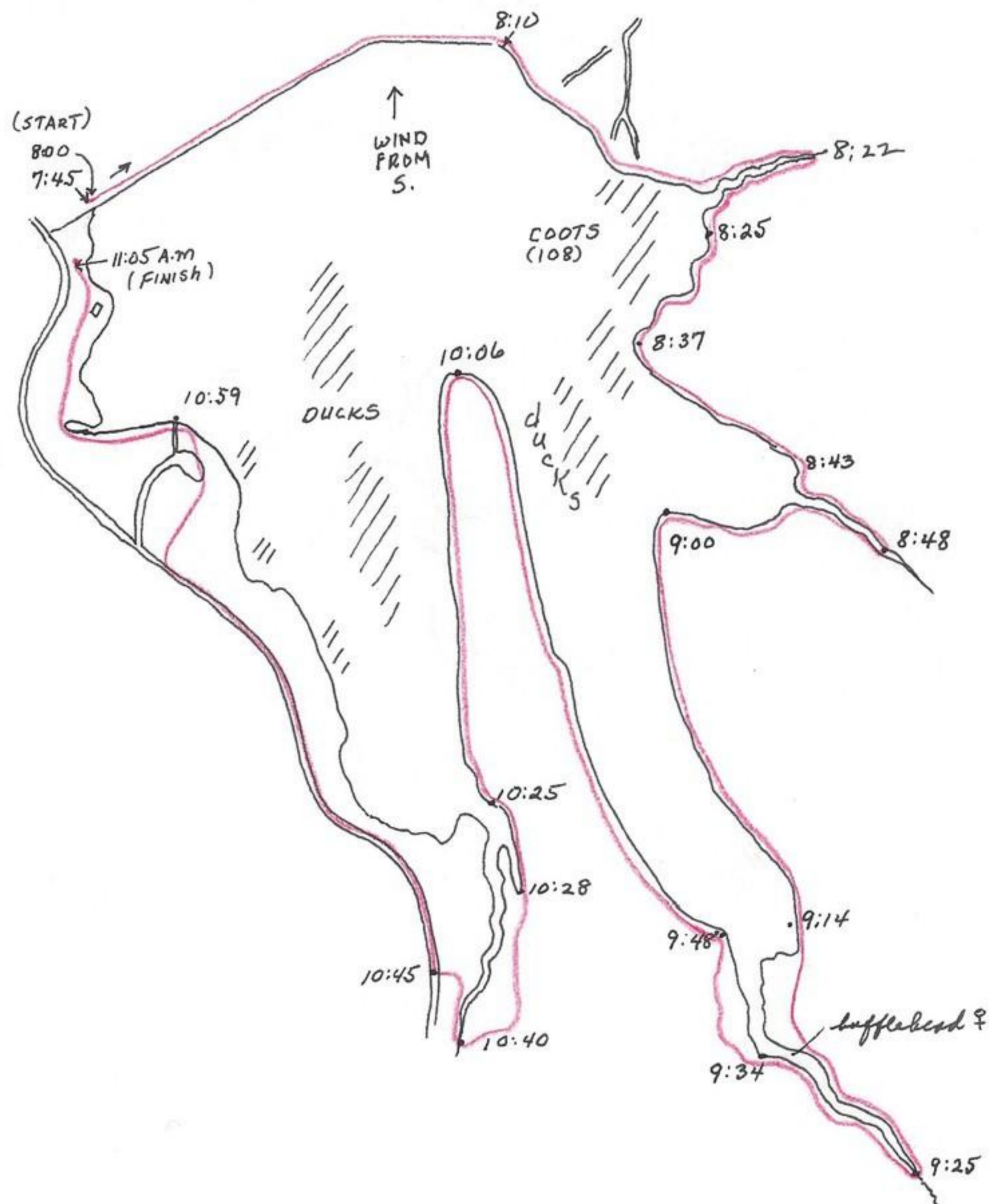


This tree had been cut on top of bank and had fallen onto slope
 of bank with top of tree in water. The tree in water was completely
 free of bark. Left beaver tree at 3:55. Beaver house 1/10
 mi. down stream from cut trees. At house one trail led to
 top of bank at side of house, another 40' up stream. 4:15
 Sunflower water gate. 4:25 2 ♂♂ 1 ♀ mallards at edge of
 river in shallows. They left at gunshot range. Arrived De Soto
 bridge 4:45. Kingfisher at bridge.

Douglas Co. State Lake, Douglas Co., Kansas }
 Nov. 23, 1967

Made census of birds this A.M. at 7:45 at west side of lake
 observed ^{groups of} 40 lesser scaup; 6, 2, 4, 7. 1 pied billed grebe,
 2 canvas backs, 2 redheads. Continued to ^W end of dam and
 left car at 8:00 A.M. Wind from S and temp about 32° F.
 Will keep complete record of birds. Crossed dam to E and
 continued along shore. On the dam the lower 3' were damp
 from wave spray. Above this zone the racks were covered with
 frost, increasing toward the water. 5 crows in field to N.
 Kingfisher just beyond camp ground. 100 coot left edge of
 lake and swam & flew into inlet & continued to swim to
 point beyond. All same kind & no ducks associated.
 8:22 crossed creek at head of bay. In this area was 4 blue jays.

3 slate-colored juncos, 2 cardinals, 1 flicker, 8 Oregon juncos.
 8:25 red tail, 2 bluejays. 8:26 2 cardinals. 8:26 3 cardinals
 1 downy, 12 juncos, 2 bluejays. 8:30 beaver cuttings.
 3 muskrat houses. ~~With~~ male redhead duck among reddish
 sedges standing in water. The duck was a cripple and
 by diving repeatedly was able to leave area with being
 conspicuous or by flying. 8:27 point. 12 scaup. 8:46 blind.
 and 18 scaup. 8:43 blind. 8:44 2 blinds. 8:45 blind.



8:43 muskrat house. 8:48 crossed creek, good camp site. 8:53 3
 lesser scaups and blind. Bay quiet + water reflecting while beyond
 in lake wind creating waves (not white-capped). Considerable
 green algae along shoreline but water clear. Ice at edges
 and in quiet areas of lake. 8:56 blind. 4 juncos, 1 song sparrow.

8:58 pied-billed grebe & muskrat house. 9:00 main point, 4 juncos, 2 chickadees, good camp site, 2 cardinals. 12 coots in bay to W. 9:05 old blind. 9:10 song sparrow, blind. 9:12 3 coots enter lake at one point. 9:14 good vantage point. Tree in water. Coats. 9:17 telephone pole. 3 juncos. 9:23 line crosses creek. 2 squirrel boxes. 9:24 good camp site. 9:25 crossed creek, water green. Downy woodpecker, 6 chickadees, 4 juncos. 9:34 at high cliffs, best vantage point (S end) on lake. Bufflehead swam toward lake, 2 bluejays. 9:40 telephone pole, the bufflehead that had swam down channel now turned around and swam up the creek again. 3 gadwalls alighted in bay to E near tree in water. 9:48 entrance of channel into lake. Flat field makes extensive comp sites. 9:45 Crossed ^{old} curved road, 9:47 blind, 2 bluejays, 4 good squirrel nests. Others have been noted on trip. 2 yellow-shafted flickers together. Beaver activity near old fence line. The tree was an oak and the beaver had not made satisfactory progress in felling the tree. Bark was removed though. 9:54 blind and now heavy deciduous trees and entering open slopes of juniper. 9:56 blind, 9:58 muskrat house, 3 juncos. 10:00 cardinal, song sparrow. 2 chickadees. There are ducks in bay but they have been accounted for. 10:04 blind, 2 juncos. 10:06 point, blind, good camp site. The scaup, canvas backs & redheads were still in area (observed first at 7:45). a ♂ + ♀ bufflehead left ^{near} shore and swam to center of lake & then flew to W side. 10:10 muskrat house, 3 juncos, 2 bluejays, 1 cardinal. 10:18 single ruddy duck & 2 ring-necked ducks among 28 scaup. 10:22 8 goldfinch, blind. 10:24 muskrat house on side of large tree growing in water. 10:25 mouth channel, 3 juncos. not many redwing blackbird nests. 10:28 this area is in good grass of the slender blade & coarser grasses as if planted and left to develop to climax. Head first small bay, 10:31 3 cardinals, 8 juncos, old road crosses channel, 12 juncos. 10:34 2 chickadees, 8 juncos, 1 bluejay, 2 song sparrows. Ice on parts of creek. 10:40 Crossing creek on log. 4 bluebirds, 1 red-bellied woodpecker, 4 goldfinches. Crows calling to W. There has been considerable white-white hunting (100 shots) on uplands surround lake but in no case at edge of lake. 10:45 row on road, 9 juncos and 2 cardinals and 2 song sparrows. 10:50 rested to W. 3 juncos, 2 chickadees. 10:57 muskrat house. 10:59 at boat ramp. 3 ruddy ducks (2 with tail up, 1 down) just beyond shore.

1 blue jay & 2 juncos. Arrived Weuddam at 11:05. It is unusual that there were no shorebirds, tree sparrows, Harris sparrows in field today. Summary: 3 hrs 5 min in field. Total of 405 birds observed.

- scaup ducks (lesser) 40-6-2-4-7-12-18-3 = 92
- buffle-head ducks 1-2 = 3
- red-headed duck 2-1 = 3
- canvas back 2 = 2
- coot 108-12-1 = 121
- ruddy duck 1-3 = 4
- redtail 1-1 = 2
- cardinal 2-2-3-2-1-1-3-2 = 16
- chickadee 1-6-2-2-2 = 13
- yellow-shafted flicker 1-2 = 3
- red-bellied woodpecker 1 = 1
- downy woodpecker 1-1 = 2
- blue jay 4-2-2-2-2-2-1-1 = 16
- juncos (state colored & Oregon) 3-8-12-4-4-3-4-3-2-3-1-8-12-8-9-3-2 = 89
- muskrat houses 3-1-1-1-1-1-1 = 9
- beaver activity 1-1 = 2
- duck blinds. 1-1-1-1-2-1-1-1-1-1-1-1-1-1-1-1 = 17
- Crow. 5-2 = 7
- reed-billed grebe 1-1 = 2
- kingfisher 1 = 1
- song sparrow 1-1-1-2-2 = 7
- gadwall 3 = 3
- ring-necked duck 2 = 2
- goldfinch 8-4 = 12
- bluebirds 4 = 4

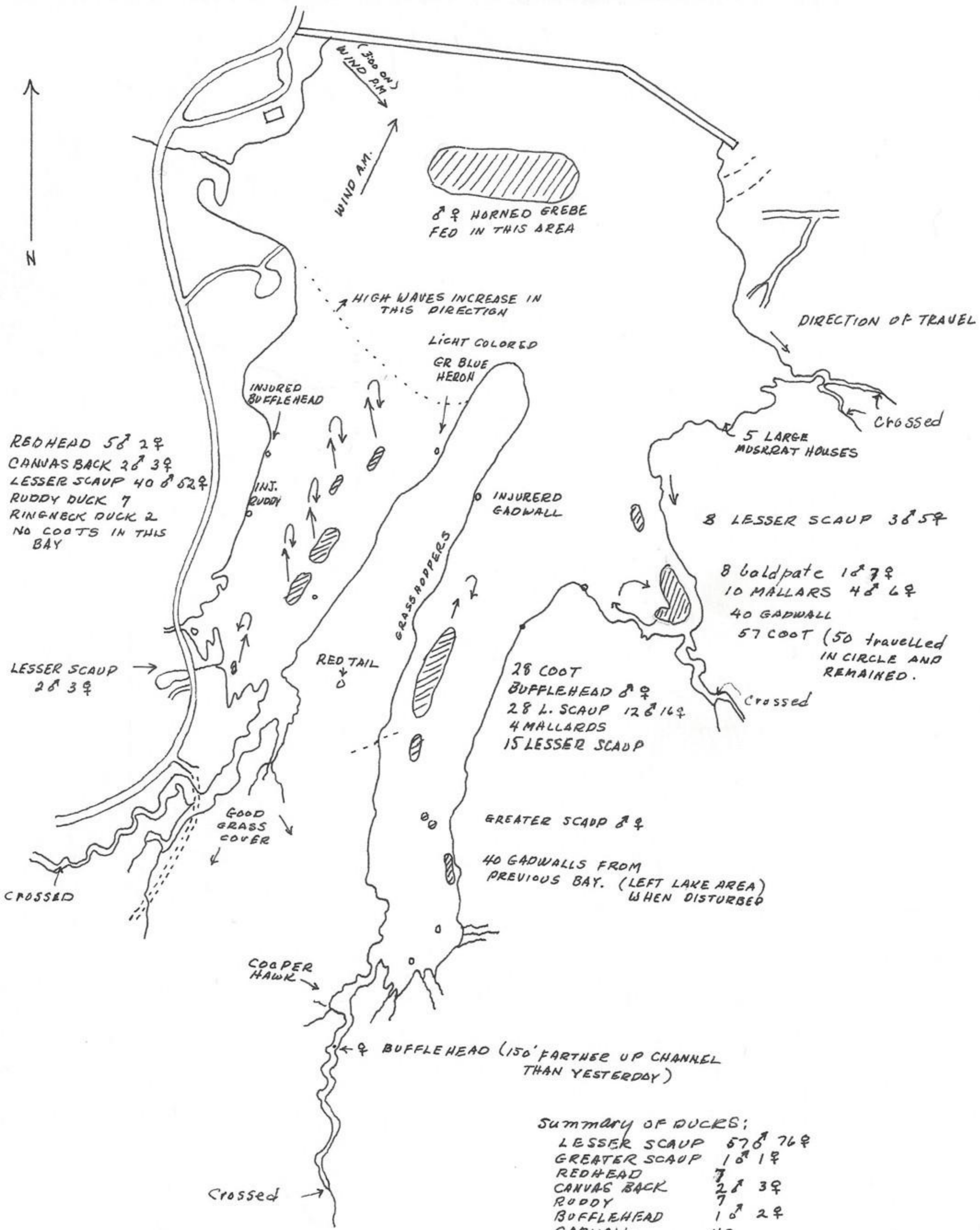
(For Nov. 24, Kaw River, see entry following Nov 25.)

Douglas Co Lake, Douglas Co., Kansas
Nov. 25, 1967

Made census of ducks on lake and revised older field maps by field observation. Ducks oriented according to influence of wind. There were no ducks in largest part of lake (except 2 horned grebes which remained in open waters) and in nearly all cases the ducks were taking advantage of wind barriers. When disturbed the ducks would swim toward open waters but would return to original position. As I moved along edge of lake they moved out in to center of bay and then when after continuing beyond they would return. In the second bay the mallards, gadwalls & baldpates all left at once but the coots remained and made lateral adjustments.

(cont)

38 CROWS
2 REDTAILS



REDHEAD 5♂ 2♀
 CANVASBACK 2♂ 3♀
 LESSER SCAUP 40♂ 52♀
 RUDDY DUCK 7
 RINGNECK DUCK 2
 NO COOTS IN THIS BAY

LESSER SCAUP
 2♂ 3♀

♂ ♀ HORNED GREBE
 FED IN THIS AREA

HIGH WAVES INCREASE IN THIS DIRECTION

LIGHT COLORED GR BLUE HERON

INJURED BUFFLEHEAD

INT. RUDDY

INJURED GADWALL

5 LARGE MUSKRAT HOUSES

8 LESSER SCAUP 3♂ 5♀

8 Baldpate 1♂ 7♀
 10 MALLARDS 4♂ 6♀
 40 GADWALL
 57 COOT (50 travelled IN CIRCLE AND REMAINED.)

28 COOT
 BUFFLEHEAD ♂ ♀
 28 L. SCAUP 12♂ 16♀
 4 MALLARDS
 15 LESSER SCAUP

GREATER SCAUP ♂ ♀

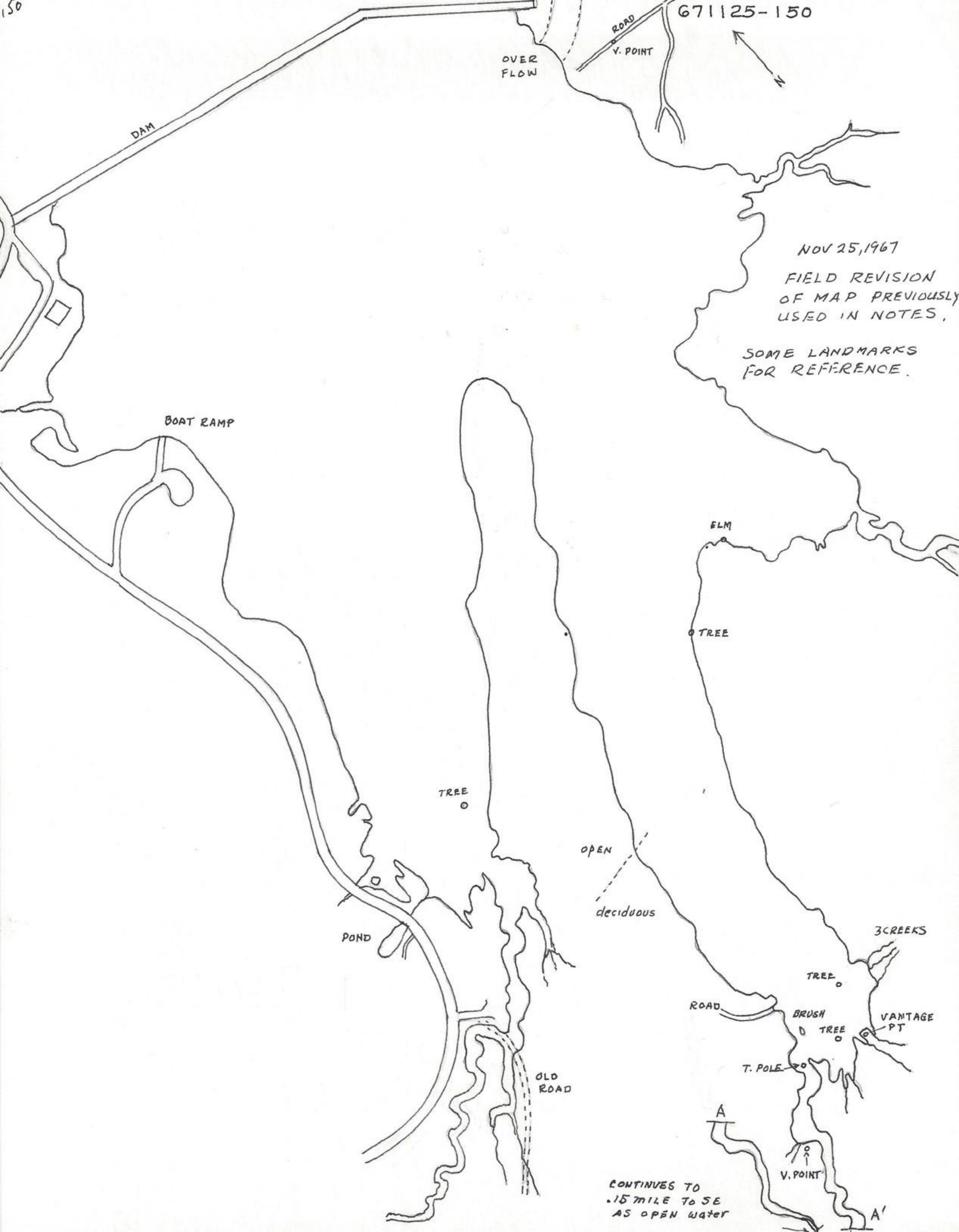
40 GADWALLS FROM PREVIOUS BAY. (LEFT LAKE AREA) WHEN DISTURBED

COOPER HAWK

♀ BUFFLEHEAD (150' FARTHER UP CHANNEL THAN YESTERDAY)

SUMMARY OF DUCKS:

LESSER SCAUP	57♂ 76♀
GREATER SCAUP	1♂ 1♀
REDHEAD	7
CANVAS BACK	2♂ 3♀
RUDDY	7
BUFFLEHEAD	1♂ 2♀
GADWALL	40
MALLARD	14
RINGNECK	2
COOT	78
HORNED GREBE	1♂ 1♀
BALDPATE	1♂ 7♀



671125-150

OVER FLOW

ROAD

V. POINT

DAM

NOV 25, 1967

FIELD REVISION OF MAP PREVIOUSLY USED IN NOTES,

SOME LANDMARKS FOR REFERENCE.

