

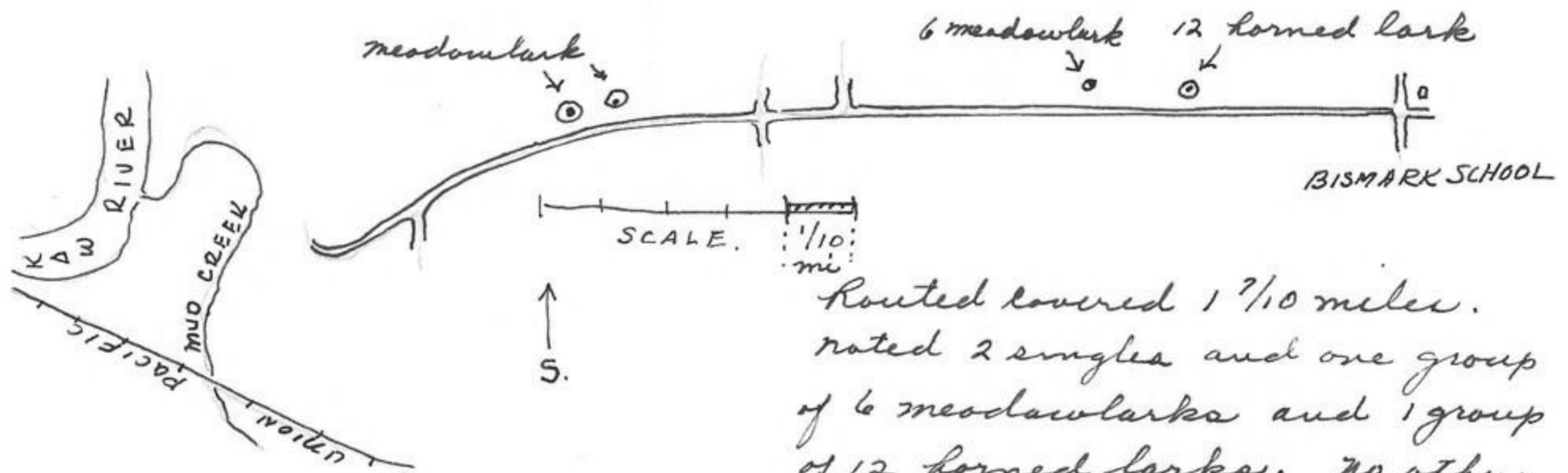
JOURNAL 1962

JAMES W. BEE

River Bottoms, approx. 2 mi. E of North Lawrence, Douglas and Leavenworth Cos, Kansas.

Jan 14, 1962

Surveyed river bottoms from Bismark School, east to mud creek and returns. Visibility approx 2 blocks on each side of the road (old railroad grade). Snowing, wind from N, temp approx. 28°F. Snow gradually covering ground and by this evening should be several inches deep. 9:30 AM to 10:30 A.M.



Route covered 1 7/10 miles. Noted 2 singles and one group of 6 meadowlarks and 1 group of 12 horned larks. No other bird or mammal was noted.

Ordinarily this area supports several hundred larks and several groups of longspurs. Horned larks feeding and resting, usually behind some type of barrier such as a hickock of soil or the basal part of a corn stalk or weed. One horned lark limping as if leg had been frozen.

Lawrence, Douglas Co., Kansas

Jan. 14, 1962

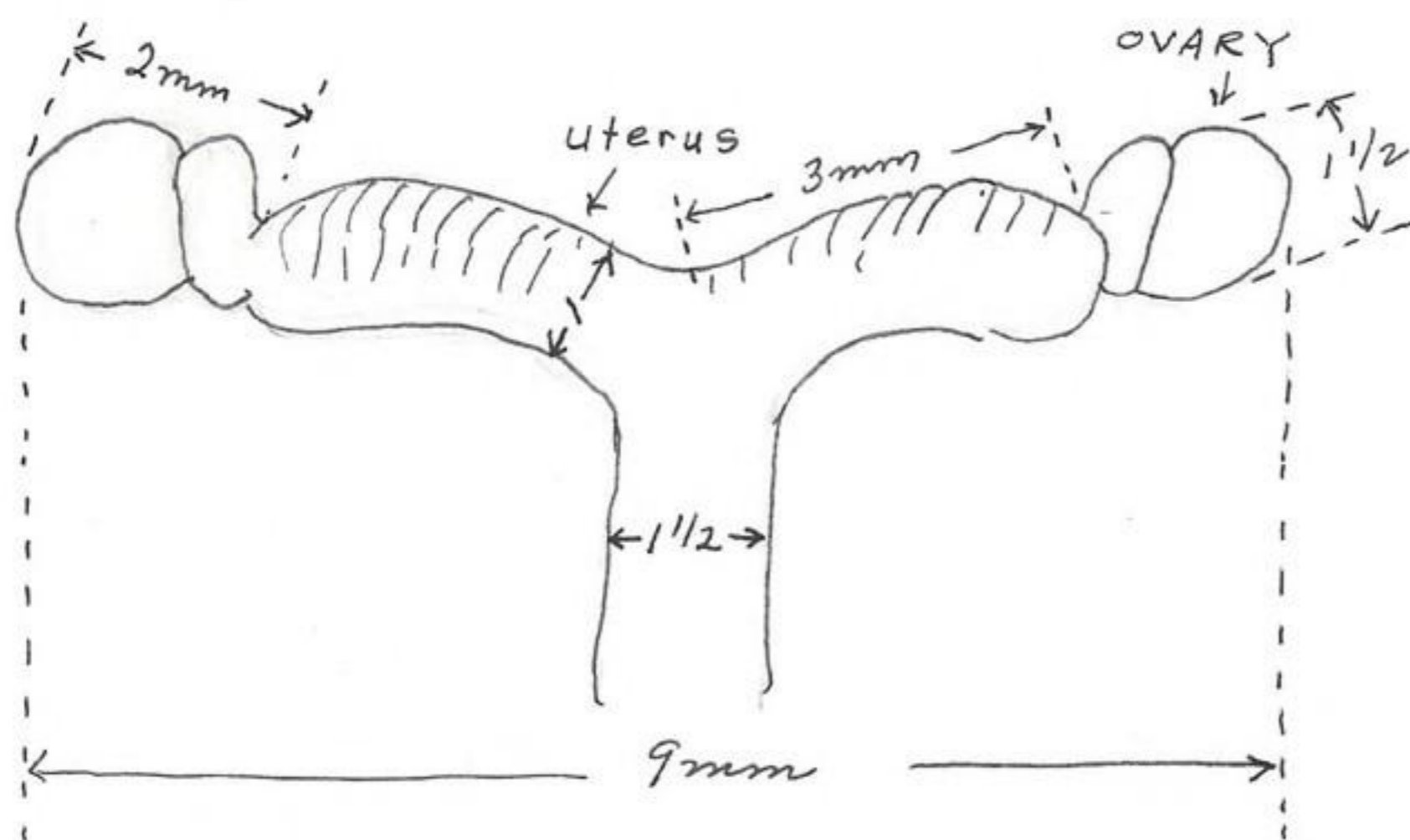
The following birds were at the feeding station at 1620 Tennessee St. up to this date the starling, Evng. Sparrows were the most common forms but today with the new snow cover the variety increased and consisted of the following: Starling (8), English Sparrow (18), Oregon junco (2), blue jay (1), black-capped chickadee (1), yellow-shafted flicker (1), tree sparrow (1), gray squirrel (1), fox squirrel (1). Complete coverage of ground with snow is more effective in bring many birds and of different kinds to the feeding station than sub-zero weather.

Phi Gamma Delta Fraternity, 1540 Louisiana, Lawrence, Douglas Co., Kansas

Jan 14, 1962

An Eptesicus fuscus fuscus, big brown bat, (620114-1) ♀ was brought

to Watkins Hospital, Univ Kansas, by a student who was bitten by this bat as he attempted to catch it in the fraternity building. The measurements of this bat are: total length 120 mm; tail 48 mm; foot 10 mm; ear from notch 18 mm; weight 18.5 gms. Wing spread 340 mm. Fat on posterior part of body but not excessive. Stomach empty.



River Bottom, approx. 2 mi. E North Lawrence, Douglas and Leavenworth Co., Kansas

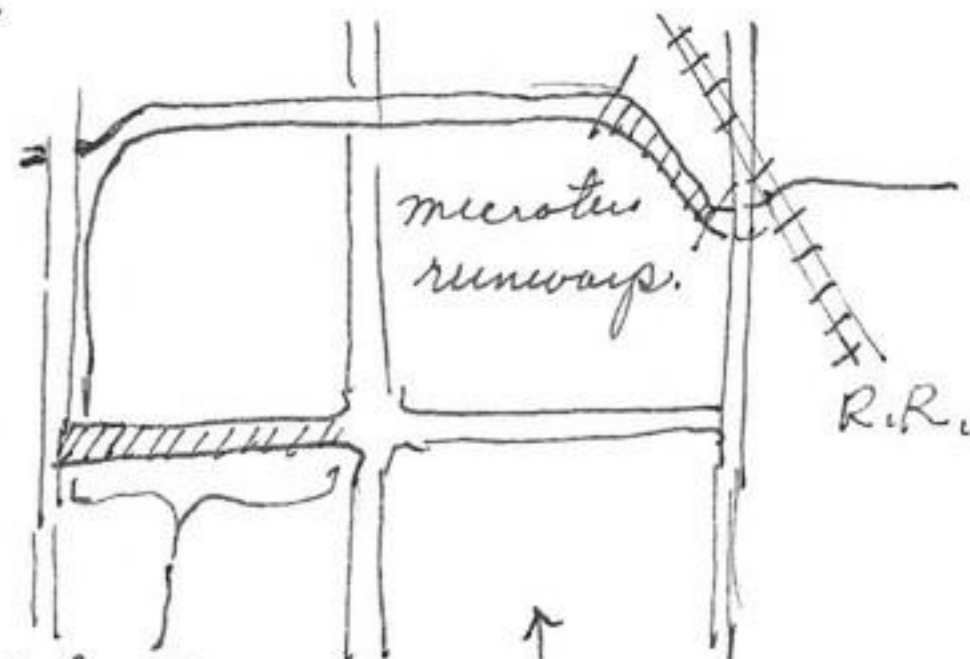
Jan. 21, 1962

Made census of birds (same area as Jan 14, 1962). There were no birds of any kind in area. Day freezing, windy, field covered with deep snow and drifted. Some field entirely of snow, some with weed tops showing. This winter characterized by low temps and deep snows. One weak mockingbird feeding on meat in road about 8th east on Locust Street. This bird definitely weakened by cold & lack of food.

Haskell Bottoms, Lawrence, Douglas Co., Kansas

Jan 29, 1962

Wakarusa open but ice jammed at constructions and at corners or bends of river. ^(compete ice seal) Channel about 3/4 feet full. The last 2 days have been periods of thaw. In a 1/2 mile stretch of road across Haskell Bottoms ^(20x bridge piers) noted tree sparrows crossing road in both directions at the rate of about 1 per every 2 seconds. They were mainly singles but group up to 5. On dike (as indicated) counted 20 used runways indicating normal population of microtines. One red-tailed hawk in area. Several dandelions in full bloom (these must have developed in last two days).

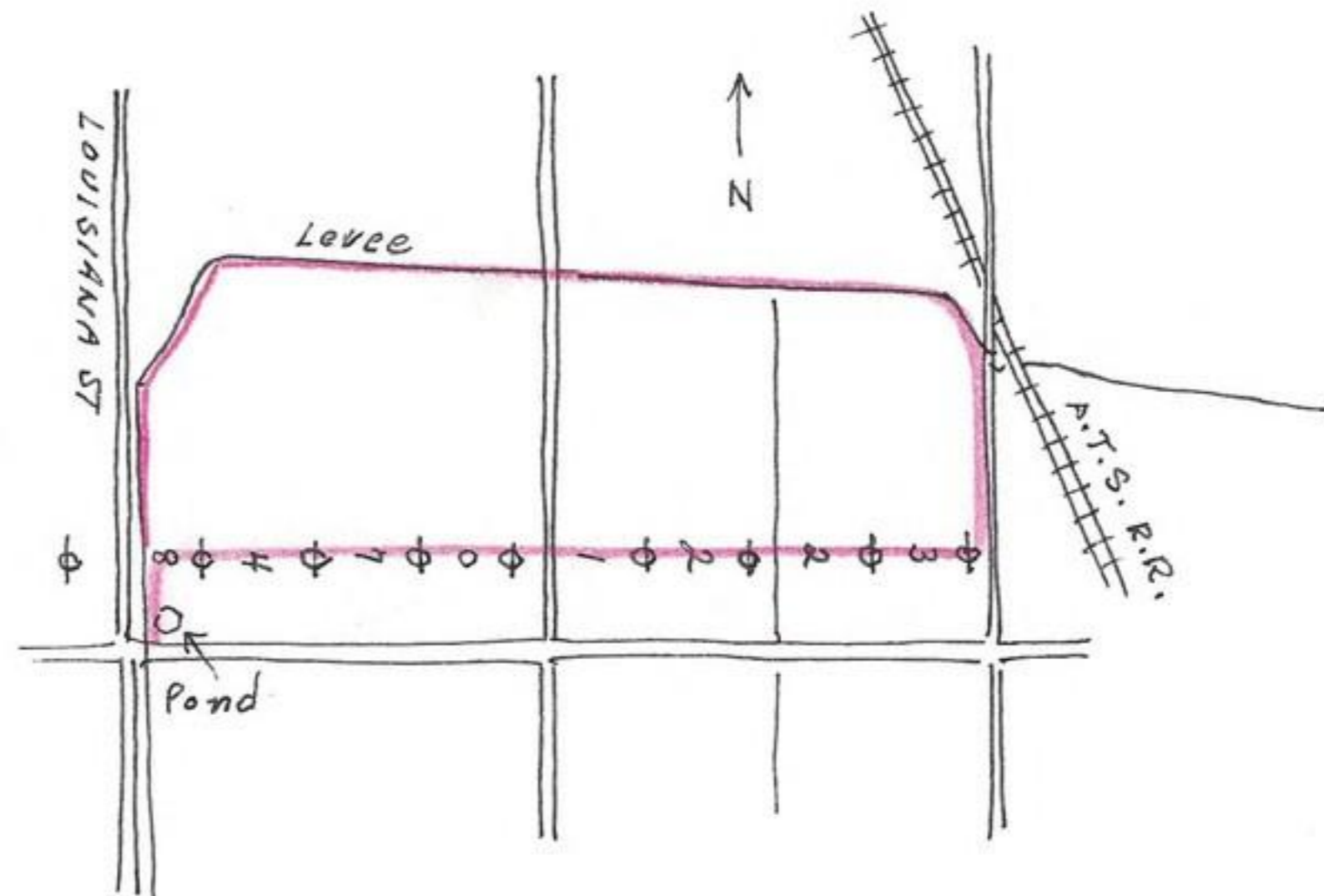


stretch of road where tree sparrow were noted

Haskell Bottoms, Lawrence, Douglas Co., Kansas

February 3, 1962

Made census of *Microtus ochrogaster* runways in Haskell Bottoms about 3 mi. S Lawrence (P.O.). This same area has been checked on several occasions in previous years (see notes)



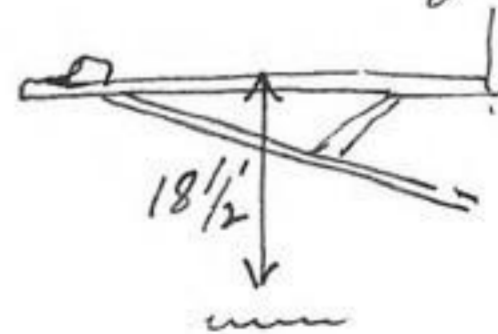
and consists of counting runways in one mile of grassland from Louisiana Street east to Haskell Avenue (E). The area 5 feet wide and 1 mile long in a line through the south pole of the double pole utility line was the transect examined. The number of runways counted are indicated on the above diagram there being 27 in all, or 538 for the entire area of the $\frac{1}{2}$ square mile area. All runways presumably *Microtus ochrogaster* on basis of trail construction. All snow gone but solid to friable ice on 80% of the water which in turn covered about 70% of surface area, at least from 10 inches to supersaturated soils. Except a few spots of ponds or temporary ponds, the surface of field was covered with *Andropogon* & *Bromus*. This grass was mainly about knee high but visibly good to ground surface. The trails, except in a few cases, were visible and easily counted. They were all well used. Between pole no. 5 and 7 grass good, ice on water; between 6 & 7 like above. There were no trails along drainage creek which at period of high there were hundreds of trails; one shallow pond of cattails ice strong enough to support my weight. There were 5 small birds (savanna's) in one mile stretch. Ice on pond except around edges (SW corner). Continued around dike to west to starting point of pond. Along route noted 14 tree sparrows in groups of 1-2-5-2-1-1-1-1. 2 meadowlarks they called feebly. 3 cricket frogs called weakly. One *Promyces*.

maniculatus active, 1 cardinal, 2 dead rabbits (fur only), 1 chickadee, blow flies active, one crow called in tree; great horned owl in same tree. In a few minutes 7 crows arrive from two directions; 1 marsh hawk, one cardinal ♂, one cardinal ♀. These were the only birds in the entire Haskell Bottoms spammed. Snow on N side of dike, clear elsewhere. Water in drainage canal N of dike muddy, water from Haskell clear and slightly brown, no water from main drainage canal at gate. A dead microtus ochrogaster 620203-1 ♀ measuring 161 total length, 43 mm tail, 19 foot, 12 ear from notch and 49 gms was dead in trail. This mouse was in open exposed part of trail between two grass clump and assumed the position of if it had died a natural death and was sunning itself at the time of death. One fecal pellet half way out of rectum. On examination of this animal found penetrating wounds on back. The body cavity below the diaphragm was highly vascularized and the large intestine enlarged to 13 mm in diameter. The liver and lungs normal but venous side of heart almost black in color. Stomach full.

Wakarusa River from Louisiana Street Bridge Lawrence,
Douglas Co., Kansas to bridge N of Eudora.

February 4, 1962

Conoe trip down river to Eudora (See April 23, 1961 for route covered as this is the same route covered today) with son James Robert. Started 10:35 A.M. and arrived destination 3:00 P.M. or 13.8 miles in 4 hrs and 25 minutes. Conoe carried by current except in quiet waters. At start, temp water at 2 inches below surface in sunlight 40°F, air temp. in shade 49°F, in sun 60°F. Water 18½ feet below bridge (Louisiana St. Bridge). Measurement from horizontal support of bridge. At last time we went down this river the water was 47" from this same point. Will keep total census as far as possible because of the few birds in area at this time of year. These records will be correlated with time.



10:35 A.M. red-bellied woodpecker, juncos, 4 chickadees.

10:46 cliffs to right and some ice still on face from water overflowing and freezing earlier in season. The ice was continuous or isolated on cliff. One fox squirrel ran 300 feet along bank to nesting tree (3 tree nests (leaved) in same area). There were

many large trees which the squirrel passed on its way to its nesting hole in tree. Group chickadees.

10:50 fox squirrel; 1 fox squirrel; 4 tree sparrows;

10:53 Haskell tramp dump on edge of river. Chickadees, tree sparrows in area here. It is difficult to estimate number of chickadees but can always hear them.