BOAT RAMP

ELM

TREE

TREE

OPEN

deciduous

POND

3 CREEKS

TREE

ROAD

BRUSH TREE

VANTAGE PT

T. POLE

OLD ROAD

A

V. POINT

CONTINUES TO .15 MILE TO SE AS OPEN WATER

A'

671125-151

The ducks were oriented according to ^{habit, the mallards and} gadwalls in upper ends of bay while the scaup, canvas backs & redheads in more open waters of bay. The bufflehead was the only duck in small headwater channels. Coats associated with tobblers and the bufflehead either with coats or lesser scaup. One great blue heron fished successfully. This bird was extremely light colored. An imbred ruddy left edge of lake and swam in full view for 30' and then submerged for 38 seconds to place him well out into lake. A female bufflehead in channel about 150' farther up same channel as noted yesterday and as on previous occasion swam down channel for a hundred feet or so and then returned up stream again. Birds observed not observed yesterday were titmouse, mockingbird, cooper hawk, great blue heron. Wind to white caps in A.M. but subsided by 1 o'clock and by 3 P.M. changed from WSW to NE. Temp. ^{sky clear} approx. 60°F. It would be of value to correlate natural movements with wind velocity (Example. Height + width of waves, bending of certain species of grasses etc.) A comparison of numbers of ducks of last 3 days observations are as follows:

	<u>Nov 24</u>	<u>Nov 25</u>	<u>Dec 2</u>
Lesser scaup	92	128	80
greater scaup	0	2	5
redhead	3	7	6
canvas back	2	5	4
ruddy	4	7	9
bufflehead	3	3	0
gadwall	3	40	43
mallard	0	14	97
ringnecked	0	2	0
haldpate	0	8	7
coat	121	78	52
horned grebe	0	2	1
red bill grebe	2	0	1
	<u>230</u>	<u>296</u>	<u>305</u>

Sperogyra in some areas completely covering floor of lake including sunken logs etc. It does not form covering on surface of water as it does in other times of the year.

Kaw River, Leecompton to Lawrence, Kansas (Jefferson & Douglas Co.)

(INSERT)

(solo)

Nov. 24, 1967 (should follow Nov. 23, 1967)

Made canoe trip from Leecompton bridge to Lawrence bridge. Left 8:45 A.M. Air + water both 40°F. Sky clear now but overcast earlier. Slight wind from W. blowing directly down river channel. 5 beaver trails in first 1/10 mi on left. All to corn fields. Will keep on left side of river all the way. 8:50 18 mourning doves on bank in low in trees. This is the usual position in morning. Countryside quiet. Flicker call only. 8:57 2 crows to 5. Blue jay + night call. 9:05 flicker crossed river and deviated to check house. Few juncos on bank, bluebird calling + 6 goldfinch. Complete census of water birds and large birds only (crows, hawks, ducks, herons etc.). 9:12 wind

starting to blow harder and leaves blowing across sands, 9:23 8 meadowlarks on river side of trees which is unusual for these birds. One singing. 9:35 beaver tree felling. 10:00 end of ridge to S and river to valley. Squirrel on S side called and was answered by one on the N side. These were the first ones heard. 10:06 mallard swam 300 feet down stream before it left. 10:12 Creek from left, a redhead swam 3/10 mi down river and then dove + disappeared. 10:40 male mallard + probably same as first one observed earlier. 10:50 dead white pelican. Head had been eaten by worms but all other parts fresh looking. Bill measured 9 1/2 inches. 11:50 250 trees cut by beaver ranging from 1/2 to 8" diameter. This area is across river from where the debris from Robinson Gymnasium is being dumped over the river bank (or 2/10 mi. up river from Buck Creek. 11:12 Mouth Buck Creek. 11:15 5 crows from N across river. In Leecompton area all willow leaves off trees with only color the yellow + brown of upper bark of limbs. In area of E exposure the willows have retained the yellow-greenish leaves, especially low growing willows. Willows with leaves are generally associated with expanses of sands. 11:50 on river in what would be an extension of E W road leaving E in front of Bruner's residence. Temp. now 48°F. 12:03 approx. 350 Lapland Longspur attempted to alight on sand peninsula. They circled and on 10 different times come in low + fast and on each case would seem to want to alight but the flock would pass by and circle to come in again. The canal was 40' away from the peninsula. I have witnessed this in northern Alaska and thought it was a matter of curiosity on their part. They called occasionally. 12:08 entrance to water diversion for KPL Co. 12:30 at bend opposite the Kansas Power + Light Plant. 12:35 at power lines that cross river. 2 trees cut by beaver 50' up river from lines. 1:08 bend. The waves increase in height from W to E along this long stretch of river. 2 ♀ + 2 ♂ lesser scaup duck. Temp 41°F of water. 50°F air. Arrived Turnpike bridge 1:35. Wind cross current and navigation slow. Occasional evidence beaver. Corp Engineers actively with dike building. This dike will completely change the natural riparian communities of the Kaw River. Arrived Lawrence bridge 2:10 P.M.

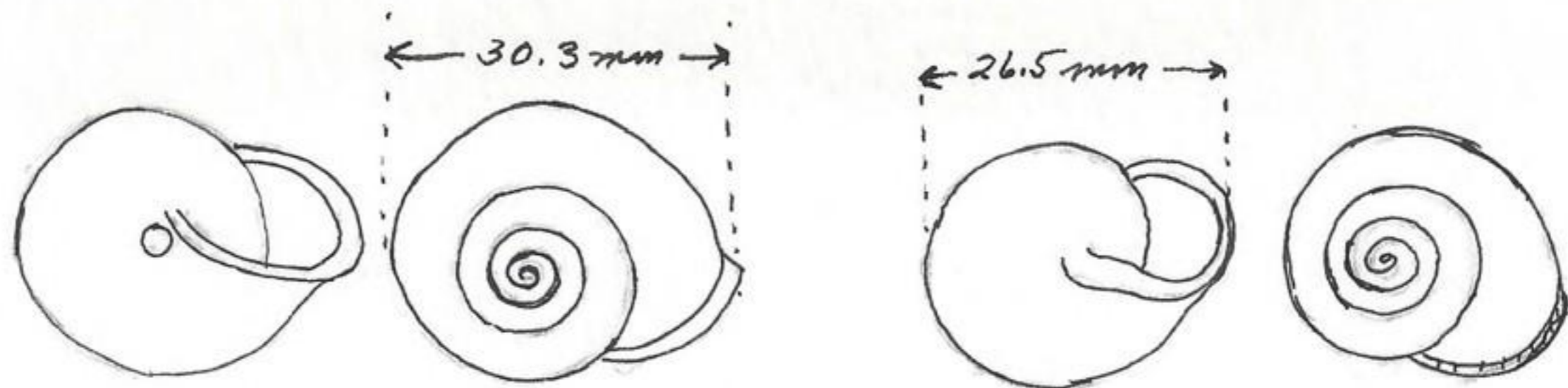
Kaw River, Leavenworth Co., Kansas

Nov. 26, 1967

Collected the following gastropods from river banks at Sec 22, R 21E, T 12S, (2000' W and 150' N of N.E. corner sec 22). (See Nov 14 for map):

671126-1	<i>Allogona profunda</i>	widest diameter (including lip) =	29.6
671126-2	" "	" " " " " "	27.8
671126-3	<i>Triodpus albolabris alderi</i>	" " " " " "	25.7
671126-4	" "	" " " " " "	25.5

These shells were lodged in corridors of excavation (gopher?) in stratified layer of sands + mud some 4 feet below surface. Photo 671126-5 of these shells in burrow. 671126-6 close up of these shells. *Allogona* (top) *Triodpus* (bottom)



ALLOGONA PROFUNDA

TRIODOPUS ALBOLABRIS ALLENI

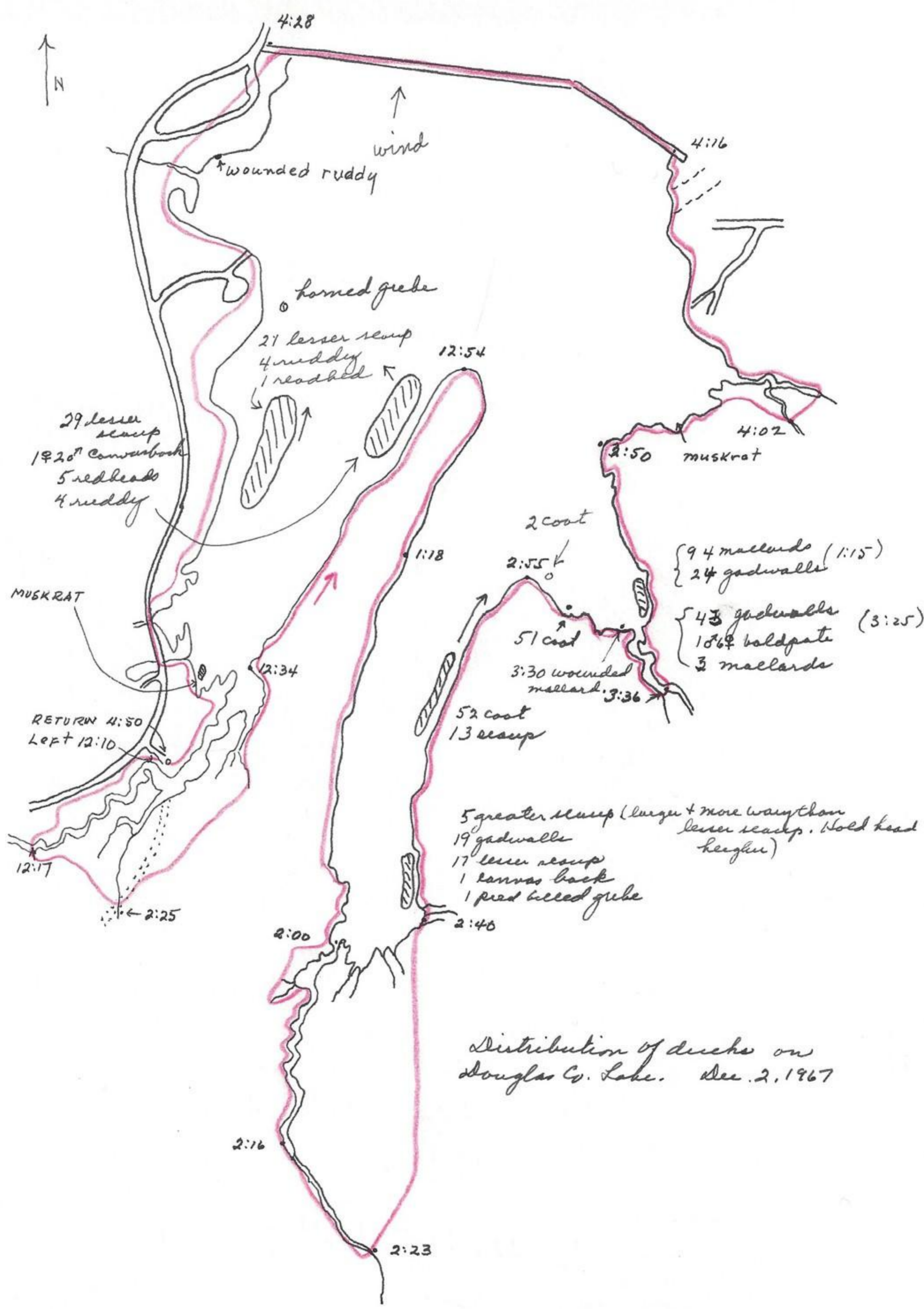
Photo 671126-1 of *Allogona* and *Triodopus* showing both dorsal and ventral views. On return home noted 5 speed-billed grebes on Sand Hills Lakes.

Douglas Co. Lake, Douglas Co., Kansas
Dec. 1, 1967

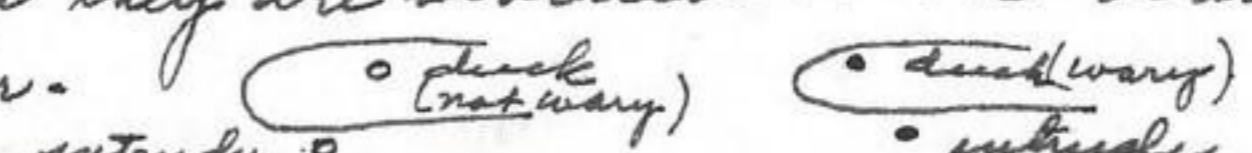
Checked lake this A.M. Raining and snow in air and visibility poor. Wind high from N and forming high waves. Edges of lake eroding and muddy. noted approx 40 ducks including canvas back, red head, scaup and ruddy duck. These in W bay.

Douglas Co. Lake, Douglas Co., Kansas
Dec. 2, 1967

Made trip around lake, starting from SW end of lake and travelled counter-clockwise. Left 12:00 P.M. Slight wind from S. Sky clear. Temp average about 46°F in warmest part of day. Ice (thin) in channels only. Will keep complete list. 12:17 2 jays, 1 downy woodpecker. 12:25 song sparrow. 12:34 goldfinch. 12:36 21 lesser scaup, 4 ruddy & 1 redhead moved from center of lake to W side & then N. as I moved N on shore the ducks finally either swam S again or flew back into bay. 12:48 8 juncos left shoreline. 12:49 29 lesser scaup, 1 ♀ + 2 ♂ canvas backs, 5 redheads and 4 ruddy ducks left E shore area and swam NW into lake and after passing beyond they swam S up middle of bay. 1 horned grebe swam along on W side about 150 out from shore. 12 juncos left weeds on shoreline. Arrived point 12:54. No ducks in main body of lake. 1:08 stopped for a few minutes. From this point noted 94 mallards & 24 gadwalls in head of bay to S.E. Two hunters hunting quail flushed these ducks. The mallards left the lake area but the gadwalls remain in area in first bay (W side of lake). Left again at 1:15 to continue along shoreline. 1:18 Wilson snipe left edge of lake. At 1:30 52 cast & 13 scaup fed close to shore on E side. These birds swam close to shore to N. at SE end of this bay noted ~~sculpin~~, ~~sculpin~~, 17 lesser scaup,



19 gadwalls, 1 canvas back. One pied-billed grebe swam among
gadwalls and profited from the feeding activity of the gadwalls.
The male canvas back fed with 2 lesser scaup among a sparse
growth of inundated small trees (3 feet ^{height} above water). The gadwalls
left area and the other ducks swam N out into bay. 1:48 2
blue jays, 16 juncos. 1:56 winter wren. 2:00 at telephone pole in
water. yellow-shafted flicker. 1 blue jay. 2:16 passing by usual
crossing but continued up ^{up} to first ripples in creek. 2:23 crossed
creek. This is about 600 feet up creek from crossing at 2:16.
This first ripple is where creek crossed to E side of valley.
3 tree sparrows. no hawks so far. 2:30 2 cardinals, 3 juncos,
1 chickadee. 2:33 song sparrow. 2:40 at 3 creeks. The
♂ canvas back and 2 scaup were back in same spot as observed
at 1:30. They swam again out into middle of bay. 2:55 Point.
At lunch here (best blind on lake as far as protection from wind)
2 blue jays flew from NE side of lake to this point. Later 2
yellow-shafted flickers followed the same course over the water.
Temp in shade 44°F. Left 3:15. Temp on ground on shaded
part of shore = 34°F. Ground firm and ice crystals on surface.
41 of the 52 coots noted earlier had moved around point and
were feeding in small bay. 3:25 43 gadwalls, 1 ♂ & ♀ baldpate
and 2 mallards feeding at shoreline in SE part of bay (same
area as the mallards & gadwalls of ~~this~~ the 1:08 observation. These
ducks when cognizant of my presence. left by flight. 3:30
wounded ♀ mallard. 3:36 crossed creek. 3:38 first quail in snow.
song sparrow. 3:45 red-bellied woodpecker. 3:50 point. 3:56
muskrat at edge of lake at houses (5). It swam E away from the
houses. 4:02 crossed creek. chickadee. 4:15 5 juncos. 4:16
E end of dam. 4:25 outlet with about 4 inches of water above
outlet. 4:28 W side dam. red-bellied woodpecker. 4:31 ruddy
duck (injured one), kingfisher. Water in creek about 2 gts per second.
ice on small pond. 4:35 14 quail in weed on shoulder of road
4:45 G.H. owl called. 4:46 2 muskrats, one swam directly toward
me and entered burrows under water. 5 lesser scaup in this bay
and left. arrived car at 4:50 P.M. For numbers see comparisons on
prev. 25. Have noticed that ducks have different behavior in
reacting to man or disturbances. Gadwalls, mallard & baldpate arrive
directly to feeding areas of shallow areas ^{heads of} bays and feed or rest at
edge of shore. They also leave by flight rather than by swimming
away to open water. Coots adjust with least amount of displacement.
Scaup become weary when they are blocked or are between
the head of a bay & intruder.



Lawrence, Douglas Co., Kansas

Dec. 16, 1967

at 1620 Tennessee St., placed approx 200 peanuts with shells, in backyard at 8:00 A.M. In 3 minutes a blue jay arrived and started to carry these nuts away ^{at a rate of about 30-60 seeds ~~per~~ trip}. In approx 5 minutes, 2 other jays arrived and immediately carried the peanuts away, one ^{nut} at a time. Each peanut was carried from position on ground to as few as 3 feet away and as far as 200'. The average distance for one jay was 30', another jay nearer 100'. In each case the peanut was forced into the grass or trash on ground and then as the final act a leaf (some up to 4" in diameter) was placed over the peanut and then the jay immediately left to gather another nut. These peanuts were placed in grass, leaves, top of leaf piles, top of brush piles with mixture of dead grass. One jay extracted nut and placed the nut in wedge of willow fence some 1 1/2 feet above ground. This behaviorism continued for approx 1/2 hour before the jay consumed the first nut and then shortly after the enthusiasm for gathering and storing nuts decreased. It is apparently important to hide food, when plentiful, as soon as possible, especially with squirrels in area. The gray & fox squirrel participated in gathering nuts in about 25 minutes after placed on ground. In one hour, all nuts had disappeared. Cardinals were mildly interested in nuts. One jay robbed a cardinal of a nut. Starling in immediate area but were not interested in the nuts. A fox squirrel carried a nut 50' away and tried to wedge it into bark near a tree nest. The nut dropped to the ground and while the squirrel reacted in trees to the displacement, it did not attempt to retrieve it. Squirrels recognize nuts on ground from 40' away. Noted one blue jay half swallow a 2 nut shelled peanut (shell just beyond vision in throat, and then pick up another one in bill & carry them away.

Dec. 19, 1967

Photos 671219-1 and 671219-2 of sunset from Campus of University of Kansas. Photos 671219-3 to 671219-7 of brown cactus flower of _____ given to us by Dad & Kilee this summer.

Dec. 20, 1967

Photos 671220-1 to 671220-6 of experimental mice showing fat deposits 2 of Barney.

Lawrence, Kansas

Dec. 31, 1967

Snowed yesterday & last night to approx. 2 1/2 inches. Temp at 8:00 A.M. 4° F. Noted starling standing on edge of chimney with heat passing directly onto bodies. This is one instance where the starlings were touching each other. Nearly all other times they are separated by the width of their body. Also noted that on the feeder they are always separated except when they share a common source of localized food when heads are close together. Antagonism in birds may be a result of shape and use of bill; the sharp pointed ones being the more aggressive. The order of dominance on the feeder from most aggressive to less aggressive is ^{house sparrow} flicker, red-bellied woodpecker, bluejay, starling, cardinal, ~~house~~ junco ~~sparrow~~.

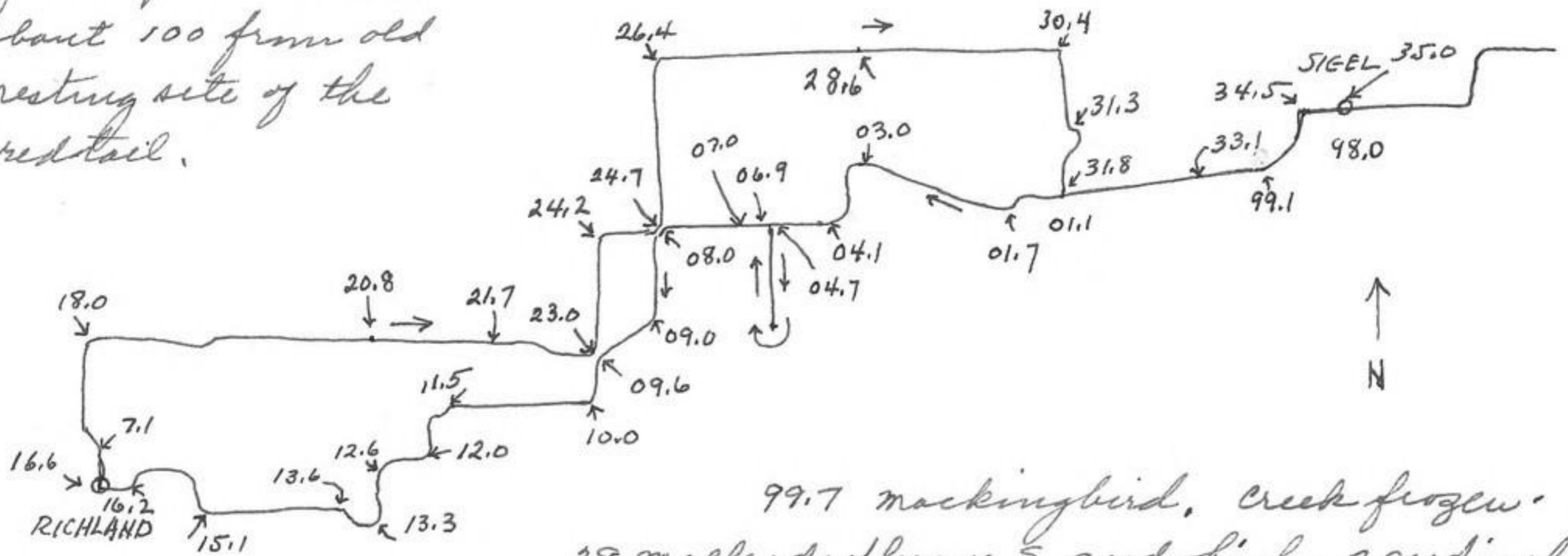
Noted an Oregon junco (*Junco oregonus mearnsii*) at feeder. The slate colored junco dominates the mearns junco. This bird has a light gray head & breast evenly colored. The sides are pinkish and the back ^{light} brownish in contrast to light gray of head. There is ^{irregular} no brownish color in head & breast as is found in a juvenile slate colored junco. I have noted juvenile & females of the slate-colored junco with pinkish sides. Some good slate-colored birds have a brownish cast to a dark striped back that contrasts with black of head (in good sunlight).