10:56 fox squirrel ran 100 feet along bank to hole in tree. It was resting on limb about 10 feet above ground in low tree. One ice sheet on bank measured 10' x 18' x 10". There were a few on bank and many at bends, mostly 5-8 feet above water. Snow on north exposures or where winds from north had built cornices. Tree sparrow; yellow-shafted flicker;

11:00 river quiet today and canoe does not make a sound. Although quiet, the water is fast and only makes noise in areas where submerged trees cut the water or where ripples are formed at edges, junco; red-bellied woodpecker.

11:07 G. Horned Owl; junco; 2 fox squirrels; chickadees;

11:15. Ice jam solid on bank but melting fast. Large blocks fall or collapse and make a fairly loud noise.

11:18 Haskell Avenue Bridge. Eng Sparrow

11:20 G. Horned Owl; red bellied woodpecker.

11:25 Chickadees, red-tailed hawk; fox squirrel; cardinal; fox squirrel; chickadees;

11:35 beaver in water at log jam at edge of river. It remained motionless as we passed and then quietly slide under the surface. Cardinal; fox squirrel; chickadee; red-bellied woodpecker, the latter 4 in a group. These birds along way are generally in groups with areas devoid between.

11:42 Atchison - Topeka and Santa Fe Bridge. Fox squirrel, fox squirrel; fox squirrel

11:56 Chickadees, tree sparrow, hairy woodpecker, downy woodpecker, fox squirrel; 2 red-bellied woodpeckers.

12:00 Cardinal

12:03 At large bend. Red-bellied woodpecker

12:05 2 horned owls together; red-bellied woodpecker, cardinal,

12:07 house. dog 200 feet from house.

12:08 Suspension bridge. Chickadees (all today are, as far as I can tell are black capped).

12:13 red-tailed hawk, juncos

12:15 in constructed area of river, water fast and ice jam on bank on both sides. Water about 5 miles per hour.

chickadees, fox squirrel.

12:22 Construction of river and best logjam on bank. Fox squirrel; downy woodpecker, yellow-shafted flicker, blue jay; chickadee.

12:28 beaver; great-horned owl; chickadee; red-bellied woodpecker, 2 red-tails together; they flew into same tree and were light breasted & winged; heard first crow call; fox squirrel; 2 fox squirrels; beaver tracks in mud; 2 fox squirrels fighting at holes in sycamore tree; chickadee; red-bellied woodpecker; chickadees;

12:41 mouth of coal creek. Fox squirrel, fox squirrel; ~~ch~~ cricket frog called weakly for first time; 6 blue wing teal; fox squirrel; chickadees; hairy woodpecker; chickadees; great horned owl together; titmouse.

12:53 Blue Ridge Mounds Bridge. Red-bellied woodpeckers, 2 oriole nest near bridge and first ones noted, red-bellied woodpecker. The area before the bridge back to Coal Creek has always been productive as far as bird life is concerned. It may be the nearness of Blue mounds or the farm area.

1:03 red tail; water quiet, no bird life; chickadee.

1:05 3 fox squirrels; 1 red-bellied woodpecker; oriole nest; cardinal, singing; great horned owl; blue jay; crows calling; titmouse; downy woodpecker; red-bellied woodpecker; fox squirrel; red-bellied woodpecker; downy woodpecker.

1:15 Creek to left. Cardinal; 2 fox squirrels in sycamore; one mourning dove left sunny bank and flew across river; 2 Eng-Sparrows at different trees sing at holes in trees. It is unusual that there are no starling in area as in summer they nest all along the river. Red-bellied woodpecker; cardinal.

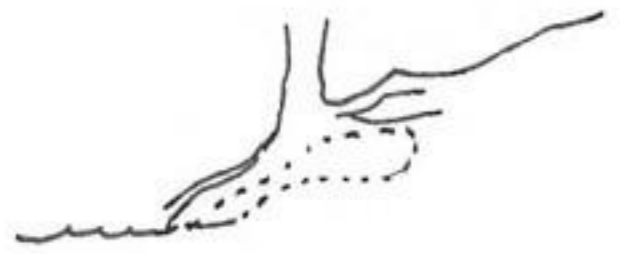
1:22 Utility lines cross river. Trees along river at edge of water are scared by water and log action in high waters (maybe ice also). Fox squirrel; chickadees; cardinal; red-tailed hawk; chickadee.

1:25 Utility line recrosses river. Cardinal; chickadee; red-bellied woodpecker; crow have been calling;

1:27 3 beaver in roots 4 feet above water. They were young of last year (?) and were in a cavity under the soil and roots.


They slid into river with considerable awkwardness and noise and disappeared under water.

1:29 utility pole crosses creek (same one as above). Muskrat 100ft from beaver; fox squirrel; red-tailed hawk; yellow shafted flicker; downy woodpecker.



- 1:43 Cliffs on east side of creek. Song Sparrow.
- 1:46 Bridge crossing river N.S. Red-bellied woodpecker; chickadee; yellow-shafted flicker; cardinal; blow-fly; chickadee, fox squirrel; fox squirrel; red-tailed hawk; fox squirrel; brown creeper; chickadee and other unidentified birds (small); first kinglets; great horned owl; fox squirrel; g. horned owl; hairy woodpecker; red-bellied woodpecker; red bellied woodpecker, these 2 last ones together;
- 1:53 2 crows in tree at edge of river and first ones associated with river, others calling beyond.
- 2:00 beaver at house in roots of tree above water. These beaver seen today are in ^{dirt} dens above the level of the water; fox squirrel went into nest from 150' away and after about 10 seconds of fighting another squirrel left the same hole; red-bellied woodpecker; 2 fox squirrels at nest; fox squirrel in nest over river; red-tailed hawk; fox squirrel.
- 2:05 Great horned owl; yellow shafted flicker; fox squirrel; fox squirrel.
- 2:06 sharp bend of river and cliffs; 2 fox squirrels; 1 red bellied woodpecker; 2 fox squirrels; 1 fox squirrel; 1 red-bellied woodpecker; titmouse; fox squirrel into hole in tree over water; 2 red-bellied woodpeckers chatter like tree squirrel of nest.
- 2:20 beaver and house 2 feet above water in open bank; red-bellied woodpecker; 2 fox squirrels;
- 2:22 Cliffs; 2 fox squirrels; cardinal.
- 2:25 2 bee nests in sycamore over water. About 60 at entrance of one hole and 20 at other in same tree. ♂ & ♀ cardinal; fox squirrel ran 100 feet to nesting tree; climbed tree at N slope
- 2:35 Highway Bridge south west of Eudora. Jay has paddled or guided canoe all the way. Waters slow flowing for last mile or so. Both paddled to bridge N of Eudora
- 2:38 2 great horned owls; 2 cardinals.
- 2:40 old bridge pilings; red-bellied woodpecker, chickadees.
- 2:42 3 cardinals; fox squirrel;
- 2:44 R.R. Bridge. Fox squirrel; chickadee; fox squirrel; red-bellied woodpecker; fox squirrel; cardinal; cardinal; fox squirrel.
- 3:00 Eudora Bridge N of Eudora City. Water 2 inches below surface 40°F; air temp in shade 50°F; in sun 64°F. Today has been very comfortable, slight wind from 1:30 to 3:00 P.M.
- In summary, the following number of animals were

noted:

57 fox squirrels. This is a conservative count as I know there were many which I did not see, either because they were hidden or because it is difficult to count on both sides of the river. It is my opinion that most of the squirrels are on the north side of the river because of warmer exposure there. I also believe that the squirrels are paired and although in most case I observed single, the mate was nearby. Several times a squirrel would run into a hole which was preoccupied by another squirrel. It was common to see them running along upper edge of river bank  for a hundred or so feet and then climb a tree ^{low} to its nesting hole. Others were resting and feeding on ^{low} branch with tail over back; others already high in tree. Some called frequently, others remained quiet. Ordinarily the climb to the nest is fast and climbing into the hole is delayed and awkward in most cases.

7 beaver in singles and one group of three. not many tracks in mud, muskrat.

29 red-bellied woodpeckers - mainly singles but a few in pairs

5 yellow-shafted flickers, singles

4 hairy woodpeckers, singles

5 downy woodpeckers, singles

3 blue jays, singles

6 teal in one group

3 titmouse, singles

4 crows - others heard

1 brown creeper - others no doubt in area

1 kinglet group

23 group chickadees generally . 2 to 5

4 juncos - probably more

12 great horned owls. there were no duplications, some in pairs

3 English sparrows 2 away from human habitation ^{at nest holes.}

1 red-tailed hawk - may be duplications

19 cardinals - singles and pairs

4 tree sparrows - may be more.

1 cricket frog

There were definite groups of birds and then barren areas. The numbers of small birds would be considerably greater if a critical check could be made.

1613 Tennessee St., Lawrence, Kansas

February 5, 1962

In trees on hillside near top of Maupin "Estate" noted 9 western evening grosbeaks. They were feeding & calling. They left and flew north. The time was 8:00 A.M.

1613 Tennessee St., Lawrence, Douglas Co., Kansas

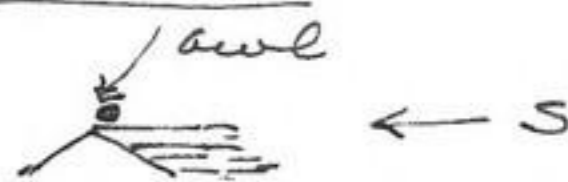
Feb. 9, 1962

at about 100 feet from above locality noted 26 western evening grosbeaks feeding and faintly calling. They flew north about 300 feet and lit in trees. The time was 12:00 noon. At this time the day was cold and slight wind.

Bailey Hall, Unw. Kansas Campus, Lawrence, Kansas

Feb. 9, 1962

Great horned owl calling from top building at 6:00 P.M. Night cold and slight wind.



Lawrence, Douglas Co., Kansas

Feb. 11, 1962

Collected a Bohemian Waxwing at 2101 Vermont Street. This bird 620211-1 measured 217 total length and weighed 73 gms. Testes 2mm and white O (relative proportion, stomach and gut with seeds).

Louisiana Bridge, Wakarusa River, Lawrence, Kansas

Feb. 11, 1962

Put ^{son} James Robert, ^{and} Pet Peterson and Richard Kempf in Wakarusa in canoe at 11:05 A.M. They were to go to Eudora Bridge N of Eudora (about 13.8 miles) via river. At bridge that crosses NE across river (Chinese cliffs) they arrived 3 minutes later than our trip the previous week. They counted 1 beaver and 28 fox squirrels.


Lawrence, Douglas Co., Kansas

Feb. 24, 1962 [insert from Feb. 24, 1962]

According to Mr. C.W. Ogle of 200 North St. in a news release in the Lawrence Daily Journal-World, Feb. 24, 1962, there are 25 beaver colonies of 4 to 6 beaver each between Lawrence & Sedota along the Kaw River. The largest beaver on the Lawrence is approximately 70 lbs. One animal from Wamego weighed 104 pounds.

Univ. Kansas, Lawrence, Douglas Co., Kansas

Feb. 14, 1962

Ice on Patters Lake has been gradually disappearing from the completely frozen surface of winter. The ice is restricted to the center of the lake  in about this proportion.

Feb 15, 1962

Ice gone on Patters Lake for first time this winter.

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

Feb. 16, 1962

Eastern gray squirrel carrying dry leaves to hole in tree. Eight western evening grosbeaks in same place as noted on Feb. 9, 1962. Their call is feeble compared to the call of the western evening grosbeak of Utah.

Lawrence, Douglas Co., Kansas

Feb. 24, 1962

(See note following Feb. 11 for this date)

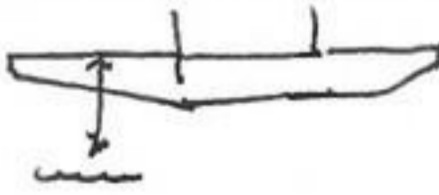
1620 Tennessee St., Lawrence, Douglas Co., Kansas

March 1

Starling, ♀, at nesting box placed in tree this winter. It had entered also about 1 week ago.

Lawrence, Douglas Co., Kansas

March 3

Checked Wakarusa from Lawrence to highway 75 south of Topeka via Clinton, Richland etc. Water at Louisiana St. Bridge 24 feet $7\frac{1}{2}$ inches from girder to water all along way in an edge of creek, some area completely sealed with ice.  80 snow geese flying east down Wakarusa valley about $\frac{1}{2}$ mi. E of Richland. They called continuously and were flying about 1000' high. From Lawrence to highway 75 counted 8 marsh hawks and 7 red-tails, 3 sparrow hawks. At Clinton bridge watch a ♀ bald-pate feeding on insects on surface of water. It maintained its position in creek in some spot in current. Along road for about 2 blocks N of Louisiana Bridge noted no birds flying across road where in winter there are always 30 or 40 flying from trees on east side of road to field to west.

Wakarusa River, Shawnee and Douglas Co., Kansas

march 10, 1962

Son James Robert and I made 2 day canoe trip on Wakarusa River from bridge $1\frac{1}{2}$ mi. n of Richland in Shawnee Co., to Louisiana Street Bridge south of Lawrence in Douglas Co. The following items of equipment were taken: water-proof matches (about 35 were used), small flash-light, extra batteries, wrist watch, ink pens (Lindy, Legal Copy, 474m) notebook, tent (conical), 30 feet rope, axe, saw, thermometer, wire to fasten stove to canoe, pliers, maps, ground cloth, sleeping bags, measurer, scales, dissecting equip, pocket knife, warm cloths for rain and snow, cone, paddles, stove, 4 lengths of pipe, water, food, gun, shells, binoculars, life preserver, bird hook, permits, cotton gloves. The objective of trip was to determine any shift in winter population of birds (see notes Feb. 4, 1962). Left Lawrence 6:10 A.M. and arrived Richland bridge 6:50 A.M. Annette returned car to Lawrence. Departed by canoe 7:30 A.M. Raining gently, partial sleet, sky overcast and temp. about 36° F. It was planned to make a complete census of all birds and mammals but control of canoe through obstacles of river did not allow consistent note taking. For a complete census it takes one man at canoe and one man on note taking. I did take a full count of the great horned owl, red-tailed hawk, snow geese, ducks, beaver, muskrats. All other forms were recorded by summary. Time correlated with bridges and other major land marks. The first day from Richland to Clinton Camp of $13\frac{1}{2}$ miles took 9 hrs and 5 minutes or $1\frac{1}{2}$ miles per hour. This speed is considered average for cruising these creeks in low water and means that only enough paddling is employed to keep canoe on course and to cross slow water. The second day we covered $17\frac{8}{10}$ miles in 6 hrs and 45 min or approx 3 miles per hour and involved both James & I paddling together most of the time. I would consider that 2 miles per hour for long distances is a good speed for observation and canoeing although a slower speed is good for short distances and when many birds are to be checked. In winter there is a limited kind and number ^{of birds}. The weather for the two days was (10th) rain, sleet, cold in early morning, cloudy and cold all day except evening when sky partly cleared but followed by thunder cumulus clouds,

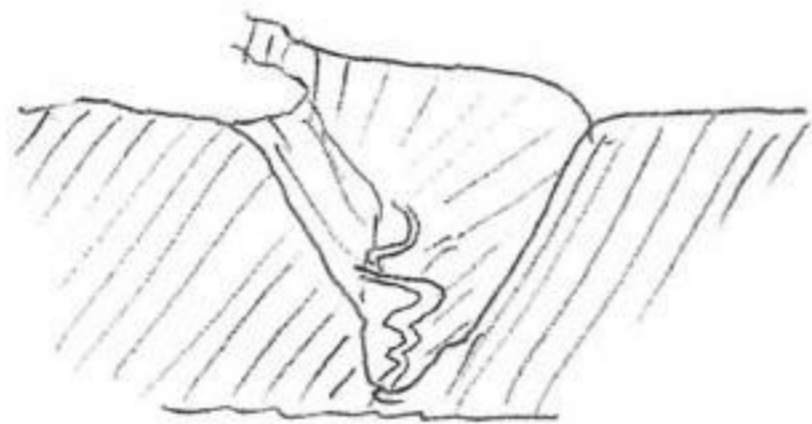
lightning, strong wind for short while and then rain showers into late night. Morning of 11th sky clear & blue, temp cold, no wind but fallowed by sudden clouding of sky in mid-morning fallowed by cold rain, sleet and considerable wind. At noon skies partly cleared and high wind for rest of day. The wind is only partly felt in low entrenched creek except on long exposed course.

Departed Richland (bridge) at 7:30 A.M. 8:23 A.M. first ~~cascades~~ ^{rapids} below a rock barrier placed in Wakarusa river by creek entering from the north. This was to be the pattern of many ~~cascades~~ rapids encountered today. The



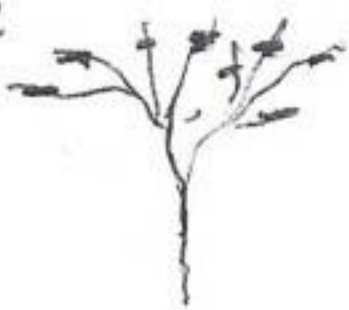
limestone boulders are deposited about 10-20 feet downstream from ^{individual north} mouth of small creek and may be a few inches high or 3 or more feet. Size of rocks are governed by the carrying capacity of the side or lateral streams. The barrier is generally in center

of stream and water passes on each side. The profile of these creek are a V shape and are graded to ^{low water level of the} the Wakarusa (larger ones). Smaller

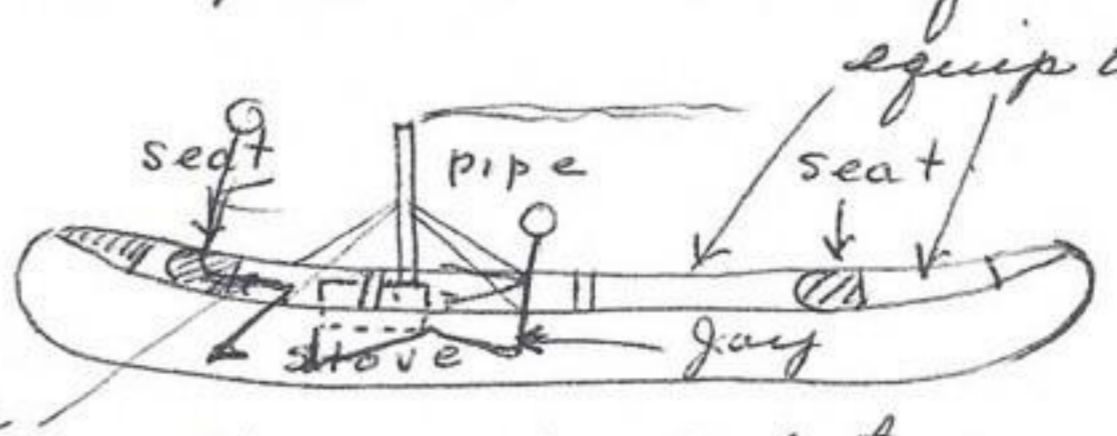
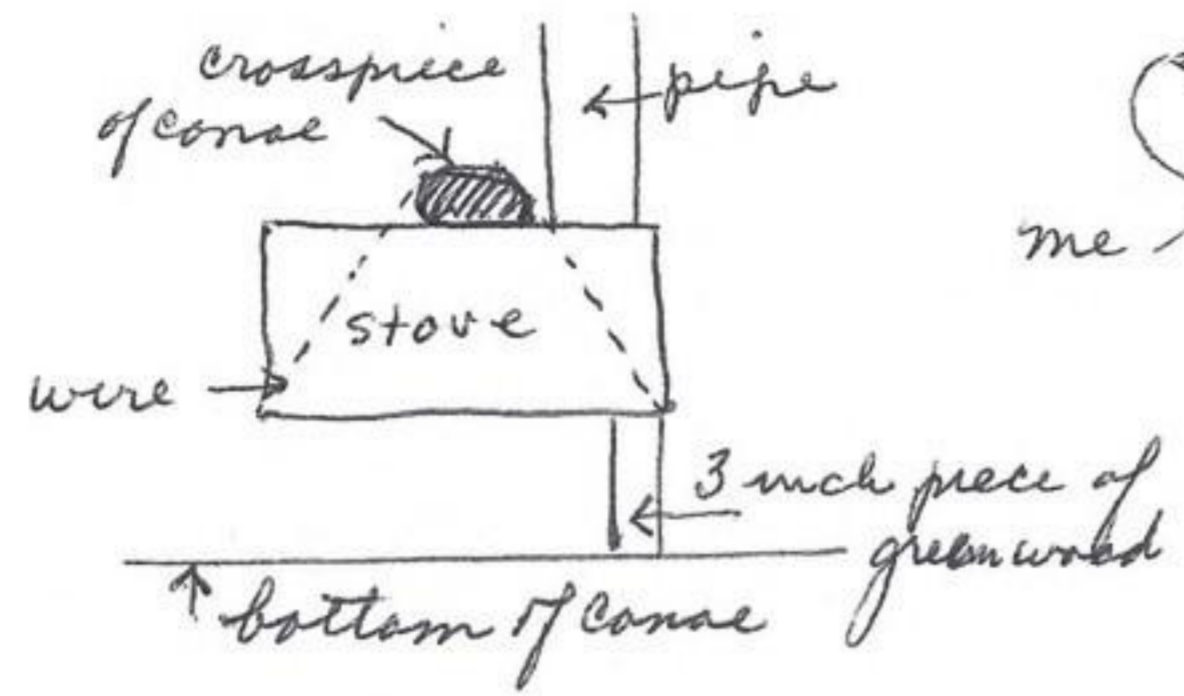