House sparrows leave first when there is outside disturbance. Starling second & junco remains. The starling sorts feed by thrusting lower mandible backwards resulting in a wide gape of mouth. Musculature of the lower mandible in starling must be adapted to this behaviorism. Starling remain on chimney for 30-60 sec or longer and then leave to feed and then return to chimney. Other birds at feeder include downy woodpecker and yellow-shafted flicker. Watched a yellow-shafted flicker work down a trunk of a large elm covered with virginia creeper vines, to base of tree and then drop to snow and start to excavate at base of vine in snow. Even though the temp was 4° F it still searched the vines, especially beneath the vine at tree contact. Speaking of vines, there is one growing in cellar with roots and 4 feet of vine on outside of house and exposed to these low ^{outside} temperatures. The English sparrow is the first to react to disturbance and will generally call the starling away at the same time. The slate-colored junco remains but pauses one or two seconds to survey the area before commencing feeding.

Wakarusa Valley, Douglas-Shawnee Co., Kansas

Dec. 31, 1967

Mary & I made complete census of the proposed Clinton Reservoir started at Sigel School at 04698.0, 200 P.M., temp 8°F, sky clear slight wind from NE. Only birds noted between Lawrence & Sigel were 1 redtail & a group of 28 starting and 12 slate colored juncos. At Sigel noted 2 crows, 1 junco. 98.5 4 tree sparrows, cardinal. Creek frozen. 99.1 ♀ in road. 99.4 2 redtails together in top of tree up creek and about 100 from old nesting site of the redtail.



99.7 mockingbird. Creek frozen.
 28 mallards flying 5 and high, 2 cardinals
 00.6 2 meadowlarks along road, 100 feet beyond & more feeding in road. Recent snows covers ground elsewhere. The meadowlarks alight on weed stems rather than onto snow of ground. 00.8 ~~meadow~~ 2 meadowlarks feeding in road. 01.0 meadowlark feeding in road. 01.1 passing by Peterson Pk turnoff. 01.7 Wakarusa bridge. River 4/3 open with ice along sides, 3 juncos. 03.0 passing by bridge. 12 juncos. 03.7 blue jay eating from large seed. 03.9 small bridge 3 juncos. 04.1 main road. 04.7 now to left. meadowlark. 05.7 12 tree sparrows. 05.9 2 horned larks. Numerous tracks along road and made last night, now wind blown. 06.9 now back to main road & to W. 07.0 Belvoir bridge. Water 4/5 open. 2 downys. Drifts of snow from wind from E. 08.0 to S 3 tree sparrows. 08.6 2 redtails. 08.7 small bridge. In a weed patch and associated small trees observed an aggregate of 18 Harris sparrows, 12 cardinals, 28 tree sparrows, 18 juncos. 09.0 to right. 4 juncos. 09.1 6 meadowlarks in brush pile and loathe to leave although only 50' away. 09.2 single meadowlark on brush pile. 09.6 to left, 2 meadowlarks. 09.8 3 flickers on ground and some distance from trees. 8 horned larks associated with flickers (white of front of head clear across) 10.0 to right (road almost indistinguishable but snow drifts not impassible. 10.2 bridge over Wakarusa. 4 Cardinals &

6 juncos, creek 2/3 open. 10.8 3 horned larks & 2 flickers at least 7/10 mi from trees. 11.0 passing ^{over small} by bridge. 11.5 along river, 11.7 to left. 12.0 to right. 12.6 passing by bridge over Wakarusa 13.1 3 juncos. 13.3 4 way stop. 40 Eng sparrows, 12 starling. 13.5 Elk Creek, 1/5 open, 2 cardinals, 4 juncos. 13.6 12 Cardinals, mockingbird, ^{20 juncos} 40 tree sparrows, 13 house sparrows (numbers approx). These birds were associated with farm to W. 13.7 10 Cardinals, 13.8 4 cardinals. 14.0 Cardinal. 14.6 passing by Woodruff Rd. 15.1 now coming off top hill. 15.4 bridge, creek frozen. 15.9 mockingbird, 3 cord, 20 tree sp, 10 juncos. 16.2 to right, redtail. 16.6 Richland. 16.7 13 bobwhite, 2 Cardinals. 7.1 Wakarusa bridge. Water 1/2 open, creek completely closed in some areas. 18.0 main road to R. 18.9 45 juncos, 8 Cardinals, 8 house sparrows, 18 tree sparrows. 19.2 22 tree sparrow, 15 juncos. 19.4 30 tree sparrows, 8 cardinals, 13 juncos. 19.7 20 tree sparrows, 12 juncos (Douglas Coline). 20.1 4 horned larks. 20.3 meadowlark, 20.5 3 tree sparrows. 20.8 at 4 corners & continuing E. 21.2 8 juncos, 21.7 top hill, meadowlark. 21.9 Creek 1/2 open. 22.1 3 Cardinals, 2 titmice, 4 chickadees, 30 juncos. 22.3 8 juncos, creek 1/2 open. 22.5 10 bob-white, 16 juncos. 22.7 3 Cardinals, 28 juncos, 12 tree sparrow. 23.0 4 corners, now to N, 2 Cardinals, 15 juncos, 7 tree sparrow, pond frozen. 24.2 main road, now to E, 3 Cardinals, 9 house sparrow. 26.4 8 juncos, 24.7 now to left. 24.8 song sparrow. 25.6 Dry Creek, 12 juncos, 3 Cardinals, 2 field sparrows, 8 tree sparrows. 26.4 to right. 26.6 4 juncos. 26.8 1 juncos. 27.0 2 Cardinals, 27.1 cardinal. 27.3 3 horned lark. 27.4 Deer Creek. water closed in ice. 2 Cardinals, 6 juncos. 28.0 1 starling, 4 Cardinals, 2 juncos. 28.3 9 horned larks, 1 starling. 28.6 Coon Creek 1/3 open. 29.1 12 juncos. 29.8 Scout Camp. 30.2 at old house, 3 Cardinals. 30.3 14 juncos, 1 meadowlark. 30.4 to right. 30.6 6 juncos. 31.3 Rattlesnake Pt. 31.5 meadowlark and redtail. 31.8 to left (sun within 5 min. sundown) 33.1 N. end proposed dam, 2 mourning doves. temp 3°F. 33.7 marsh hawk. 34.5 cardinal, to right. Sigel 35.0 at 5:00 P.M. Temp 0°F.

Summary:

Cardinal 1-2-12-4-2-12-10-4-1-3-2-8-8-3-3
2-3-3-2-1-2-4-3-2-97
tree sparrow 4-12-3-28-40-20-18-22-30-20-3-
12-~~12~~ 7-8=227
juncos (mainly slate-colored) 1-3-12-3-18-4-6-
3-4-10-45-15-13-12-8-30-8-10-28-15-8-12-20
mockingbird 1-1-1=3 4-1-6-2-12-14
6-335
redtail 2-2-1-1=6
song sparrow 1=1
bobwhite 13-10=23

marsh hawk 1
horned lark 2-8-3-4-3-9=29
chickadee 4-
meadowlark 2-8-2-1-1-6-1-2-1-1-
5-1=27
horned lark
mourning dove 2-
crow 2-
mallard 28
field sp. 2
bluejay 1-
downy 2
Harris sp. 18-8=26
y.s. flickers 3-2=5
Eng. sp. 40-13-962
starling 12-2-1=15
titmouse 2

Percent frequency.

juncos	315	w. Capped chickadee	4
tree sparrow	227	mockingbird	3
cardinal	97	titmouse	2
Eng. sp.	62	downy woodpecker	2
horned lark	29	field sparrows	2
mallard	28	mourning dove	2
Harris sparrow	26	crow	2
bobwhite	23	song sparrow	1
starling	15	marsh hawk	1
redtail	6	blue jay	1
yellow-shafted flicker	5		

Composition of flocks of small birds including 4 dominants:

juncos	Harris sparrow	tree sparrow	cardinal
18	18	28	12
20	0	40	12
45	0	18	8
15	0	22	0
13	0	30	8
12	0	20	0
30	0	0	3
28	0	12	3
15	0	7	2
12	0	8	3
6	0	0	2
<u>2</u>	<u>0</u>	<u>0</u>	<u>4</u>
216	18	185	57
average per group.			
18	1.5	15	5

Museum Natural History, University of Kansas, Lawrence, Kansas
 (1872-1894) Dec 31, 1967 [inserted from May 8, 1976 and Nov. 24, 1976]
 Early history of a railroad that travelled up the valley of the Wakarusa
 and now to be covered by the Clinton reservoir. Included as a source of
 material for future publications on the research of the reservoir. J.W. Bee.

In researching this railroad, I have used as many sources as I have been able to uncover. Some of the material was gleaned from historical publications, some from maps and some from previously published accounts of Kansas railroads. However, most of the material I have used in writing this 'history' was obtained through talking to people who had lived in the area where the railroad originally ran. Most had seen it only as very young children or had been told of it from others older than they. Therefore, in the many years that have passed since the railroad's existence, recollections of what once was may not exactly coincide with the actual history of this line. In trying to avoid possible errors, I have concentrated on the information that I got from at least two independent sources, which makes it documented to a degree. However, I have also included the stories and memories given to me which couldn't be confirmed as those too make up an important part of any history. Certainly, the people and families that lived along the Wakarusa and the "Jerkwater" are what made this little railroad's history unique and interesting.

I would like to thank everyone who helped in writing this paper as without their help I would have been quite literally lost. In allowing me to interrupt their lives for an afternoon, they enabled such a 'history' to come about, and without their help, this paper would have never gotten off the ground. Thank you very much for all of your time and trouble; it is sincerely appreciated.

May 8, 1976 (Nov. 24, 1976)
 This report, and the one to follow on the Kansas City,
 Kaw Valley and Western Railroad Co. (1908 - 1962) was written
 by Kevin Ronald Johnson, April 8, 1976, as partial requirement
 for a class of Natural History Museum Techniques (musculology),
 for Dr. James W. Bee, Univ. Kansas. I assisted this student
 in the early phases of the survey of the remnants of this
 long abandoned railroad.

J.W.B.

In 1872, the St. Louis, Lawrence and Denver Railroad operated a stretch of track that extended just east of Pleasant Hill, Missouri to Lawrence, Kansas where it had a connection with the Leavenworth, Lawrence and Gulf Railroad at what is now 10th and Pennsylvania Streets. In the spring of that year, the directors of the St. Louis, Lawrence and Denver, sought to realize their ambitions of laying track westward as the railroad's name implied and decided to build a line between Lawrence and Carbondale, where new found coal deposits were located. The directors included Judge S.O. Thacher, who owned several quarter sections of land in Sigel, Peter D. Ridenhour, Lathrop Bullene, Brinton W. Woodward, and R.W. Ludington. The fifty-foot right of way was purchased for \$10,523 which was paid in gold to the county treasurer on July 2, 1872. The work was largely funded through bonds which had been approved some two years earlier. Much of this work can be attributed to a resident of Carbondale, Kansas, Dr. C.C. Moore. He was instrumental in securing bonds from the county and Ridgeway Township. He later became the first president of the Lawrence and Carbondale. Construction work was begun on April 13, 1872 and was completed late that same year at the cost of some \$17,000 per mile.

The train ran from Eleventh and New York Streets past the ticket office at Nineteenth and Massachusettes, southwest to Sigel, through Judge Thacher's property. On the Wakarusa-Clinton township line it stopped at Washington Creek Station, continued west along the ridge north of the Wakarusa to Sigel Station, then paralleled the river through Barber Bottoms to Ray's Grove where it crossed the Wakarusa on a trestle bridge and proceeded to Clinton Station (N. Clinton). After Clinton Station, it went to Belvoir, Richland, Ridgeway, Kinney, Cooper's, and Carbon Hill, where it turned around on a "Y". The total trackage distance from Lawrence to Carbon Hill was 29.9 miles. The majority of the right of way was fenced off with a flat galvanized barbed wire to help keep the livestock off the tracks.

Soon after the Lawrence to Carbondale branch was completed, the railroad ran out of funds and subsequently halted any other planned forms of construction or expansion that it had. The StLL&D was forced to rely on the passage of bonds in each respective county and township that it passed through to continue expanding and was at a considerable disadvantage to railroads such as the Atchison, Topeka and Santa Fe who had in the past, and could continue to rely on federal land grants to speed the growth of the railroad along with easing the economic burden. In 1874, the railroad's name was changed to the St. Louis, Lawrence and Western. The StLL&W also proved to be a non-viable railroad and was offered up for sale in 1875. At this time, preparations were made to dispose of the Lawrence-Carbondale branch which had experienced decreasing profits as the coal mines on Carbon Hill were gradually played out. At this time, a Carbondale lawyer by the name of S.B. Bradford secured an injunction against the tearing up of the track and the road was again put into operation.

The Union Pacific purchased from the StLL&W the Carbondale to Lawrence segment later that year. Following its purchase by the Union Pacific, it was operated as the Lawrence and Southwestern, then, under the name "Carbondale Branch" and finally as the Lawrence and Emporia after July 19, 1881. This seems to indicate that the Union Pacific had expansion ideas of its own, probably through the towns of Burlingame and Osage City to the southwest. At this time, a line was graded for such an expansion possibility, to Osage City, but was never built. In any event, the existing line did a moderate passenger and freight business for a few years thereafter. A total of 1,511 passengers were carried during the year ending June 30, 1883 and the traffic increased thereafter to a grand total of over 17,000 passenger-freight miles in 1886. The following year, however, only mixed train service was offered, and the number of passengers carried fell back to 1,054. Perhaps an insignificant growth of economic development along the line was to blame, but the Lawrence and Emporia suffered a rapid

decline in traffic after 1887 and was abandoned as profitless by the Union Pacific around 1890. This, however, was not the final end of the short line that ran between Lawrence and Carbondale, Kansas.

The Kansas City, Wyandotte and Northwestern was chartered on November 23, 1885. The line was completed to Leavenworth in May, 1887 and to Seneca in January, 1888. January 18, 1888 marked the day that the first KCW&NW train rolled into Seneca. The extensions to the terminals in Kansas City were completed on February 18, 1888, and the road was opened on the same day for through business. On March 28, 1887, it was consolidated with the Leavenworth and Olathe Railroad. The consolidated railroads went into the hands of a receiver on March 24, 1890, and were later sold to the Kansas City Northwestern. The Kansas City Northwestern was chartered on December 29, 1893, to take over the property of the Kansas City, Wyandotte and Northwestern, which it bought under foreclosure on January 5, 1894. The receiver operated the road until July 1, 1894, when it turned over to the new company, and was owned and operated by the parent railroad, the Missouri Pacific.

Sometime before the demise of the KCW&NW into receivership, it incorporated the ex-Union Pacific "Carbondale Branch" into its own system. The "Northwest Route" in 1893 operated two passenger trains over this line, #121 and #122. #121 left Lawrence at 6:00 PM and arrived at Carbon Hill at 8:45 PM. The returning train, #122, left Carbon Hill at 9:45 PM and arrived at South Lawrence (Nineteenth and Massachusettes) at 12:50 AM. Both trains were run every day except for Sunday, a common practice on less than top revenue lines.

The Missouri Pacific chose to abandon the Lawrence to Carbondale branch of the defunct railroads it had gained control over. Operation on the railroad ceased and the railroad was permanently abandoned on March 22, 1894. In 1899, the "Jerkwater" tracks were removed, leaving only ties and trestles in place. Subsequent floods removed the trestles and time rotted away the ties so that now, one may only find a spike or two to mark the existence of the L&C railroad.

The Lawrence and Carbondale, during its many named existence, served many a varied interest along its 30 odd mile right of way. In Carbon Hill, it served the Kansas Carbon Co. and at one time was the shipper of some thirty carloads of coal per day. Since the railroad's disappearance, the depot has served a variety of functions and is now a barn for hay on the Garcia farm. The railroad also created new communities as in the case of Glenwood to which the Ridgeway Post Office and later name were moved. A similar happening occurred in Belvoir when the Belvoir Post Office was moved to a junction with the rail line, creating an Old and a New Belvoir. The railroad connected the larger town of Lawrence with the Wakarusa Valley inhabitants and allowed people to attend the Sigel-Harvest Home picnic who lived in Lawrence. Richland became a large grain shipping point partly due to the presence of the Lawrence and Carbondale Railroad and later the Missouri Pacific. After the L&C was torn out, the depot was still used as a barber shop and court house. So, despite its relatively short lived history, the "Jerkwater" provides these small communities with a much needed connection to the outside world over the old stage coach run to Emporia.

In closing, I feel that it's appropriate to relate in a brief fashion how the "Jerkwater" received its name. The winter after the Lawrence to Carbondale branch was completed in 1872 was the time and the railroad tank at Camp creek, near Richland, was the place. Before a windmill was erected over the creek, the water was forced up by a two-man pump. Through varied circumstances, the tank was out of water and the pump had frozen solid. When the engine approached the tank for filling, there was no water to fill it with. The maintainers of the tank, the train crew and the passengers then used buckets and hats to fill the engine's tank with water. Afterwards, the engineer laughingly declared that his engineer could be called "jerkwater" after the fashion of people jerking the water out of the creek to fill the engine. "Jerkwater" was born...