ones enter at a steeper grade. 8:26 A.M. G.H. owl left tree and flew down creek. 8:34 18 ducks fly by overhead but had no intention of using river. 8:50 2nd rapids, 3

crows beyond trees and annoying 2 great horned owls. 9:15 4th cascade. 9:30 now along base of cliffs on south side of valley. In the heavily timbered area along south side of valley noted a colony of great blue heron nests placed in three adjacent sycamore trees on south side of river. Largest tree with 16 nests, second largest 6 nests and smallest 1 nest. The nests all in upper and generally outer branches of tree nesting tree in secluded woody section and not at all like those in the west which are in isolated stands of trees. 15 minutes beyond hut on switchback of creek noted one single nest in a tall sycamore. It would have been easy to have missed this nest in summer. 9:48 1 great horned owl harassed by 16 crows. 11:00 first



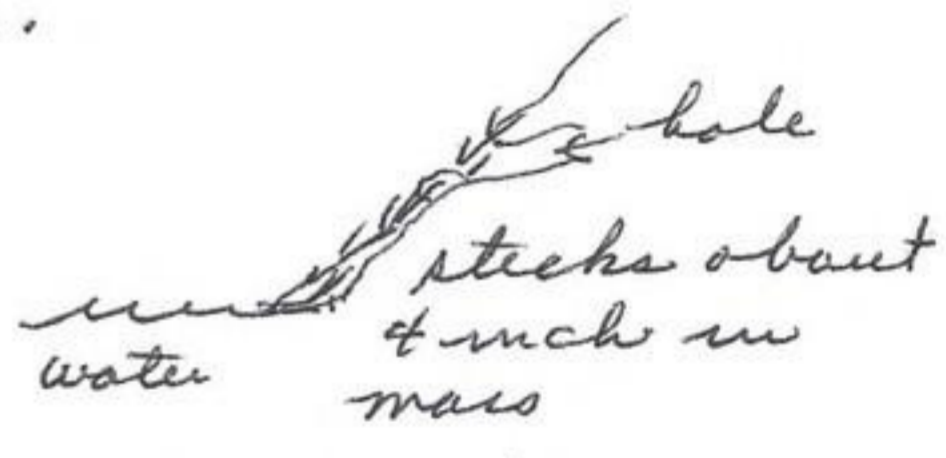
bridge (remained here 1 hour for lunch and to secure stove and pipe to canoe gunwale. Temperature too low for comfort of feet and legs



Stove attached to cross support and pipe fastened by wire to canoe.

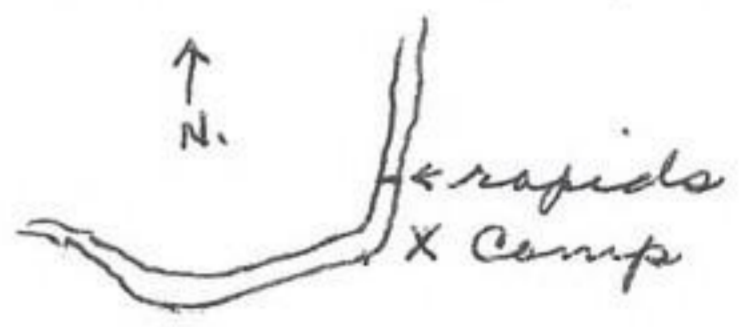
12:30 G. Horned owl. 1:30 360 snowgeese in V formation fly at a leisurely gait to N., some may have been blues. Temp. at this time 44°F and cloudy. water 38°F 2 inches below surface. 2:10 second bridge, 2 red-tailed hawks, 40 snow geese flew N in V formation. 2:35 2 beaver in some hole 1/2 foot above water level; 2 great horned owls. 2:30 2 red-tailed hawks, one carrying a squirrel or part of it; one great horned owl. 2:50 two beaver from some bank den. 3:00 extreme east segment and abrupt turnback to west. 3:30 G. Horned owl. 3:40 G. H. Owl. 3:50 large flock red-winged blackbirds (500) singing in tree about 1/2 block from creek. 4:00 Clinton bridge (west of Clinton) 1 red-tailed hawk. 4:15 beaver and first bank house of sticks.

The accumulation was shallow but evidence of a stick house. most of dens are under root system or holes in bank without ^{house or layer} rest of sticks



Arrived camp at 4:35 P.M. approx. 9/10 mi. W and 9/10 mi. N Clinton (store in center of town).

Pulled canoe to top of bank above highest water level and made camp on a very interesting vantage point overlooking stream and rapids below.



This evening heard g. h. owl calling. Slept in conical tent and used inside stove for early evening.

9/10 mi. W + 9/10 mi. N Clinton (store), Douglas Co., Kansas
March 11, 1962

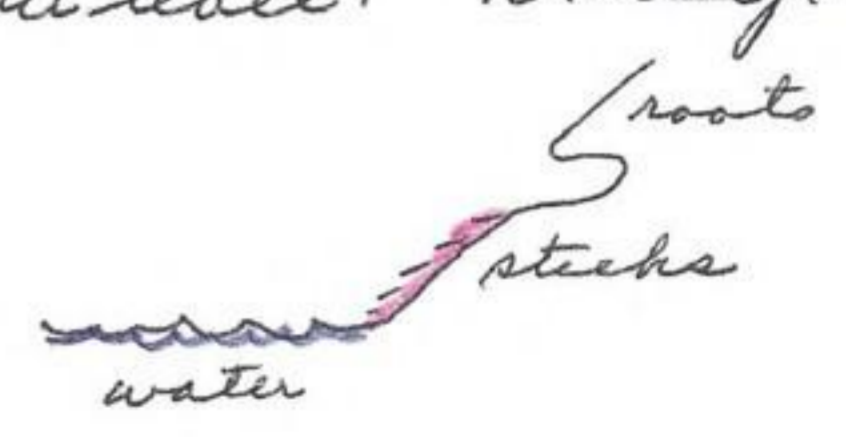
While getting breakfast both James & I heard a loon call at about 7:00 A.M. Both he & I are well acquainted with this call. The inside wood stove soon dries a rain soaked tent. Left

Camp at 7:45 A.M. Killdeer calling from field on N side of river. Air temp at this time 38°F. 7:55 G.H. owl; 8:55 G.H. owl. 8:56 Deer Creek from N. 8:50 1 beaver, 2 red-tailed hawks. 8:03 1st bridge. 8:12 G.H. owl, approx 26 paper-nest wasps nest in tree at edge of creek and 50' from barnyard (heard pigs and no doubt cows there also). These wasp nests average about 1 per every 100 feet and occur mainly as singles, some ^{trees with} 2 or more but seldom more than 3 in same tree. They are generally in lower branches of trees overhanging creek; G.H. owl; 12 mourning doves across river from barn; up to now have seen only 5 fox squirrels this A.M. which is a very low number. I believe the bad weather accounts for this low census number.

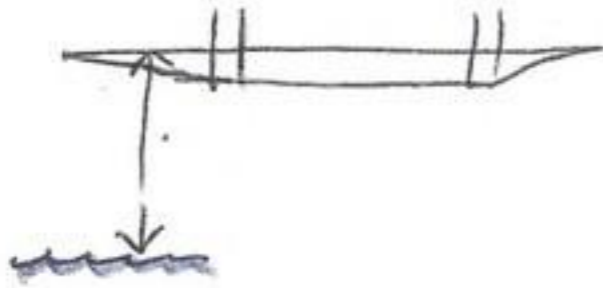
9:00 2nd bridge; 2 red-tailed hawks. 9:10 high bank and abrupt probably formed when Kaw River ran through this area in Pleistocene times. At this point a fox squirrel was noted swimming across the river which was about 30 feet at this point. It left the N. bank of treeless mud slope and swam S across river to high cliffs. The squirrel rides high anteriorly and swims directly across and onto bank without hesitation. Temp. H₂O 39°F, air temp 44°F. Red-tailed hawk and great horned owl in area. 9:45 2 beaver in same bank den, they left with a splash, one at a time; ^{Wood duck}

10:10 great horned owl. 10:15 2000 snow geese and 3rd bridge also 1 red-tailed hawk and 1 great horned owl. 10:30 Rock Creek from S; on great h. owl being harassed by 18 crows. 10:30 red-tailed hawk; 1 g. horned owl; 2 beaver from same bank nest ^{4 feet above} at water level. ~~10:40 g. h.~~

The first one left by almost diving straight into water. It was dark in color. The second one left a few seconds after and also practically dove from nest to water. It was light in color. Great horned owl in area. 10:45 3rd bridge; great horned owl. 11:20 red-tailed hawk flew from near a nest in a high sycamore tree. 11:30 G.H. owl. 11:35 4th bridge. 11:40 G.H. owl. 12:30 Highway bridge No 59; red-tail. near bridge Jones shot a male fox squirrel with testis measuring 31 mm length. 12:50 Red-tailed hawk. 1:30 Louisiana bridge S of Lawrence and end of trip. The last 1 1/2 miles covered at current speed.



water at bridge 25 feet and 2 1/2 inches below cross beam of bridge. Annette picked us up at 2:00 P.M.



Summary of observations of birds and mammals:

Great horned owl. 18 singles and 2 pairs. Generally in trees bordering river and about 25 feet above base of trees. Would leave at about 250 feet and fly down creek for about 400 feet and alight again. After approach a second time would generally leave creek-edge timber. These owls would not fly down creek as far as in February. Crows would continually harass owl if the crows were in area. Squirrels and other birds did not seem to react to the passing owl. One owl was under an overhanging bank among roots about 8 feet from water.

Red-tailed hawk 4 pairs and 6 singles. Pairs seemed to remain in same area. On second day in high wind, several were noted flying high. On calm day the hawks were not in air soaring. One of a pair held a fat squirrel in its feet as it flew from its perch in a tree. The red-tails near come nearer to us than about 200 feet. They called.

Snow geese 3 large flocks 360-40-2000 passed overhead to N. One large flock (2000) flew high and twice as fast as the group of 360. Did not hear geese pass by at night.

Crow. Some large flocks 10-18, some small groups. Remained beyond immediate confines of creek and bordering trees. Their contact is with open field-forest.

M. doves. Only three groups 12-3-2 and associated with farm houses.

Wood duck. 1 in river and only duck along entire course of river.

Ducks. 4 small groups and one single in air. It is surprising that we did not see more ducks on the river. marsh hawk. one bird. The previous week on an overhand route in some valley counted 6 or 7.

nuthatch, red breasted. For every hour of travel probably heard 2 or 3.

Chickadees, blackcapped. more numerous than nuthatches by 10 times.

bluebirds. Generally distributed in favorable places, other areas devoid of these birds. No large flocks but singles and probably on territories. In some areas about 1 per every 1/2 mile. Approx 30 birds noted. They were calling.

Blackbirds: 8 singles, 4 group of about 5 and one large group of approx 500 which had collect in evening for roosting.

Robins Four in one group.

Starling. Only one group of 3 noted.

English Sparrow. Only around farm houses

Kinglets Heard only 2 groups.

James (Oregon) One group of 12 and a few smaller groups. They were the only birds noted on old flood banks adjacent river.

Yellow-shafted flicker. Only 5

Hairy woodpecker 7

Downy " 14

Red-bellied woodpecker About 1 per mile. Some areas better than others but population not to be compared with census in February because of unfavorable weather today.

Cardinal One of most common birds. In favorable areas about ^{pairs} 10 per mile. Some areas without these birds.

Meadowlark only one

phoebe. 4 birds at widely distributed points.

blue jay 3 singles & 2 pairs

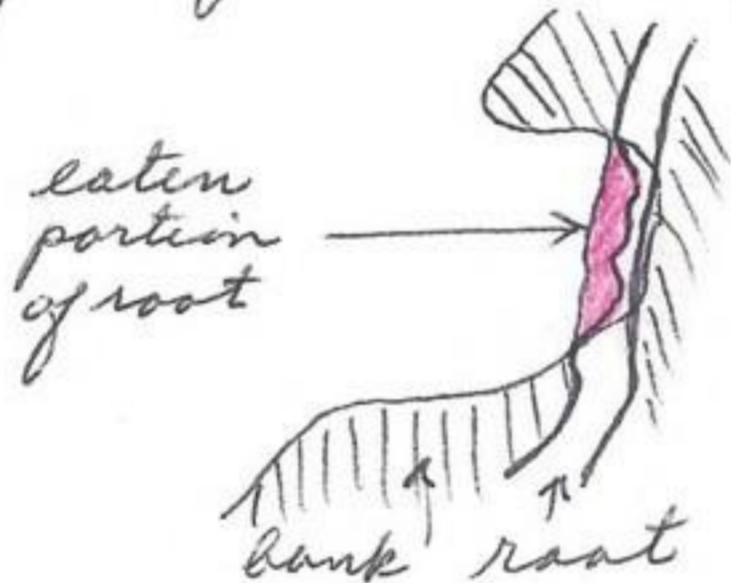
titmouse about 4 per mile and generally distributed.

loon (?) Both James & I heard a loon flying overhead at about 7:00 A.M. the second morning.

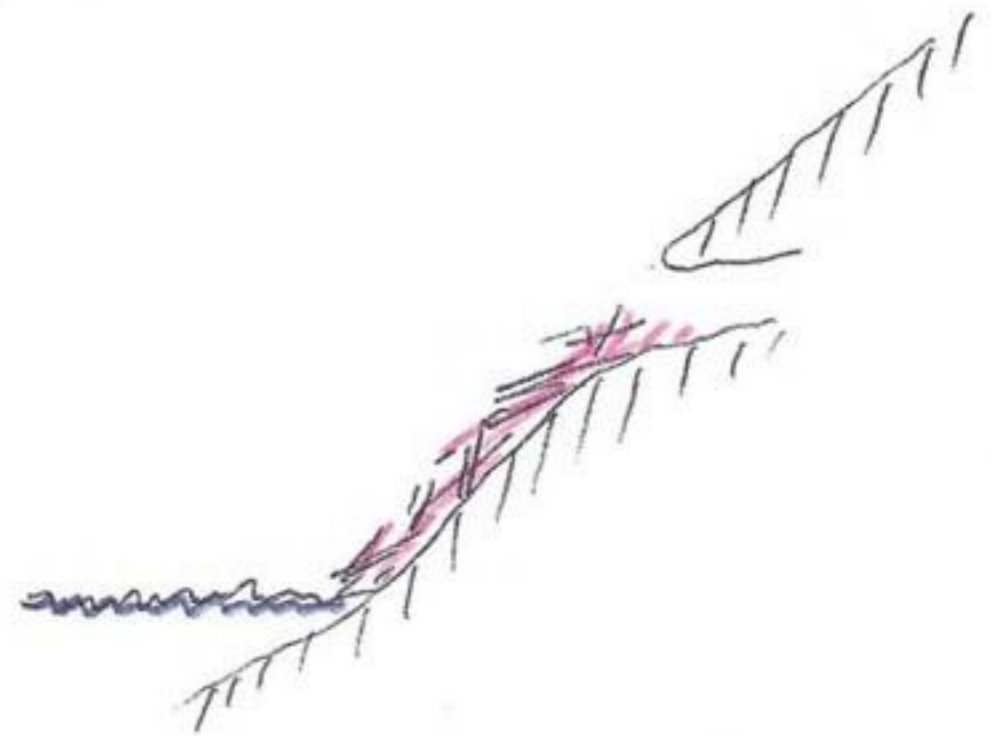
Killdeer one had on second day in morning

Beaver Four pairs and 2 singles were actually observed, but I am sure there are many more along river on the basis of the sign. I would estimate that there are, at least in favorable places, 3 pairs of beaver per mile. I would judge that 3/4 of the river is used by these animals and showed sign of digging, chewed willow, dens, tracks in mud and slides on slopes. The pairs we noted were in shallow bank dens from water level to 4 feet high. Both animals were in these bank dens. They may be the young just starting new territories. Other deep dens may have supported other pairs that did not leave dens because of their protection. One pair was in a shallow hole dug under a shallow root system and 4 feet above the level of the water. a covering of small willow sticks extended from the den to the water level. As we passed by at about 10 feet away.

a light colored beaver jump & slid down into the water with a splash followed by a second dark colored beaver which also practically jumped into the water. They swam underwater up Creek. The two most commonly used holes are one at water level and the other about 4 feet above water. Some are 10 feet up bank under roots of trees. Considerable digging in bank for roots at about 1 1/2 feet above present water level and varying in size from a hole 4 inches in diameter to one the body size of a beaver or larger (up to double the body size). In practically every case the shallow hole ended at a root from a small shrub or small tree. The root was either barbed or completely cut off. I am wondering if these roots were excavated and eaten at a time when the ice covered the river and food was not available. The diggings, however, appeared fresh. The holes did not go beyond the digging. Some of these holes are used as resting places and for feeding on grasses and small stems as on some of the floors there was an accumulation of debris. This debris could have been placed there by muskrats, which use the holes dug by beaver. There were other holes and scraping of soil made by beaver. Tracks were common on shore as well as up and down the bank. A smooth trail up & down the bank indicated the dragging of the belly across the mud. There were no extensive trails which are more common later in the season. In areas being actively used there were small cleaned limbs on the bank but not as numerous as later in the season. About 8 trees had been cut but main feeding on small willows or limbs 3/4 inches in diameter. Beaver no doubt use the entire river course but there are definite areas where there are concentrations of beaver, especially where the water is slow moving & deep. Only one bank den was reinforced with a house of sticks and this house was had only about 6 inch of sticks below the hole. It would be interesting to study the adaptation of the beaver along the Wakarusa in respect to the influence of the variable water level



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of the river. In late summer it is possible for beaver to build dams across the river. In flood times there is not even a high den available. One day a den is conveniently placed near water level and the next day is 10 feet high and dry. Do they have several dens that can be used according to the changeable water level. When are stick houses built and what are the modifications.