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Special Thanks

Mrs. Robert Peterson, Jr.; Lawrence

Mr. Bill Perry; Carbondale

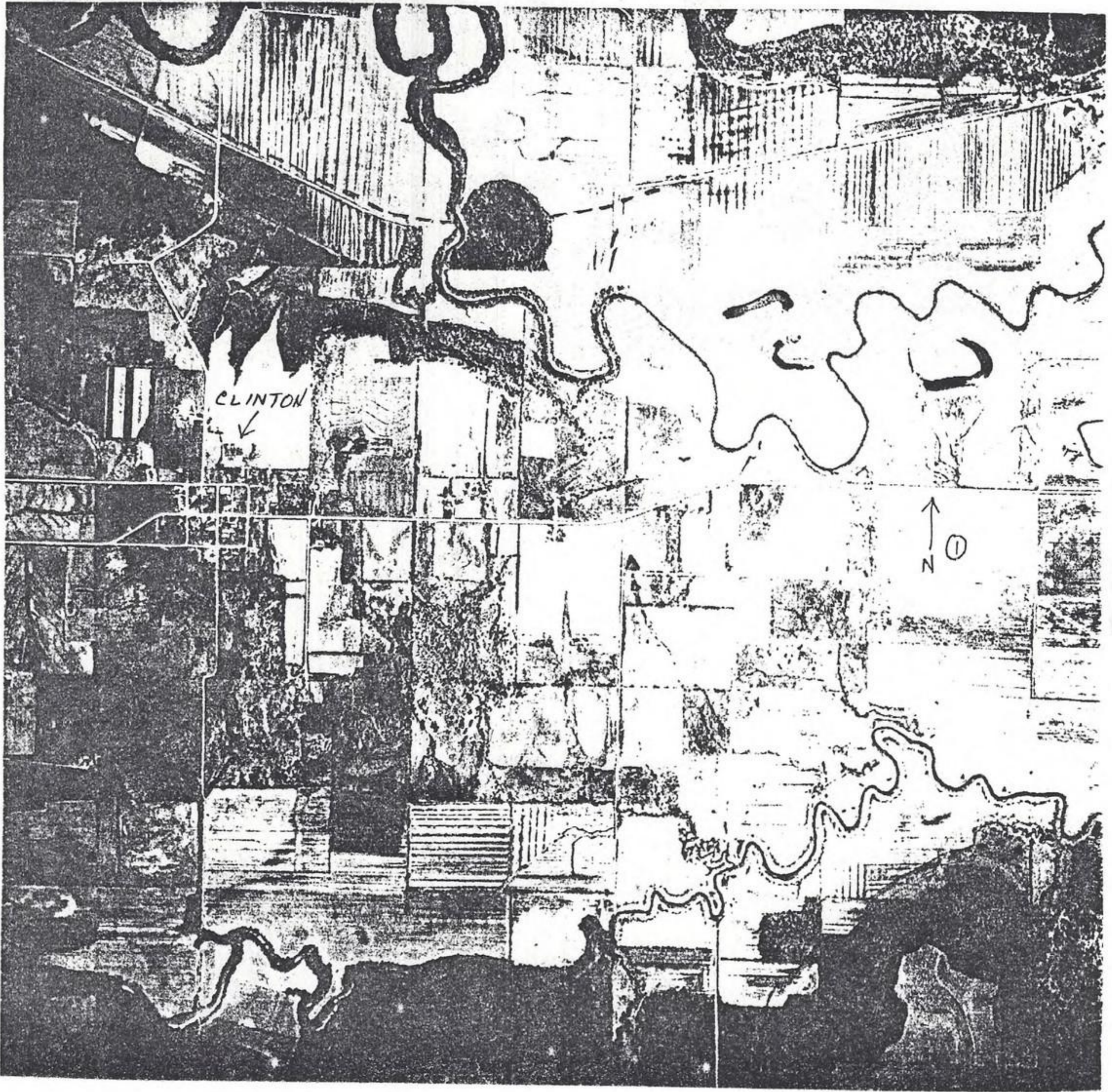
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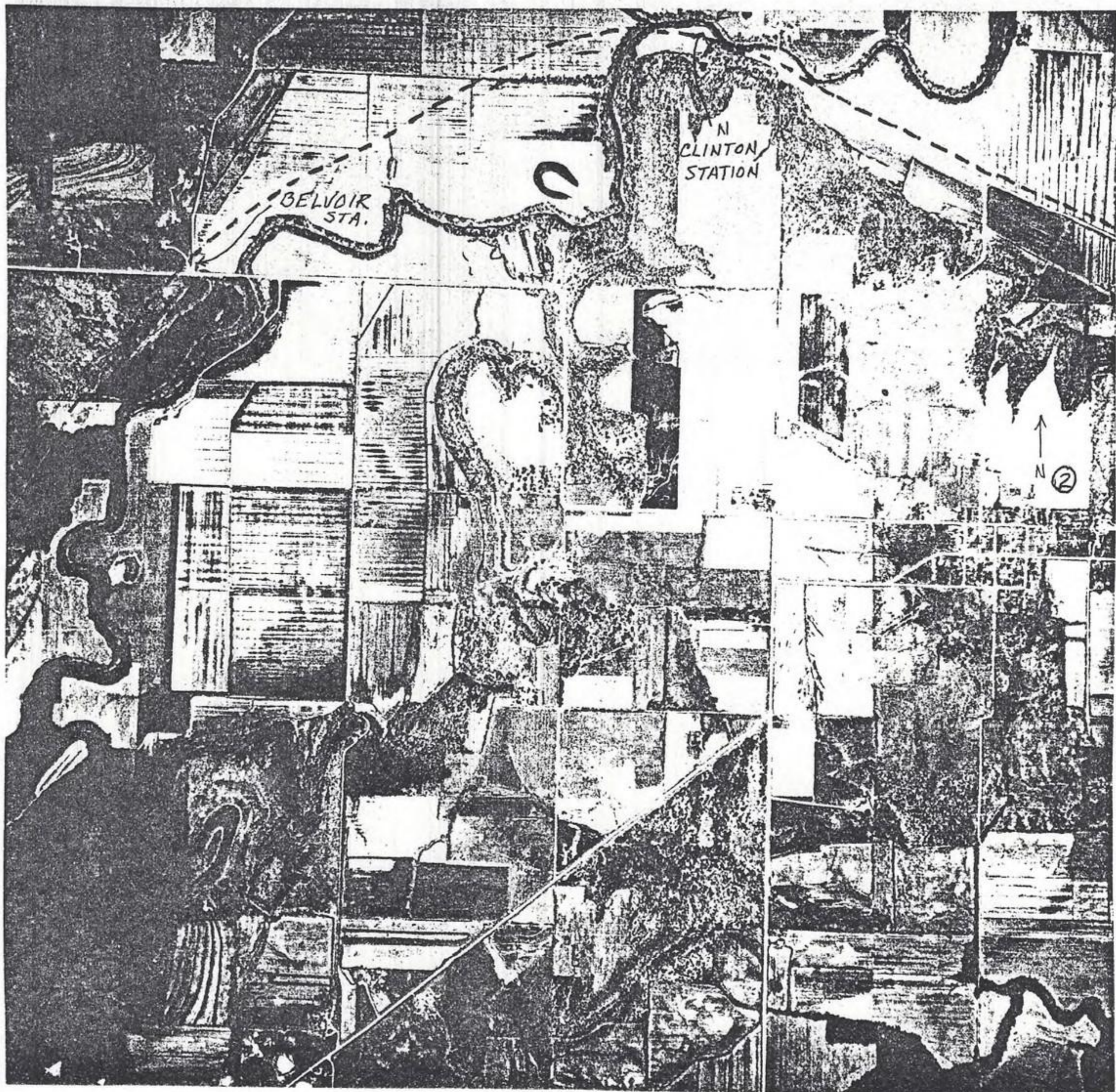
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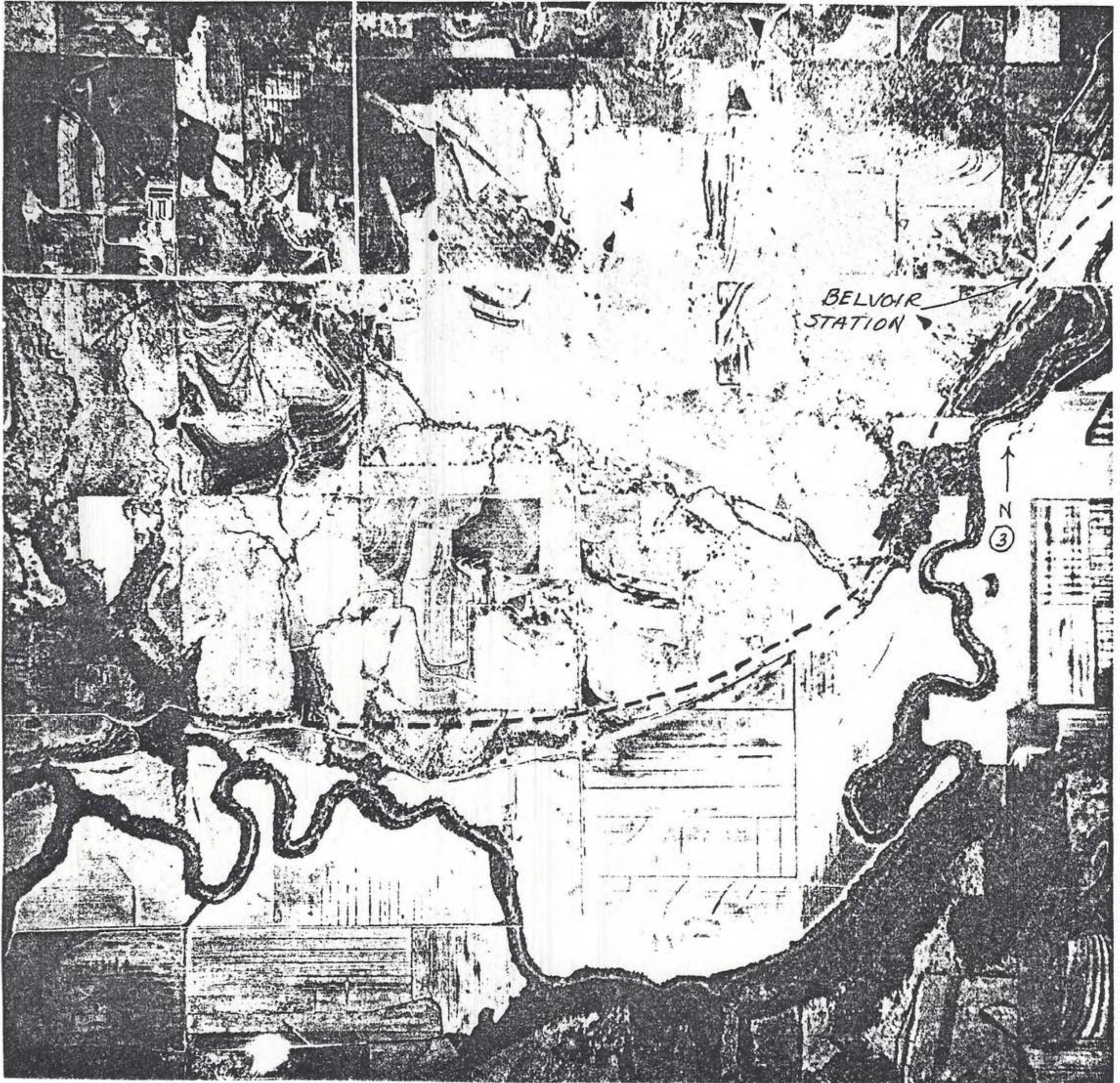
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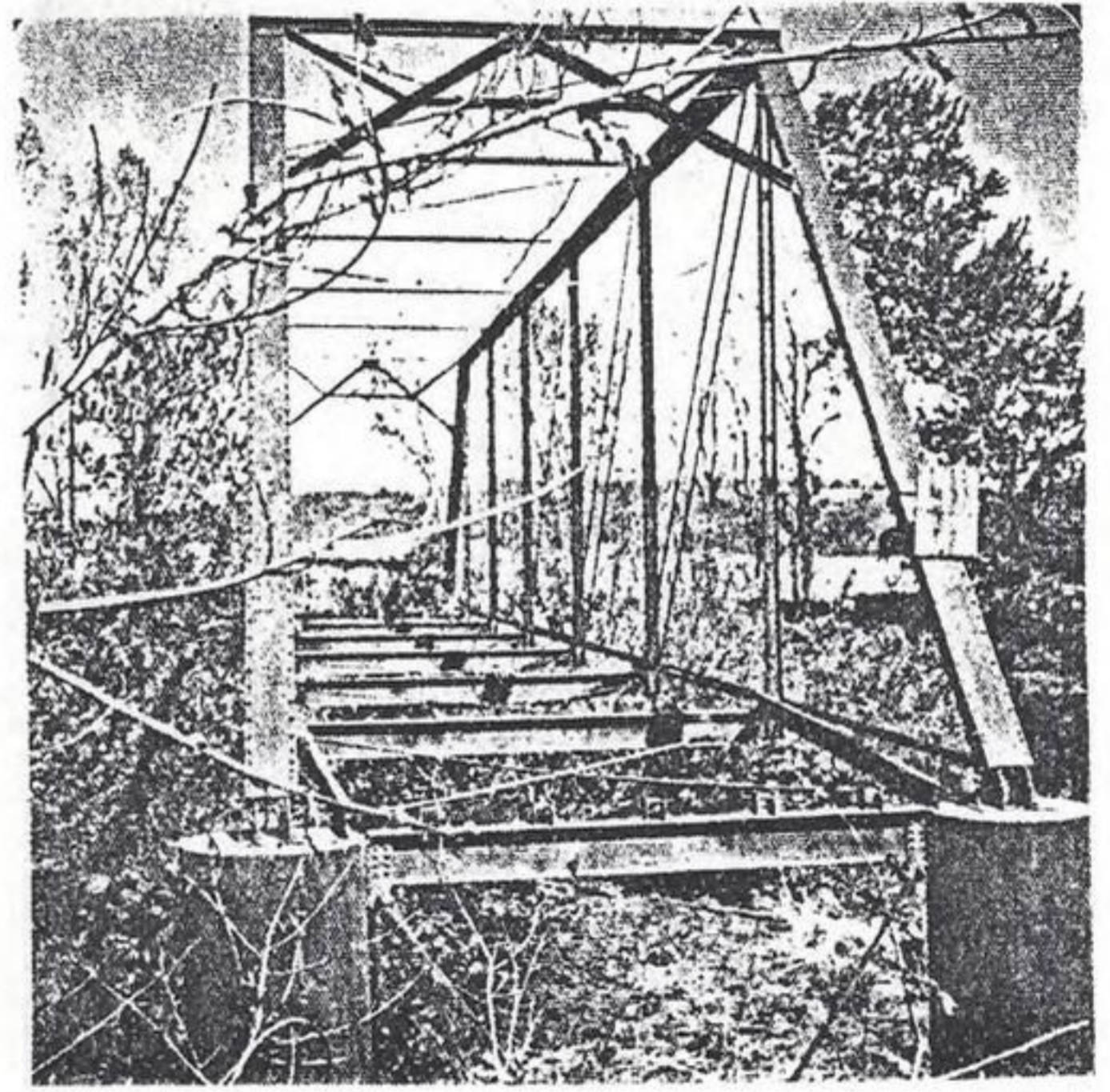
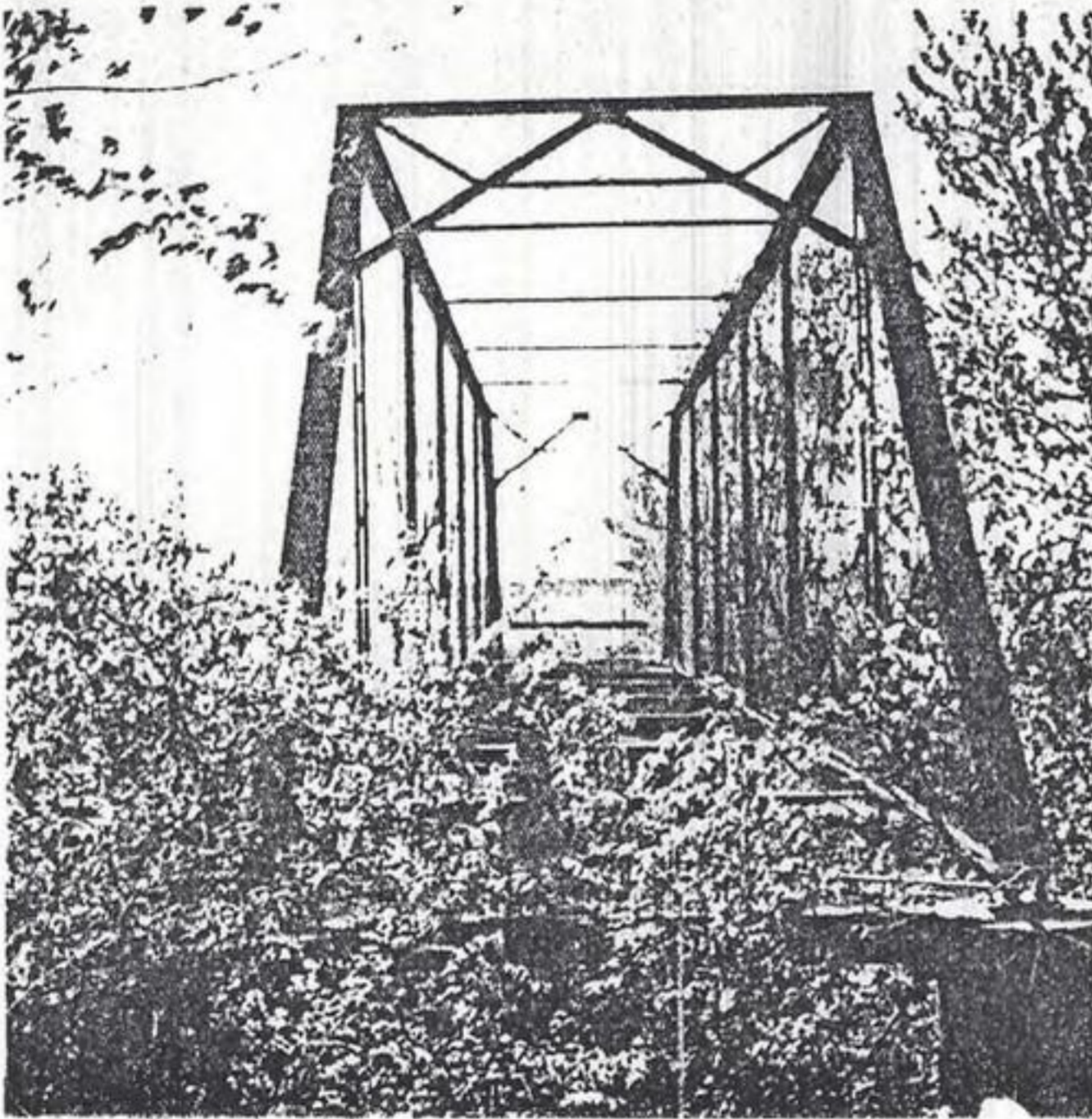
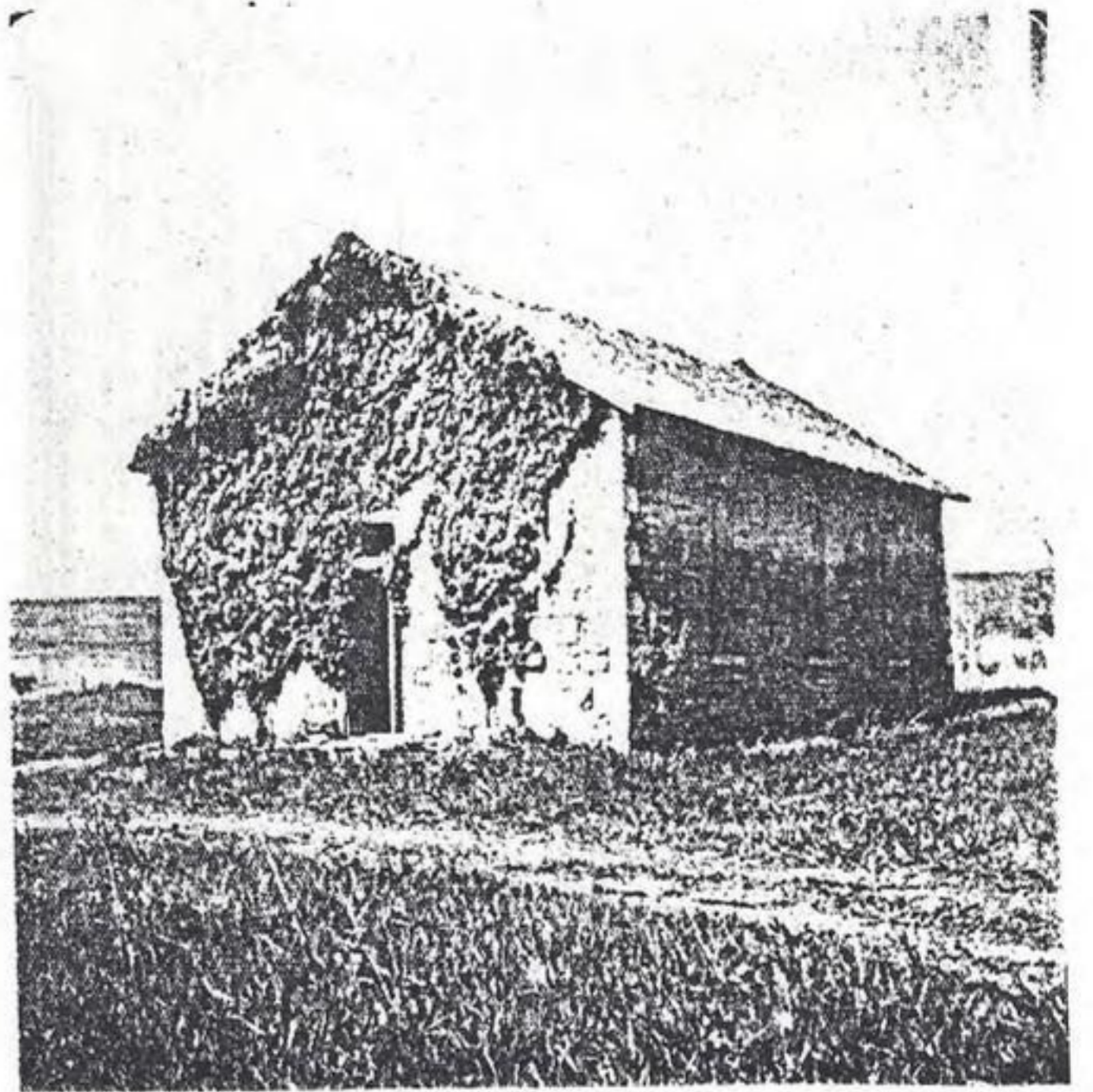
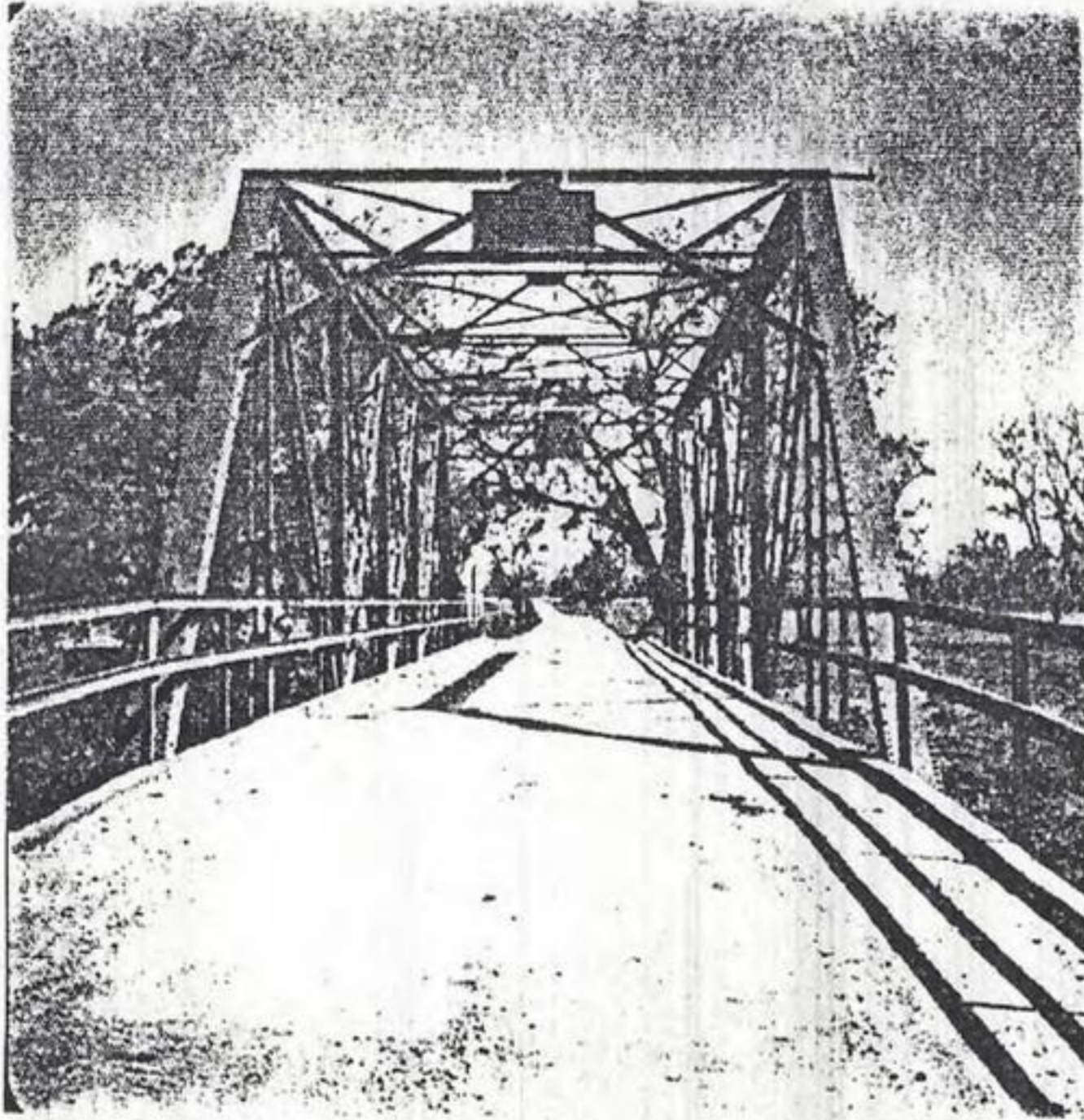
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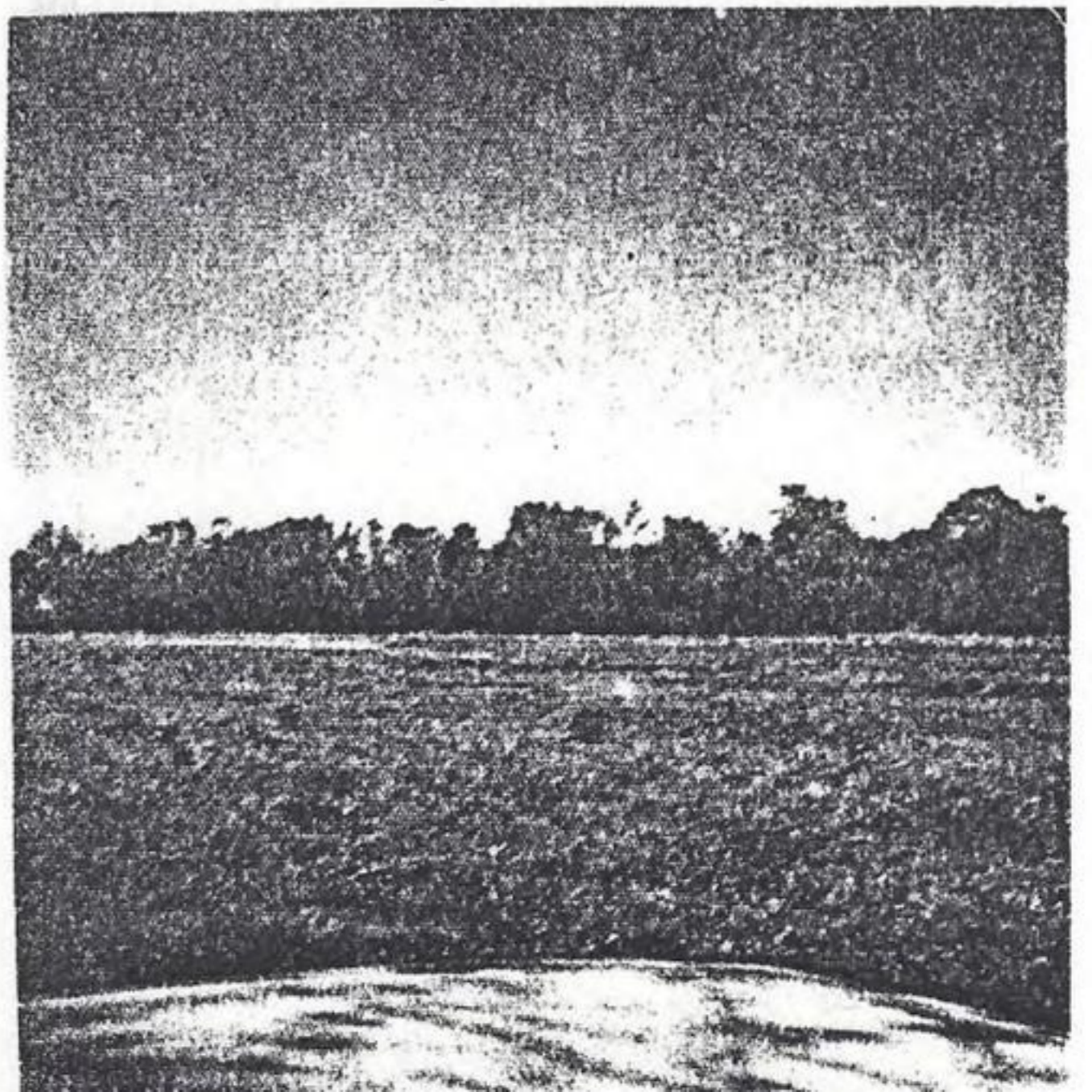
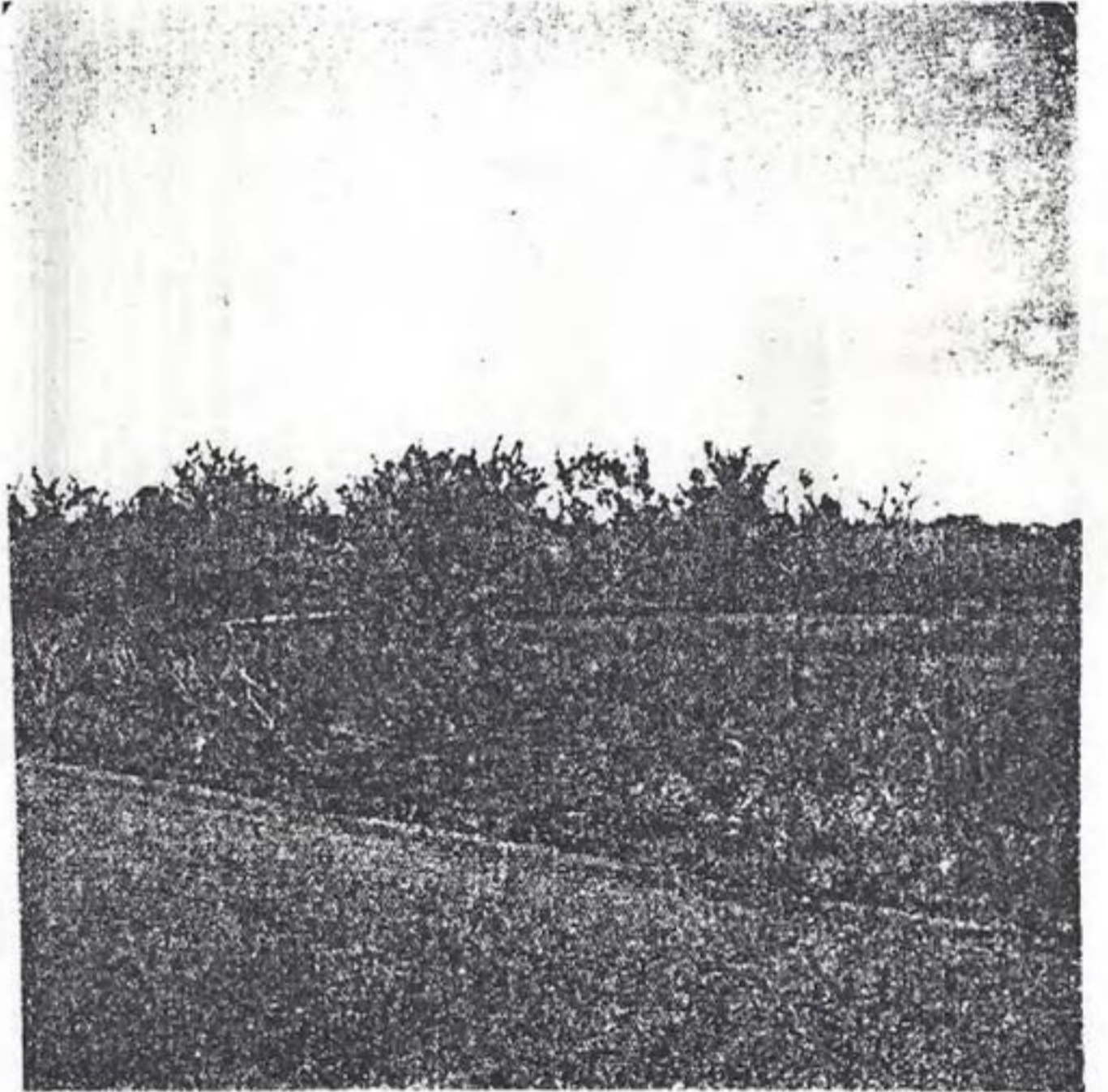
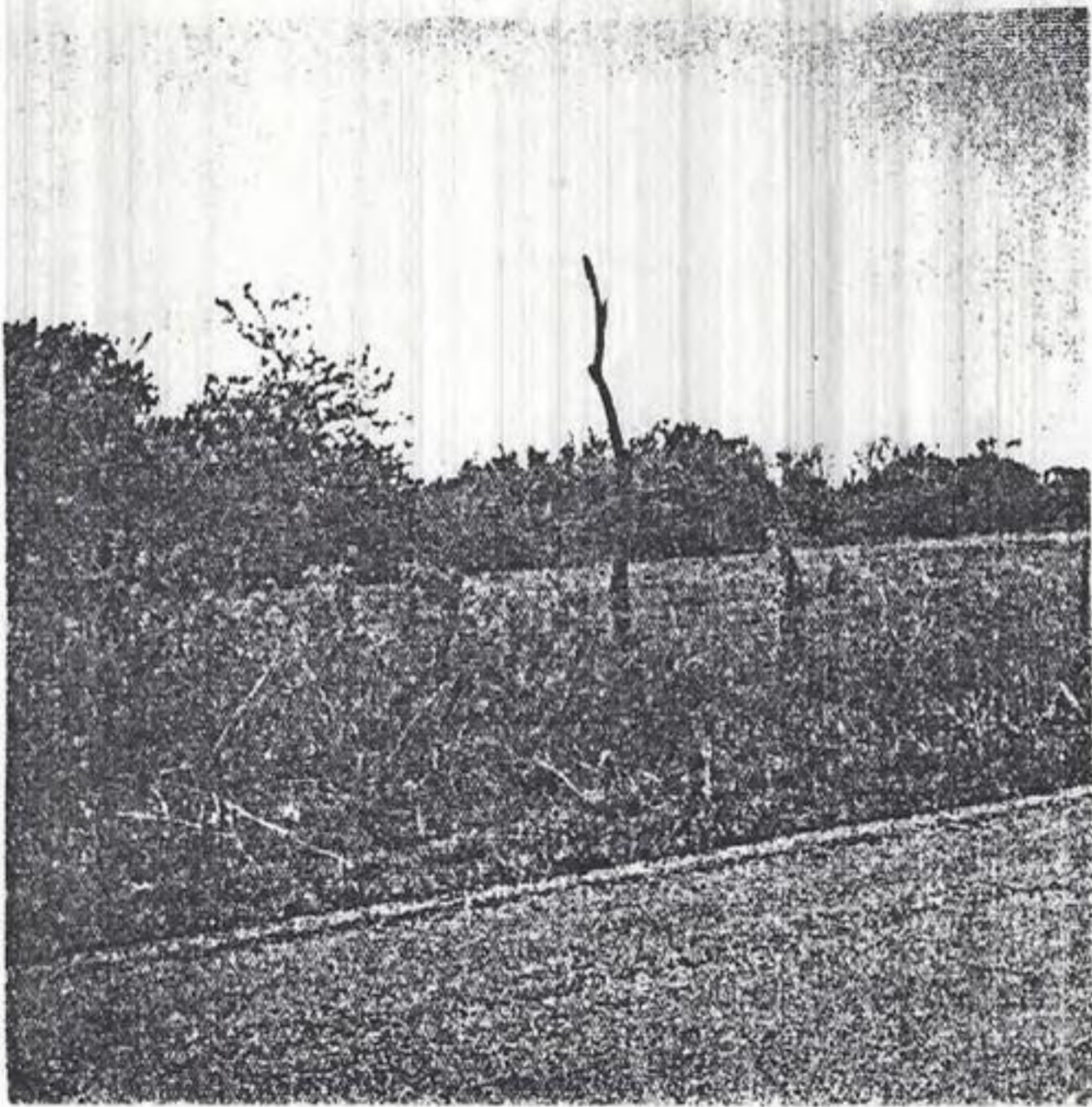
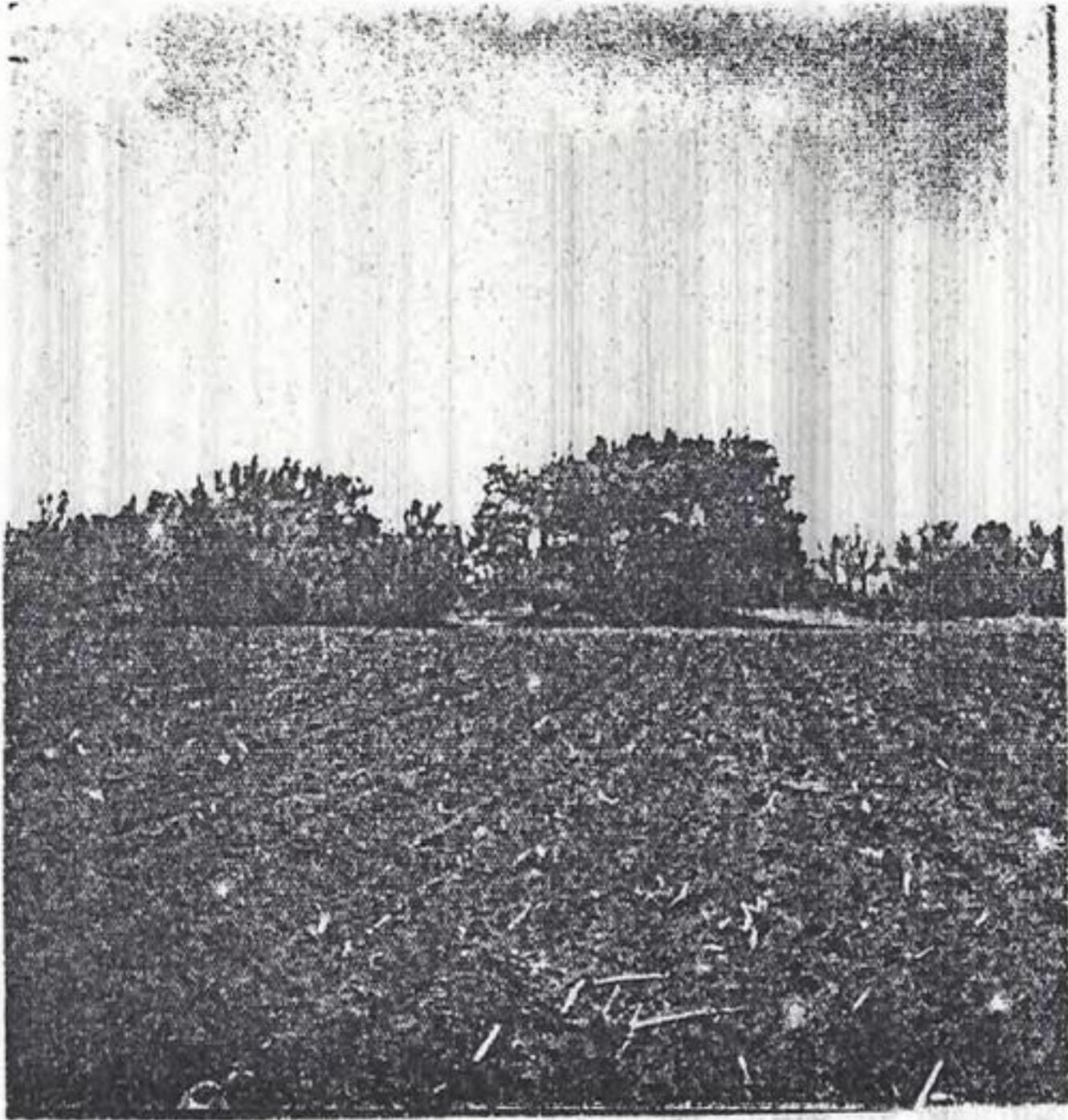
everyone else who helped me in any way along the way.