Fox squirrel: those observed were singles and pairs. never in threes. while we did not see many because of the unfavorable weather the number of nests indicate that the population is normal for the region. Cold & rainy weather keeps the squirrels inactive. We observed for the first time a fox squirrel swimming across a body of water. One crossed the full width of the river of approx. 30 feet. The crossing was direct and without deviation of course or speed. On the basis of swimming habit it could be differentiated between a squirrel and a muskrat. The head and shoulders ride high in water.

Raccoon. Tracks all along Wakarusa but mainly between Richland & Clinton in areas adjacent timber of side of valley.

Muskrats, 5 observed but probably many more.

Cottontail rabbit. Although we passed through favorable areas we did not see a single cottontail which was one of the most interesting facts of the trip.

Cats, no cats along entire route.

Dogs 2 hunting pairs without hunters; a great source of disturbance to wildlife.

People. We did not see a single individual in the two days of travel except as cars passed over bridges.

Carp. One left the edge of bank; others feeding but to the extent of 5 or 6 only. Not much surface action.

Paper nest wasps (see account in census)

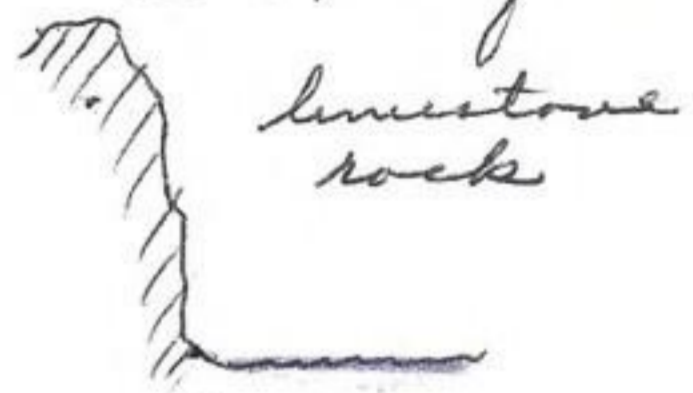
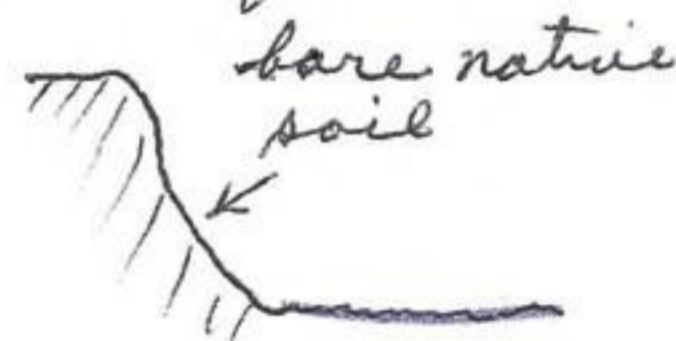
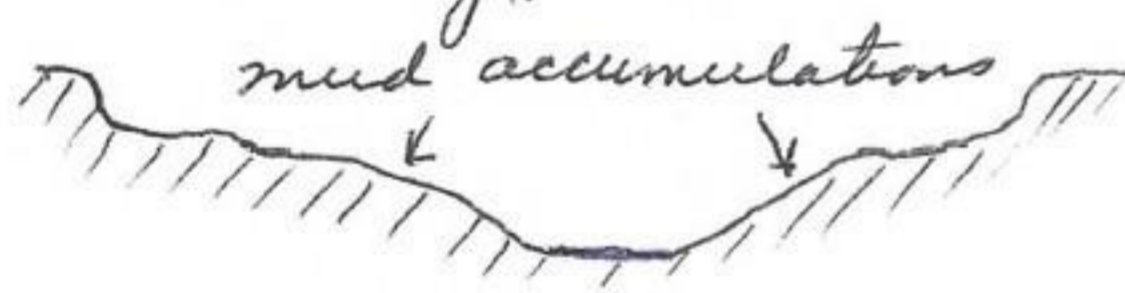
Gnat. In the more quiet sections of the river we observed a black gnat flying about 4 feet above the water. No other insects noted.

I was impressed with the fact that birds and mammals are not as active in cold-windy-rainy weather as they are in the sunshine. The squirrel population was only a fraction of what it would be on a sunny day. This points out the importance of making census under similar conditions of weather and time of day, and season of year, otherwise

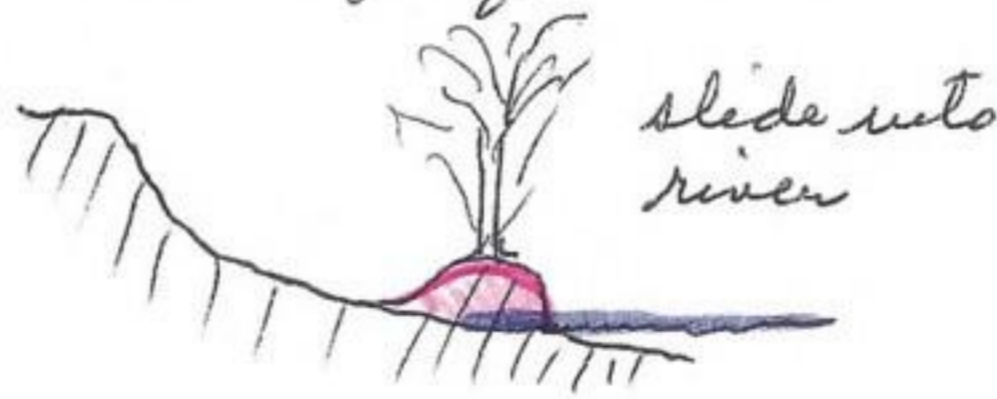
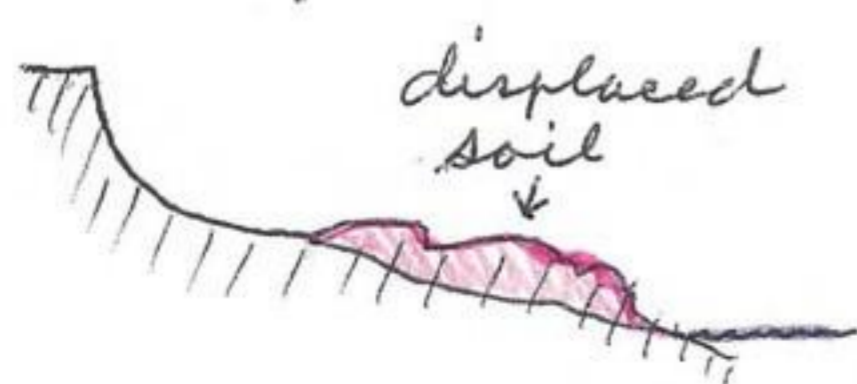
there will be serious errors in the census, Some days squirrels are on all sides while on other days there are practically none in sight. Bird populations can be censused only under identical conditions if the results are to be comparable. On this trip there was inactivity and area quiet until we fired a gun and then 7 or 8 birds be react and make their whereabouts known. The best conditions are a warm or at least sunny windless day for greatest activity and singing upright.

There are old stumps of unusually large size that are in, or at edge of creek proper and are probably trees of a time ~~that~~ when conditions were different than today as I did not notice any modern trees ^{of similar size} in such a position. One area of land displacement included 5 large trees. The common number is one. Some large trees completely blocked creek channel and extended from one side of the bank to the other; some bridging above, some at water level and blocking canoe traffic and some slightly submerged.

The physical feature of the creek are varied and interesting. Some areas are undergoing what I would call major adjustments of erosion and soil displacement. There are various causes of narrow channels; one from land slides from one or both sides without tree obstruction, another with slides and trees blocking water flow. Lateral creeks deposit solid limestone rocks which frequently cause a narrowing of channel and deposition of soils.



varying character line the edges of the river.

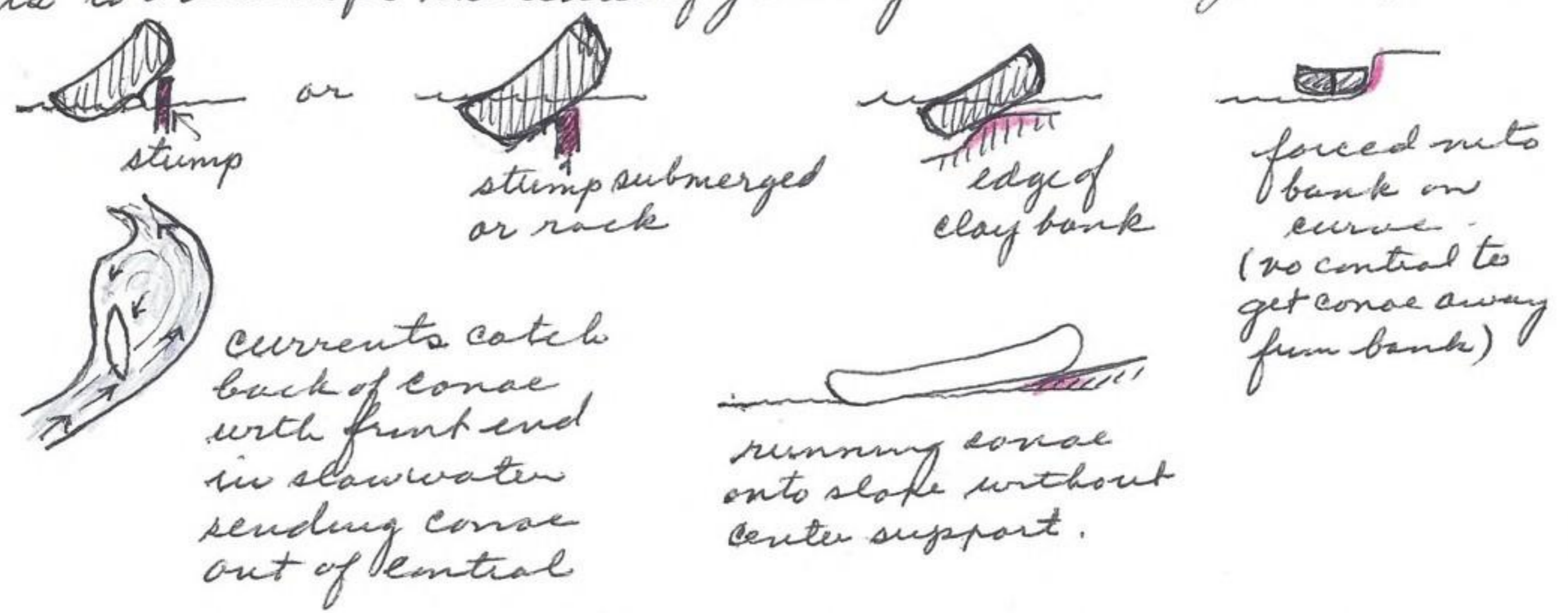


Slopes of Soil creep or slides are common and generally carry trees. Rapids are

caused by a debris barrier from lateral creek, exposed resistant strata of rock, old clay accumulations, slides and perhaps faulting. Vegetation is distributed irregularly. Large trees are generally confined to upper slopes except when displaced by

soil slide. The vegetation on lower slopes is generally small and of the willow type. Some areas however, have small tree growth almost to water level but such areas are uncommon. Some slopes with grass to water level, ^{completely} some ^{are} bare.