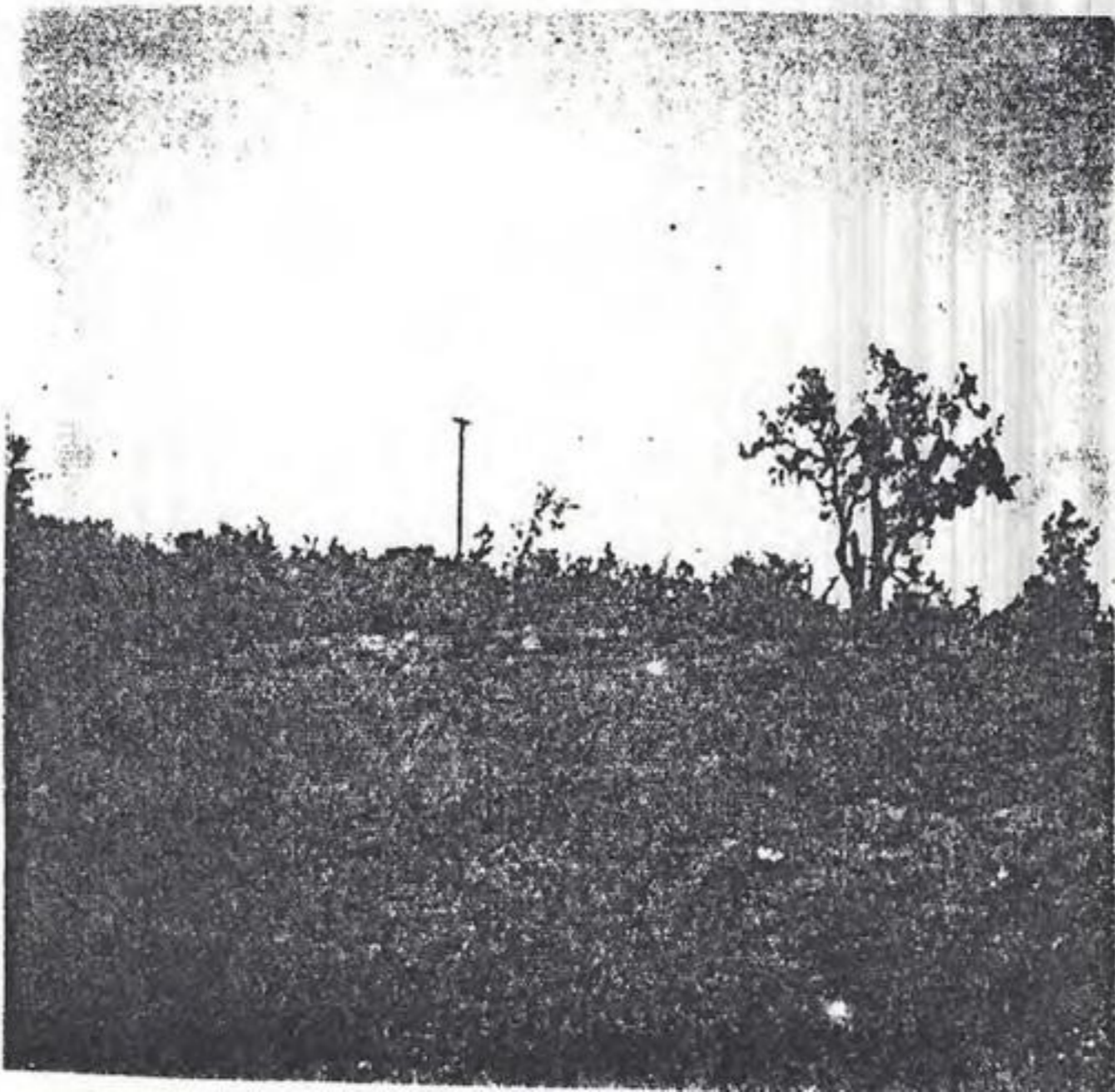
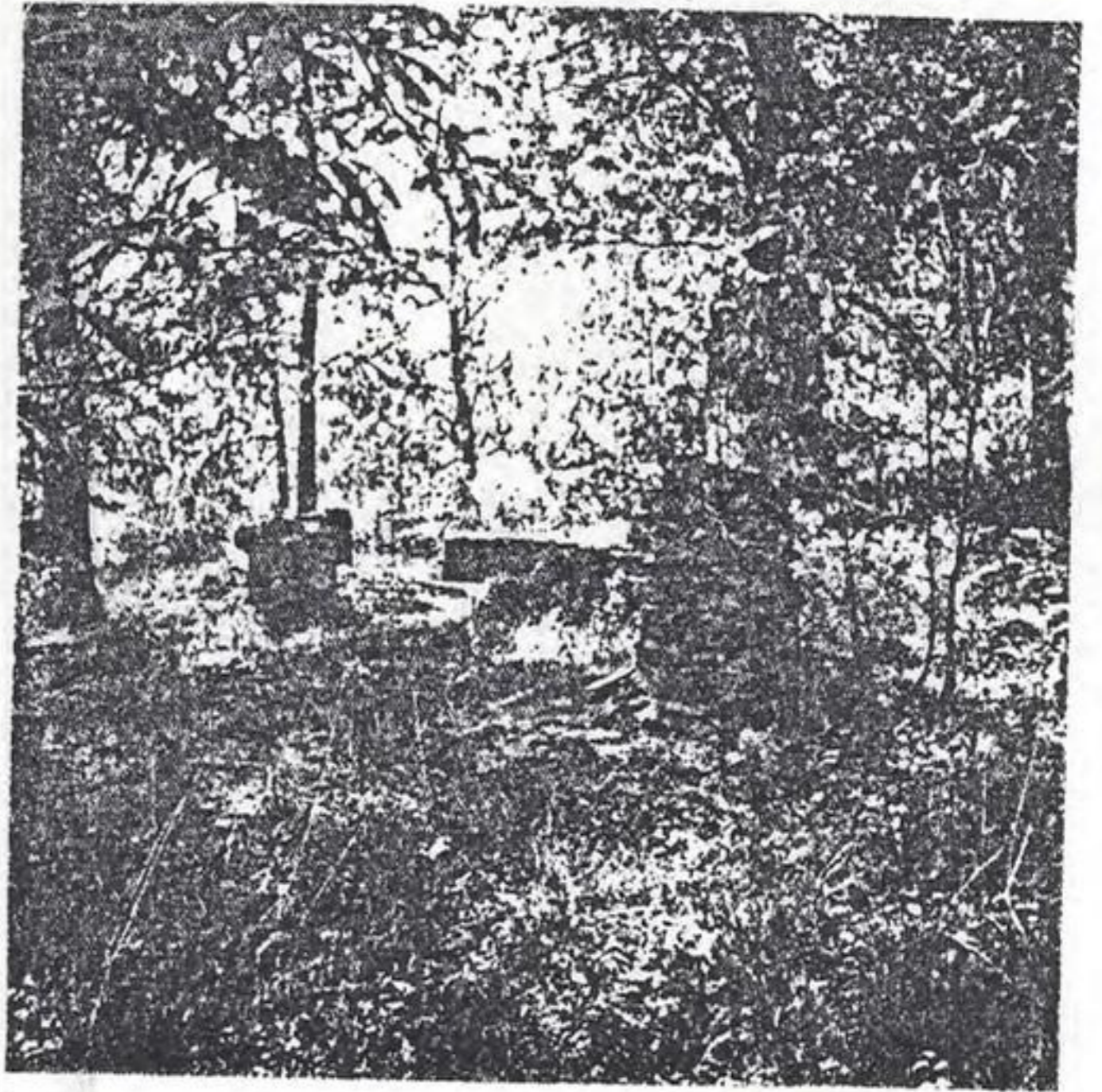
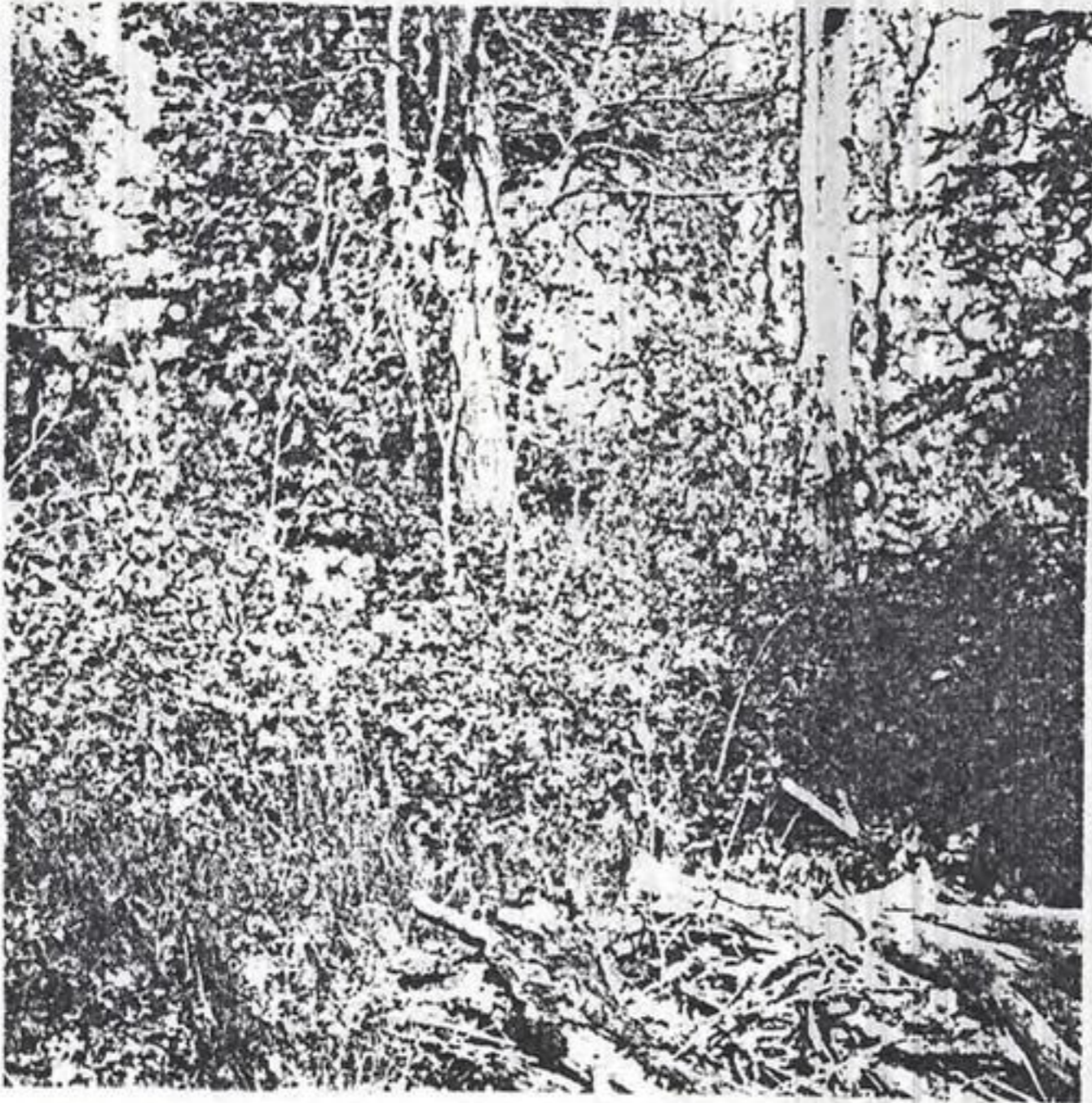
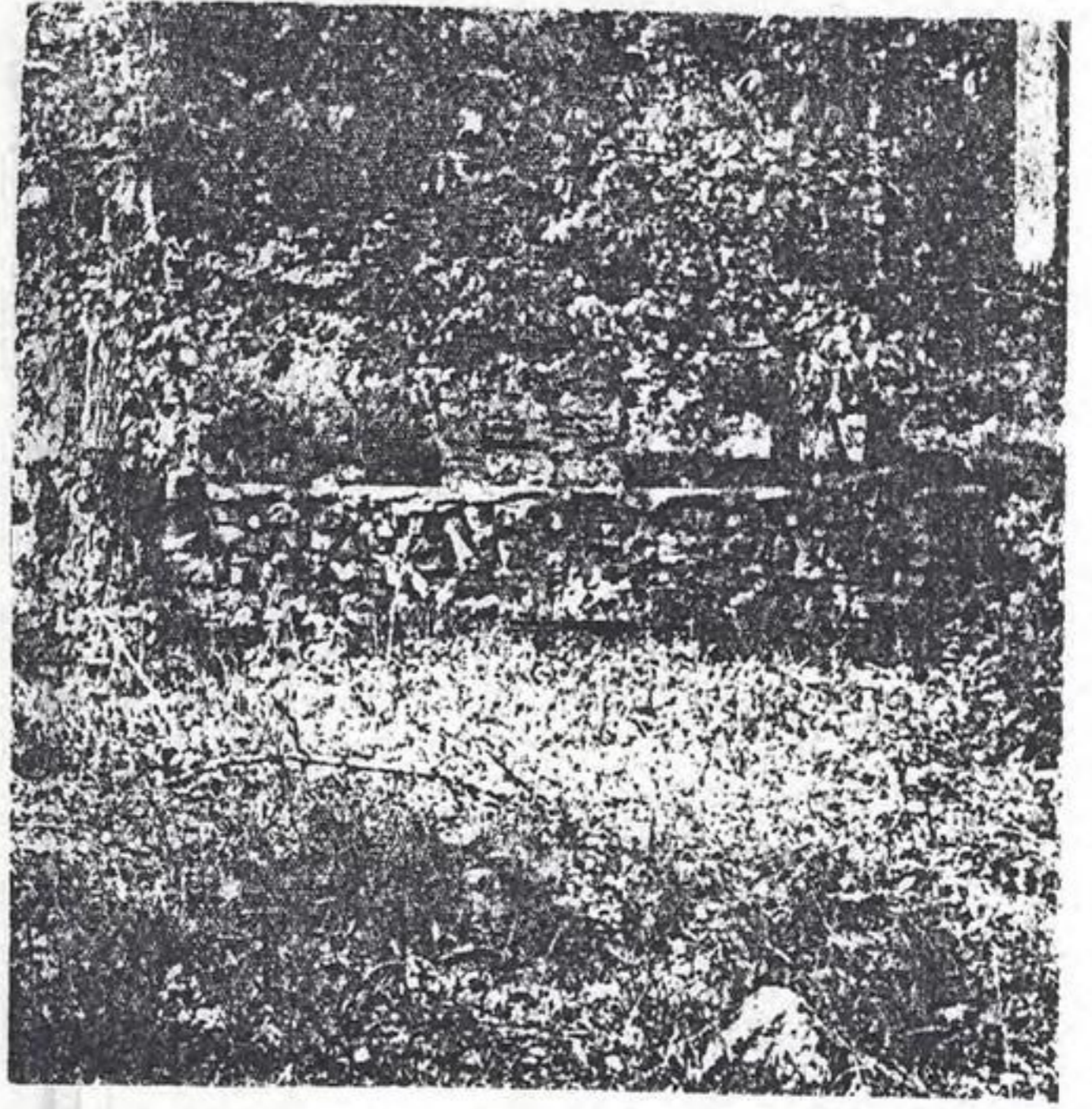
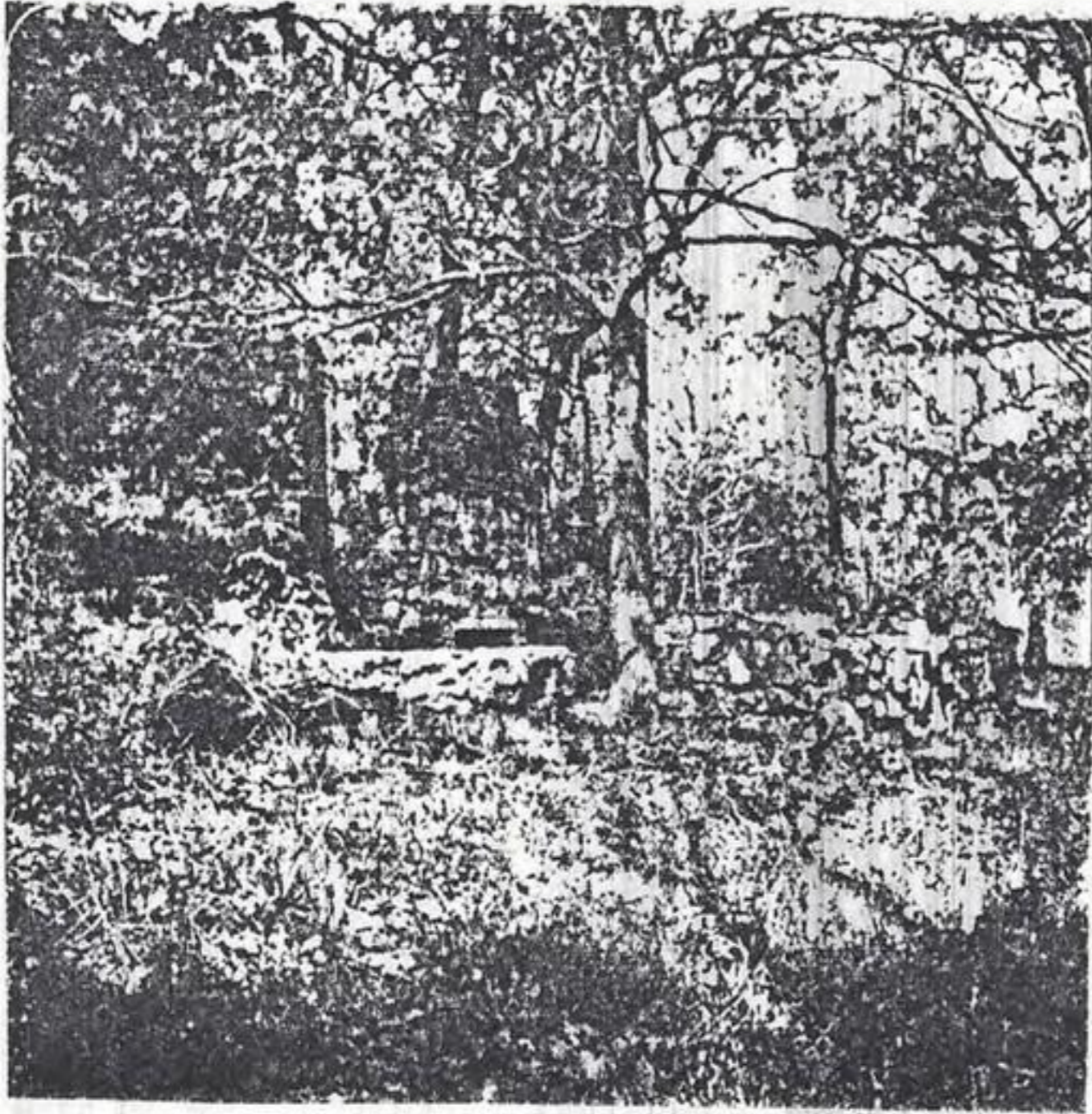


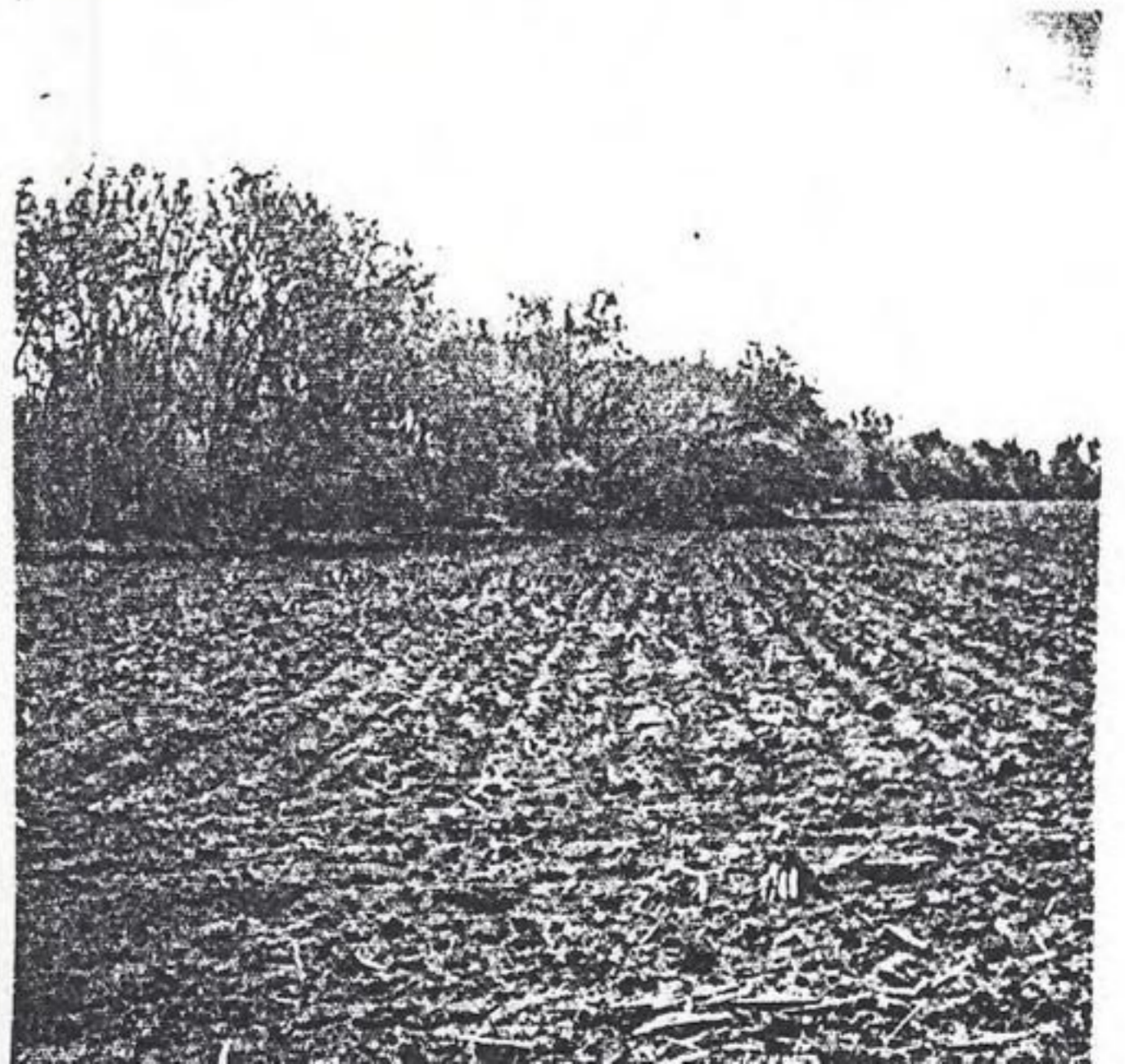
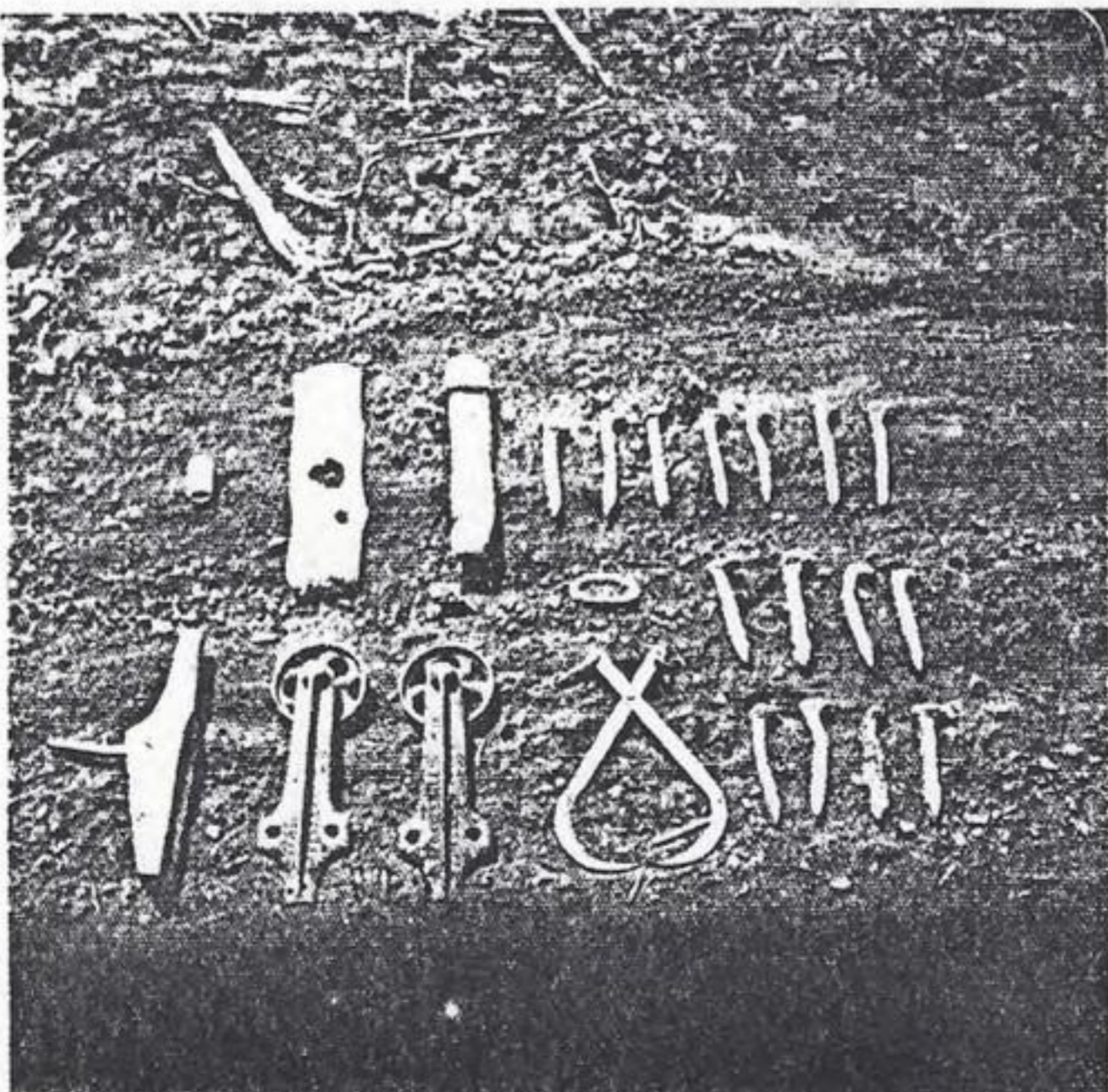
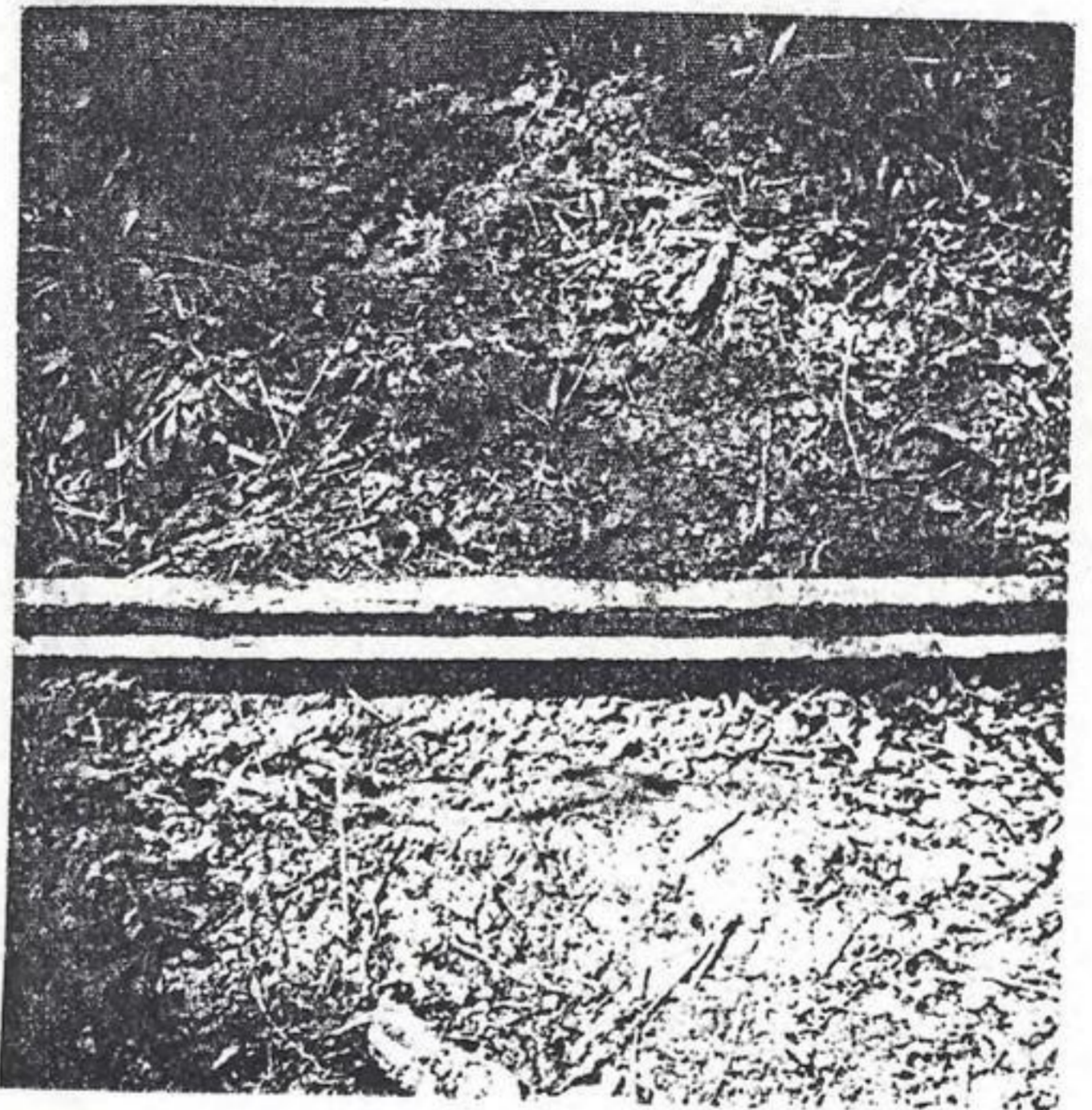
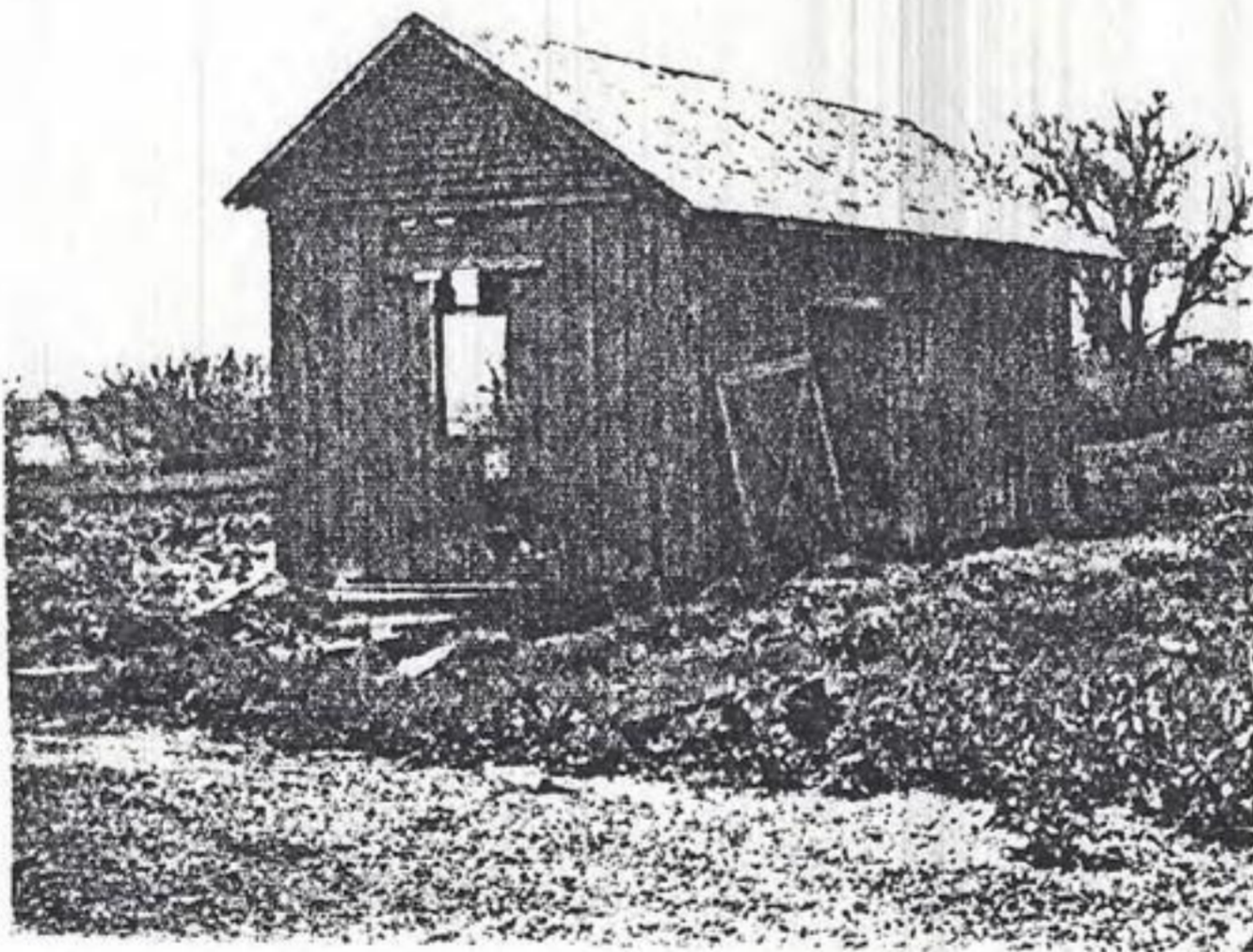
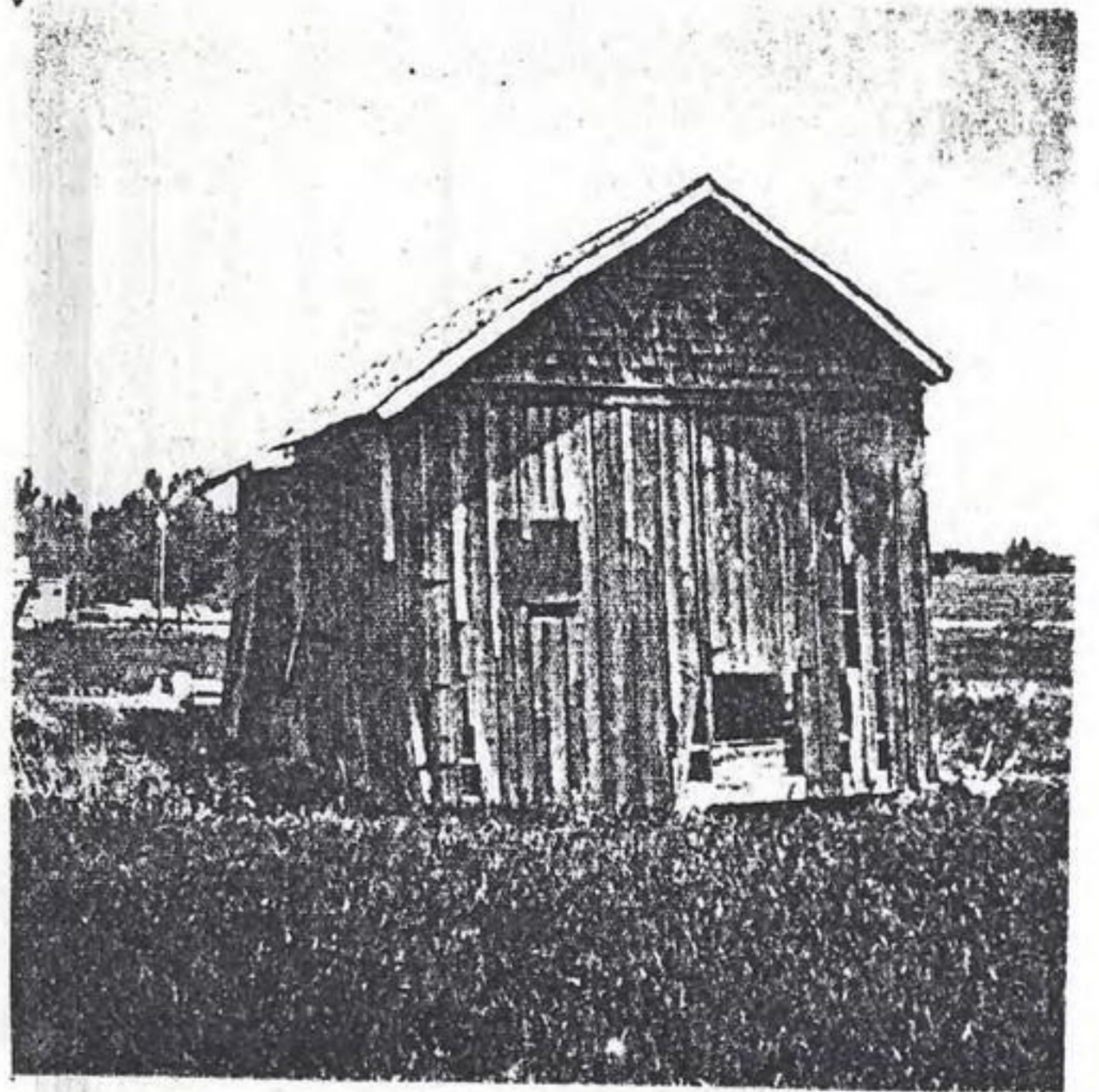
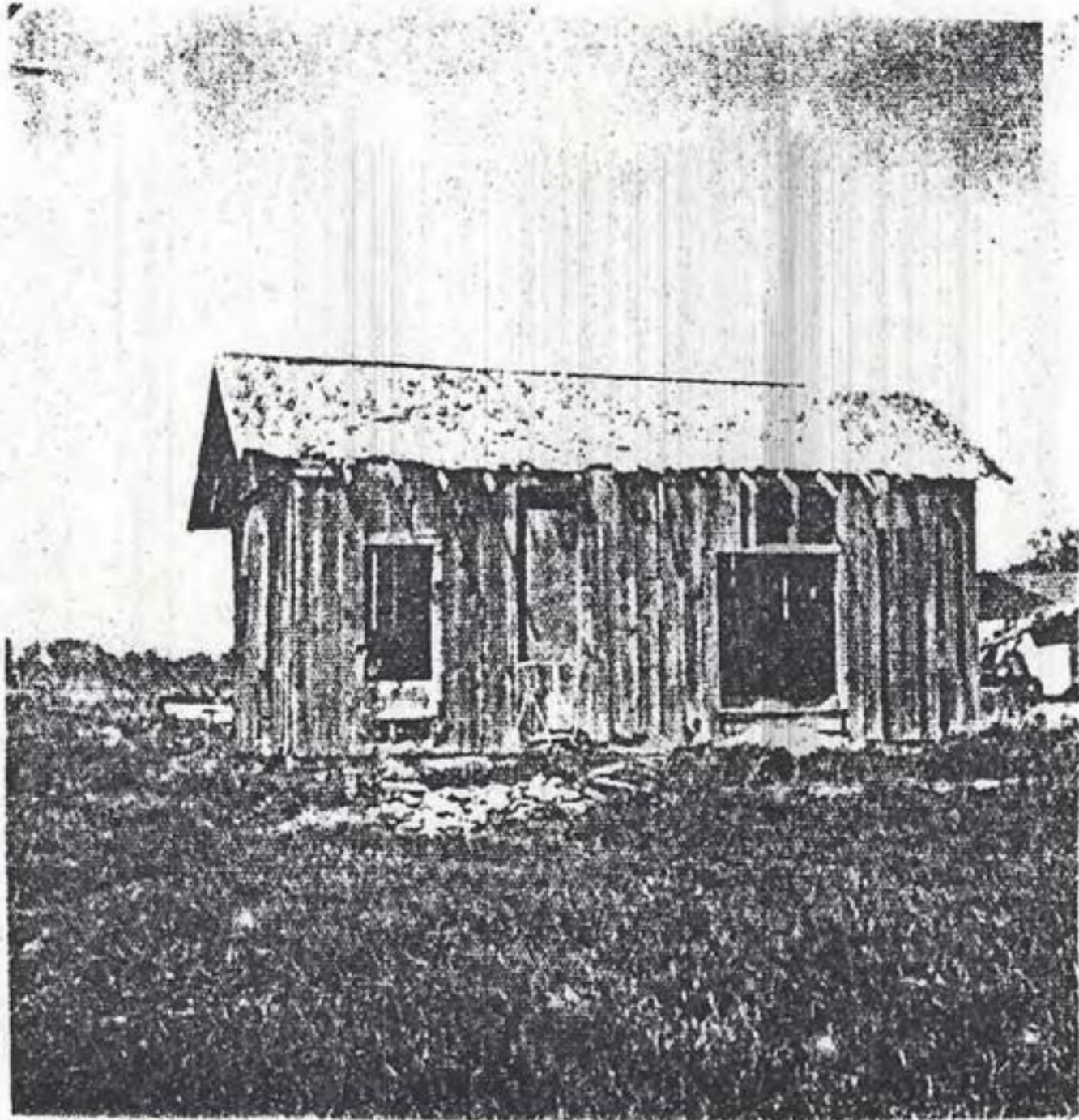












*2nd report.**The Kansas City, Kaw Valley and Western Railroad Co. (1908-1962)*

The Kansas City, Kaw Valley Railroad, Inc., until recently Kansas' sole surviving trolley system which can rightfully be called an interurban line, can point to fifty-two years of chartered existence. It was conceived on paper by one John W. McDaniel, an energetic Bonner Springs resident, as early as 1893. With steam roads pushing farther west into Kansas, McDaniel dreamed of an electric trolley line from Bonner Springs the full fourteen miles into Kansas City. Another man by the name of Mr. E. E. Winner also sought to build such an electric line and competition became swift between the two men and their dreams. In July, 1902, McDaniel and Edwin Taylor secured a county franchise to build their proposed electric line from Kansas City, Kansas to Loring, a town west of Bonner Springs on the Union Pacific Railroad. Soon after, Winner started at Edwardsville to build toward Bonner Springs. The McDaniels & Taylor project was named the Kansas City and Bonner Springs Electric Line. Work on that line actually started on October, 1904.

In March of 1908, the line elected new officers, with W. H. Caffey as president, Chas. Knabb as vice-president, John McDaniel as superintendent, A. L. Cooper as secretary, and J. D. Waters as treasurer. Waters was another booster of the growing Bonner Springs community. He succeeded in organizing the Bonner Springs Oil and Gas Company and later was important in starting the Bonner Springs Portland Cement Company. This later became the main factor in allowing the electric line to continue in operation long after other lines had become history. On April 27, 1908, the first electric car made a trip over the new line from Bonner to the cement plant. By June of that year, the line was completed to Lake of the Forest, and served to carry picnic goers to the lake as well as cement workers to the cement plant.

In June, 1909, the electric line purchased a new streetcar and the company was chartered as The Kansas City Kaw Valley Railroad. In September of that year, work was started to extend the line eastward to Kansas City. McDaniel became president of that company in March of 1910 as Bonner Springs residents subscribed

\$11,700 toward the extension of the line. However, financial difficulties came about by late summer, and in September of 1910, service was discontinued along the 4.9 mile electric route. The organization of a new company was proposed and \$42,000 worth of funds were raised to meet the needs of operation. In this time of financial distress, the line almost was swallowed up by another electric line, The Kansas City, Lawrence, and Topeka. The "Hocker" Line ran from Kansas City to East Zarah, Kansas and was seeking to push westward as it's name implied. Citizens of Bonner Springs were approached by the officials of the "Hocker" Line to help finance a bridge over the Kaw River south of Bonner and then to help construction on the north side of the river bank, west to Lawrence. Negotiations were made to the Santa Fe Railroad in hopes of using their bridge over the Kaw River to reach Bonner, but they ran into continued difficulties and were finally discontinued. This insured at least the independent future of the struggling Kaw Valley line as the "Hocker" Line never made it to Bonner Springs.

In 1913, Waters succeeded in interesting J. J. Heim, a Kansas City brewer, in the little electric line and Heim purchased the stock of the company. Heim, experienced in running electric lines as well as building them, brought in a W. R. Taylor from his home town of Farmington, Missouri to oversee the development of the Kaw Valley. Under Taylor's direction, the extension of the line east to the Kansas City, Kansas city limits was immediately begun, and a power sub-station was soon built at Muncie. On June 17, 1914, the line received four trolley cars that were forty feet long with a seating capacity of forty-six passengers. These were second-hand cars purchased from a traction company in Minnesota and were to be turned into special excursion cars when new equipment was bought. On Monday, July 20, 1914, the Kansas City, Kaw Valley & Western Railroad began operating the full 14.6 miles between Bonner Springs and Kansas City, Kansas, with a direct connection with the Metropolitan Street Railway Company tracks that traversed the City. This hookup allowed the Kaw Valley cars access to both sides

of the City, making changes inside the city limits unnecessary. On the first Sunday of it's operation, the Kaw Valley line carried 3,700 round-trip passengers between Bonner Springs and downtown Kansas City, Missouri.

Mr. Heim and associates eventually equipped the Kaw Valley line with ten all-steel passenger coaches at a cost of \$10,000 each from the Cincinnati Car Company. Some of these were reportedly second-hand at the start of their Kaw Valley run, but if so, were adequate to serve the duration of the passenger business on that line. These cars were fifty-two feet long, with center entrances, and each weighed some 52,000 pounds. They were mounted on Baldwin trucks and were fitted with four Westinghouse H.L. 306 C.V. motors and Westinghouse air brake equipment. The interior of the cars was trimmed in mohogany, while the exterior of the cars was a dark green with white trim around the windows. Above the windows were portions of stained glass, and a ^{QA} screen to keep all passengers inside the cars. The fifty-two foot vehicles could carry up to sixty people, with standing room for an additional sixty. A few of the cars were provided the additional luxuries of a baggage compartment, smoking compartment, and ladies compartment. Each passenger car carried a white uniformed motorman and a conductor wearing the traditional blue serge of railroad attire. In addition to the passenger coaches, four express cars were also purchased from the same Cincinnati firm.

With McDaniel's dream of a Bonner-to-Kansas City line realized, Mr. Heim soon acquired 21.4 miles of additional railroad right of way and pushed west on toward new achievements. The city of Lawrence, with it's student populations of Kansas University and Haskell Indian Institute and it's compact business area provided an attractive direction in which to build. Further west of Lawrence was the state capital of Topeka with it's 40,000 residents, and it ^o was part of the Kaw Valley's expansion plans. In June of 1916, several months after the line had reached the downtown section of Lawrence, a daily schedule between Lawrence and Kansas City was begun. In doing so, the Heim line marked up an

achievement that its three westward-aspiring electric rivals failed to do throughout their existence; to link the university city with Kansas City.

The building of an electric line posed several problems for its builders that a steam road such as the Union Pacific Railroad did not have to contend with. The Kaw Valley line was made no land grants by the United States government and had to acquire all of its right of way for a price that it had to pay. This was an obvious financial strain that put the electric line and lines at a severe disadvantage. However, the Kaw Valley was able to finance such expansion easier than most and continued to lay rail westward. The average rail that was laid was of the weight of seventy pounds every three feet, although other weights were used. Regular railroad ties were used, later being replaced by ties that had been dipped in creosote which lengthened the service life of the tie and lowered ^{MAINTENANCE} maintenance costs of the railroad. Three sub-stations were set up along the line at Muncie, Mahon, and Kent. Electric power was purchased from the Kansas City Power & Light Company and from the Board of Public Utilities of Kansas City, Kansas. At the three sub-stations, which were elaborately built of native stone with large paneled glass windows, were ticket offices, waiting rooms, and Westinghouse rotary converter outfits made up of high voltage transformers, switchboards, and converters. Here the 33,000 volt alternating current was transformed and stepped down to the 600 direct current as it was fed into the trolley cables.

While the Kaw Valley line maintained its route on the north bank of the Kaw and succeeded in bridging the many ^u creeks and small streams by means of steel bridges, it faced a more complicated problem in getting across the double-track Union Pacific line shared by Rock Island trains in the area immediately northeast of Lawrence. Engineers, faced with bridging Mud Creek in the same area, decided to erect a viaduct three miles northeast of Lawrence, crossing Mud Creek and the railroad tracks at the same point. An even greater problem faced the Kaw Valley on entering Lawrence from the northeast. The principle part of the

Lawrence business district lay south of the river. Permission was finally granted to run interurban tracks over the Douglas County bridge. At the south end of this crossing the line purchased right of way into the Lawrence depot at 638 Massachusetts Street and served the Bowersock Flour Mill, the Lawrence Paper Co., and oil and coal yards located on it's property. In building it's 34.7 mile line from Kansas City to Lawrence, the Kaw Valley Railroad paid taxes to three counties. From Kansas City, Kansas, to a few miles beyond Bonner Springs, the Kansas City, Kaw Valley, and Western ran in Wyandotte County, then crossed over into the southern edge of Leavenworth County for about fifteen miles, finally laying four miles of track in Douglas County.

Following the completion of the 34.7 mile line from Kansas City to Lawrence, plus a few miles of leased track in Kansas City, Missouri, the Kaw Valley continued to look west for expansion. During late 1916 and early 1917, a route was surveyed from Lawrence to Topeka, some right of way was purchased and materials were brought to Lawrence for the continued expansion of the line. However, World War intervened and the expansion plans, though contemplated as late as 1923, were to remain~~ed~~ only on the drawing board and in the dreams of it's proponents. Even in being denied Topeka the Kaw Valley and it's owners were successful in that they were the only ones of four electric lines to dream of entering Lawrence to actually do so.

The route of the Kaw Valley in it's 34.7 miles reeled along the bluff most of the fourteen mile trip into Bonner. Leaving the Kaw River at Bonner Springs, the Kaw Valley line cut across in a ten mile diagonal to the town of Linwood, then resumed it's meandering course along the Kaw the remaining ten miles into Lawrence. Of the towns and cities along the route surviving to now are only Kansas City, Kansas, Kansas City, Missouri, Muncie, Edwardsville, Forest Lake, Bonner Springs, Linwood, and Lawrence. Most of the above named places had especially constructed stations with ticket sellers, waiting rooms, and in some cases, baggage rooms. The remainder of the stops boasted only shelter houses

of wood or cement along the trolley track which contained an open platform, two back to back benches, and a small canopy overhead to protect the passengers from any inclement weather. Tickets were sold before boarding the cars only in the regular stations, and it was the conductor's duty to collect and punch the tickets as the passengers boarded the cars. The full list of scheduled or flag stops along the route included Kansas City, Kansas (City Park Limit), Mattoon, Sirridge, Francis, Flag Stop No. 8, Ferry Road, De Freese, Muncie, Riverside, Grinter, Vera, Flag Stop No. 13, Betts Creek, Flag Stop No. 14, Edwardsville, Forest Lake, Cement, Bonner Springs, Philo, Flag Stop No. 20, Little Kaw, Mahon, Flag Stop No. 25, Jewett, Riley Springs, Sarcoxie, Harbaugh, Cisco, Linwood, Flag Stop No. 30, Harris, Quinlan, Denzer, Delaware, Lansdown, Kent, Flag Stop No. 36, Lawson, Bismark, and Lawrence. The schedules of various years on the Kaw Valley can be seen in the following timetables from the Railway Guide that appear after this report.

Passenger travel was greatly diversified on the Kaw Valley line. Residents all along the line used it as a means of transportation to and from the larger cities of Kansas City and Lawrence. Bonner Springs and Lawrence women found it convenient to use the line for extensive shopping trips in Kansas City. Many riders used the line as transportation to and from their various jobs along the line and in the cities. Lawrence, home of the University of Kansas, supplied many riders as students, faculty, friends, and relatives used the line to go to the university. During the fall and football season the demand for transportation grew as alumni and football fans flocked to see their teams in action. The K.C., K.V. & W. cars usually terminated their runs at the interurban depot in Lawrence, a good two miles from the campus and football stadium. Permission was granted the interurban line to operate Kaw Valley cars on the street car tracks south to Mt. Oread, the hill on which Kansas University is located, in southern Lawrence. Afternoon football games on Thanksgiving Day would draw such heavy crowds that the Kaw Valley would run two double car trains and also some extra cars to the

university city. After the contests, the passengers could walk from the stadium to Mississippi Street where their cars would be waiting to take them home. The entire distance from Kansas City, Kansas to Lawrence cost \$1.08 for a one way fare. Station to station fare was usually a dime where shorter stops were figured on an average of two and a half cents a mile.

The anticipated 25% of revenue from the carrying of freight was gradually increased until it provided the greater share of profit sources. Milk, sand, cement, produce, coal, paper, flour, bricks, gasoline, livestock, grains, and even carloads of automobiles were all products shipped on the Kaw Valley line. After the post-World War 1 years had seen the rise of both passenger and freight traffic on the Kaw Valley line, the pre-Depression years looked bleak. In 1927 bankruptcy proceedings began, although this did not interrupt service in any way. By 1931, most of the interurban companies were going broke and were disappearing from the Kansas horizon. In 1932 the Kaw Valley was forced into receivership, salaries were cut, services curtailed and small freight stations abandoned in order to cut down costs. Finally, a petition was filed with the Kansas Corporation Commission asking that trolley service be abandoned between the towns of Bonner Springs and Lawrence (21.4 miles). Soon after, a petition was also filed for the abandonment of passenger trolley service between Kansas City and Bonner Springs, substituting a motor coach (bus) line in its place. On June 13, 1935, trolley service had been stopped between Bonner and Lawrence and on July 28, 1935, passengers were picked up by one of sixteen new buses. The new buses would also carry mail between the two cities. Each bus was labeled the "Kaw Valley Stage Line".

For fourteen more years freight service was continued between Kansas City and Lawrence until on August 14, 1949, permission was granted to abandon that 21.4 mile section of line. Therefore, on December 1st of that year service was stopped and in 1951, the 21.4 miles of track and overhead was taken down. The Kansas City to Bonner Springs line continued to haul coal to the cement plant

in Bonner and also served the Coldstream Cereal Company through the mid-fifties. The Lone Star Cement Plant proved to be the life blood of this dying line as the remnant of the Kaw Valley system served this facility until the fall of 1961 when operations were ceased for good. The Kaw Valley Railroad sold its bus line to the Kansas Trails bus line in 1956. In 1955, the old right of way between Bonner Springs and Lawrence was sold in several parts to the Kansas Highway Commission for widening and rebuilding of the Kansas Highway 32.

Long after the final demise of this last electric line in Kansas, there exist several reminders of this lines past existence. At Lawrence, the Union Bus Depot is housed in the former depot of the Kaw Valley. Two miles northeast of Lawrence, there still stands two great concrete piers where the Kaw Valley crossed both the Union Pacific Railroad and Mud Creek. In Linwood, the Big Stranger Creek^{Bridge} still stands and is used as a bridge for a dirt road. Bonner Springs still shows a couple of the old siding tracks now used by the Union Pacific and also a brown-brick shanty that once was part of the Kaw Valley. Finally, in Kansas City, Kansas there is the Kaw Valley bridge that first separated it from the tracks of the Kansas Public Service System. That bridge is now used by the Kansas City Southern as a transfer point to the Union Pacific and Rock Island yards.

Though also dismantled in the end, the Kansas City, Kaw Valley & Western Railroad was a [Ⓢ]successful electric line for many of its fifty-four years of existence. Transportation changes and economic factors played against the continued success of this line as it did against all such operations. But the line did reach farther westward than its other competitors did and struggled to maintain service as long as it could. When financial difficulties proved to severe, it too had to cease as an integral part of our transportation mean. Our state and country is the worse off for the disappearance of these lines as the personal touches and caring they represented have long been sacrificed for the speed and quantity our present day society demands.

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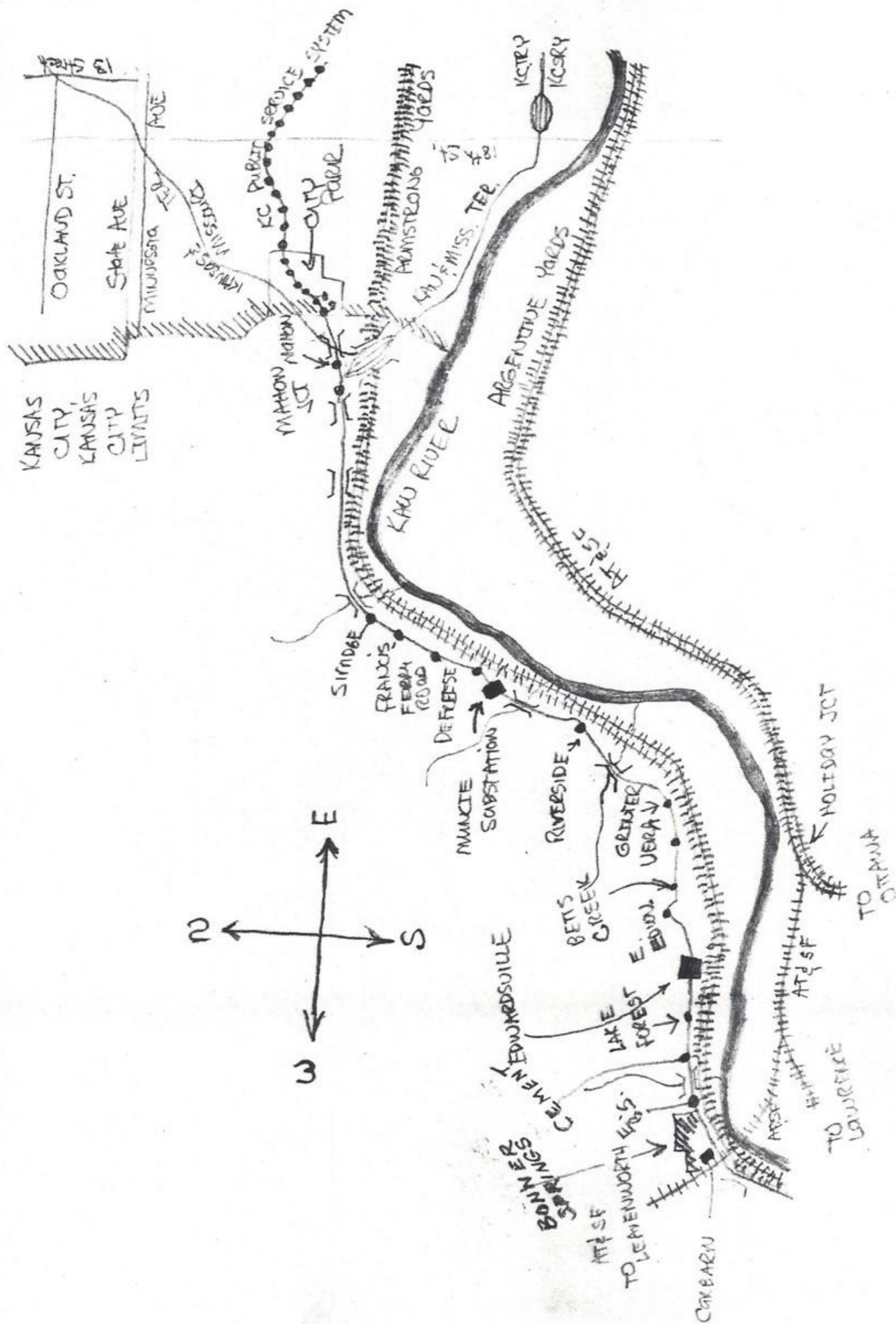
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Kansas City KAW Valley & Western RAILROAD

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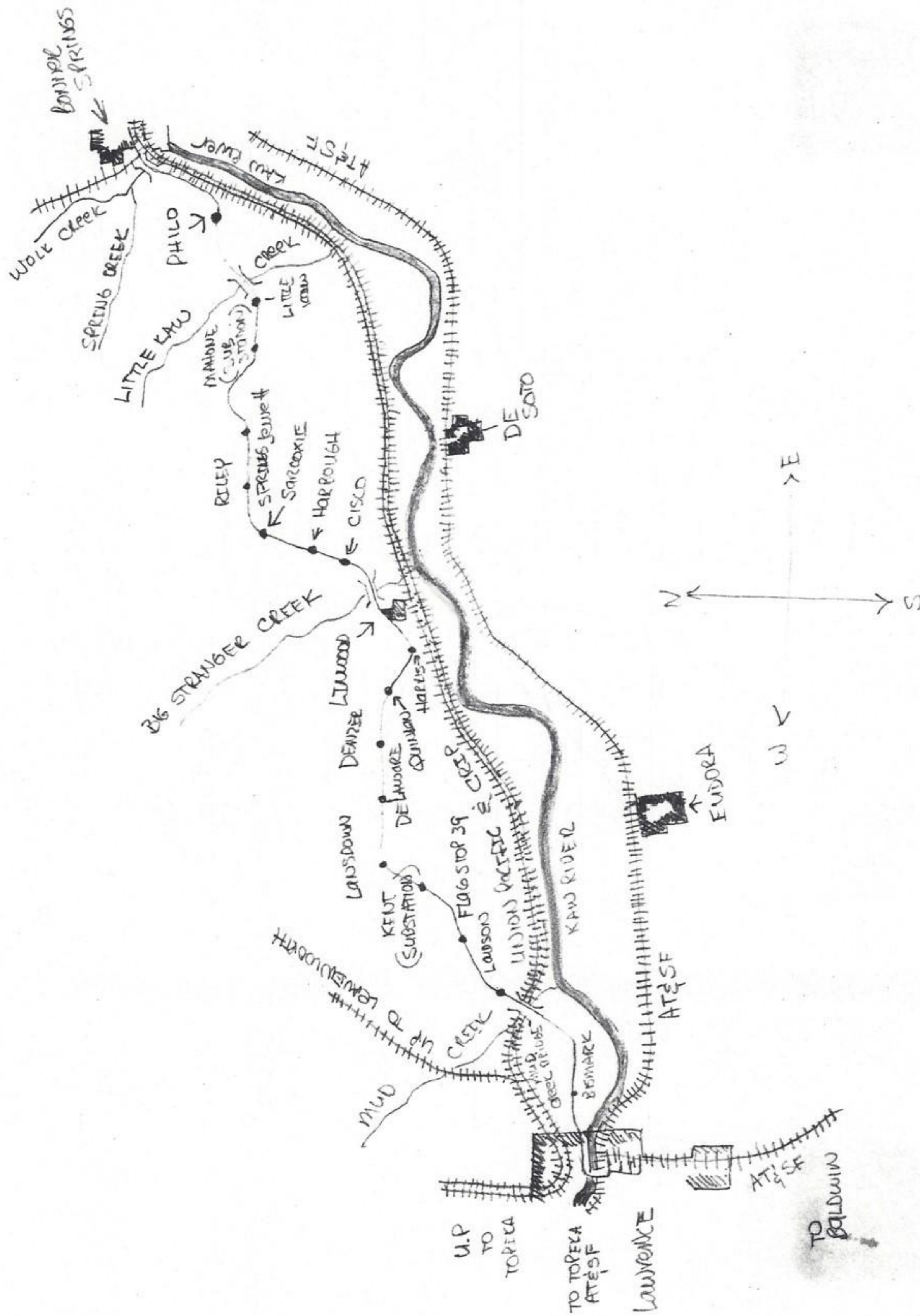
Eastern Division 14.6 MILES

AFFILIATED KANSAS & MISSOURI RAILWAY & TERMINAL 10.5 MILES



Route of Kansas City, Kaw Valley & Western Railroad
 WESTERN DIVISION 21.4 miles

671231-186



KANSAS CITY, KAW VALLEY RAILROAD, INC.
1942 - 1943

No. 101

PASS Mr. L.M. Coffey,

ACCOUNT G.A. New York Central RR.

UNTIL DECEMBER 31, 1943, UNLESS OTHERWISE ORDERED
SUBJECT TO CONDITIONS ON BACK HEREOF

VALID WHEN COUNTERSIGNED
BY W. R. TAYLOR

COUNTERSIGNED

W. R. Taylor
PRESIDENT

1942-43 (obverse)

1942-43 (reverse)

(mentions buses in format)

(also, name change of road)

CONDITIONS

This Pass is not transferable, will be taken up by Conductor if presented by any other than the person named, or if any alteration, addition or erasure is made upon it, and may be revoked without notice. The person accepting and using this Pass, in consideration of receiving same voluntarily assumes all risk of accidents and damages, agrees that the acceptance of this Pass is the acceptance of all of its conditions, and expressly agrees that Kansas City, Kaw Valley Railroad, Inc., shall not be regarded as a common carrier, nor is liable to him for any injury to his person or any loss or damage to his baggage which may occur while using this Pass, whether caused by the negligence of the company's agents or otherwise, and he agrees to identify himself whenever requested.

I accept the above conditions and certify, as a condition precedent to its issuance to me, that the acceptance of this Pass is not a violation of the laws of the State of Kansas or of the Acts of Congress of the United States.

L.M. Coffey

This Pass will not be honored unless signed in ink by the person to whom issued before presentation for passage.

Good on Buses.
Not Good for Local Fare in Kansas City