Most rapids at this level of water, can be run with canoe. About 15 rapids required lowering of canoe with rope; otherwise canoe would be hung-up by either rocks or soil. The worst danger is hitting submerged top of stump which in certain areas are numerous. One such stump stopped us and held canoe, in spite of several 360° rotations of the canoe. The greatest danger is that at higher speeds, the canoe can be tipped over on its side. When released the tendency is to overshift the center of gravity. Some hazardous positions



noted about 8 large blocks of ice 8 feet long or so on upper slope of channel which were deposited there during period of high water and first ice breakup. These masses of ice lined the creek early in season. Ice lined the edge of creek in protected places (about 1 foot wide) and was either at exactly at the water level or slightly above to as much as 4 or 5 inches. Some ice still remained from water falls on side of banks. Water clear to about 2 1/2 feet. ^{side creeks} ^{isolated patches of} foam. Some pools of quiet water supported foam. Upper reaches of creek free of debris, lower reaches with a few limbs floating in water.

At the Haskell Bottoms on Louisiana Street noted 6 male redwing blackbirds on territories. no females in area.

On March 10 the ice on Pottus Lake on the Univ. of Kansas Campus was melting around edges and in parts of center. On our return March 11, evening, the ice was completely melted. This is the second time this winter that ice has left lake.

The river has been favorable for canoeing the last mile or so. Creek flows with characteristic barrier of rocks to form rapids. 10:55 great horned owl, 1 fox squirrel. Evidence of beaver in long stretch of river. 11:06, 2 wood ducks, male much darker. These ducks were at the old bridge. 11:08 new bridge. From this bridge to about 1/4 mile upstream, the canoeing water is good. 1 fox squirrel.



11:12 Burip Creek from S, good size. 1 fox squirrel. 11:22 good rapids 2 fox squirrels and 1 red-tailed hawk, 11:33 photo 620318-1 of three large elm trees at edge of river (probably undisturbed). 11:42 great horned owl. 11:48 fox squirrel. Up to now I have seen 4 frogs along side of river but in the next 5 minutes noted 8 more. 11:54 photo 620318-2 of James Robert in canoe along side of basal roots of a large sycamore tree. These large trees offer excellent protection to erosion. Last week I was of the opinion that there were old large tree stumps in river that are not now living but on the upper reaches of the stream there are many large trees at edge of river. 12:00 Passed house & silo where utility lines cross river. 1 fox squirrel. 12:05 bridge. 12:15 ♂ & ♀ wood duck. These ducks leave water and fly almost straight up to tops of trees where they leave the river course. 1 fox squirrel. 12:37. ♂ & ♀ green-winged teal. 12:45 G.H. owl. 1 fox squirrel. 1:12 G.H. owl. 1:35 2 red-tailed hawks, 1 G.H. owl and 1 wood duck. ♂ 1:50 steepest natural cascades of entire river covered so far. 1:55 4 wood ducks. 2:00 Lynn Creek, just beyond about 1 block collect 1 yellow-crowned night heron. It measured total length 560 mm, bill 70 mm, tarsus 98 mm, wt 572 gms. The testes measured right 16 x 5.5 mm, left 16 x 5.8 mm.


2:07 2 wood ducks,

2:12 bridge. 2:15 1 fox squirrel, 1 red-tailed hawk 2 fox squirrels. At 2:20

noted a pool of clear water


that was separated from the main stream of water. It was produced by a lateral creek placing barrier at mouth. ^{2 G.H. owls, 2 wood ducks} 2:45 2 fox squirrels

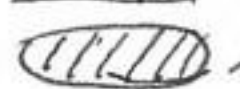
1 great horned owl. One small turtle about 2 or 3 inches long left mud bank. 2:54 R.R. bridge. 3:14 unusual mass of *Equisetum* completely covering creek slope about 30 x 40 feet from top of bank to edge of water. First frogs calling to south,

16 x 5.5 →  ← 16 x 5.8



probably from a pond beyond the river. 3:20 collect a song sparrow 620318-4 from side of creek. I had see only 2 others. 3:20 2 wood ducks, 1 fox squirrel. 3:45 Arrived Richland bridge about 1/2 mi. N of ~~town~~ town. 7 Hours and 15 minutes travel time at approx. 2 miles per hour. At bridge collected 1

slate-colored junco 620318-5 and 1 eastern phoebe 620318-6. The phoebe was a male and its testis measured:  l. 4 1/2 x 2

I estimated that we made 1 portage of 30 feet,  r. 3 x 1/2. 3 rapids to shallow to navigate but canoe lowered empty with rope and about 60 which we row with occasional striking of rocks. Topography varied. At upper limits a platform of limestone along edge of creek, a bank of solid shale the rocks oriented in one direction in creek bed. The stretch of creek covered today has small black willows and other small trees growing down to water edge. Grass also lines slopes. There is less erosion of banks than lower limits of Wakarusa.

The following summary of birds observed:

blue jays - singles, doubles usually and 2 groups of three. 9 noted.

Crow. 2 sections of the river had small groups of crows which were feeding on material in the creek bottoms. On the trip last week were saw & heard many crows but did not see them in the creek proper. They were not organized to fight g. horned owls as was the case last week.

eastern blue bird. Only 14 seen and heard. one ♂ expressed curiosity at 15 feet from canoe at one of the rapids. They were frequently heard singing.

Cardinal. one of the most common birds, general singles or pairs but a few in mixed flocks of other birds. Many singing and in favorable stretches about 1 per per block.

song sparrow. 4. definitely one of the few birds that are found along edge of creek among drift debris & brush. Some singing.

hermit thrush?. One bird which had a reddish tail among drift wood pile (could have been a fox sparrow)

wren - 3 among debris of drift wood along side of creek. sp.?

mourning dove singles to group of 8 generally distributed. 15 total

Red-tailed hawk. 1 pair calling, 2 singles.

green-winged teal. ♂ & ♀

wood duck 1 single ♂, 5 per pairs; 1 group of 4

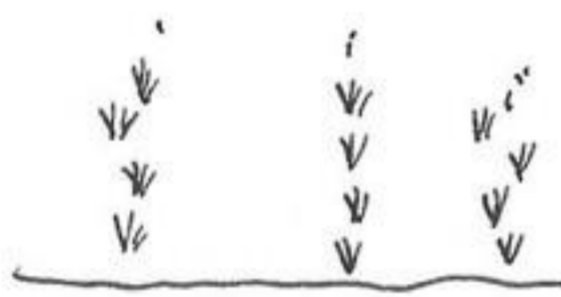
Am. Coot. 1

snow geese. one flock of 50

Am. Robin 18 in small groups.

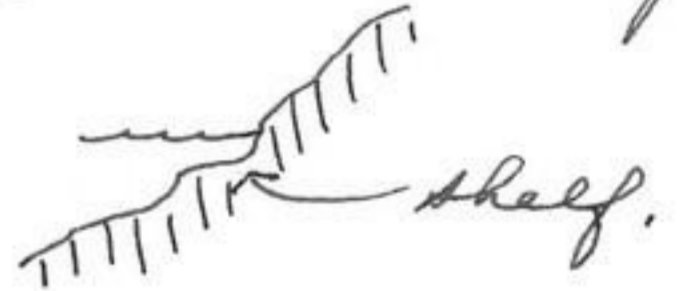
downy woodpecker - 14
 red-bellied woodpecker - 18
 flicker - 4 (yellow shafted)
 hairy woodpecker - 11
 red-wings - one along edge of river, small groups, in trees.
 Oregon juncos - small groups
 slate colored juncos - " "
 eastern phoebe - 12 generally distributed, some associated
 with winter groups of small birds.
 blackcapped chickadees - small groups.
 nuthatches - few
 Kinglets? heard only
 Great horned owls. 9 singles, 1 pair
 killdeer - 1
 titmouse - 28 generally distributed and singing
 meadowlark - heard 3
 no starting

Eng Sparrows - few at farm houses - 1 fresh
 racoon - tracks generally distributed. The characteristic
 track pattern is sets of perpendicular imprints up steep slope.



Raccoon feed along edge of river and at
 certain points move up bank to check material
 and then return to water edge. At most places
 along river there is a ^{submerged} shelf of eroded soil
 which is made, I believe, and used by

racoon. The shelf is at water level.
 These animals are not as common in this
 stretch of ~~river~~ river as below Richland.
muskrat. Did not see but evidence especially scat on logs
 at water level.



Beaver. did not see but evidence. They are not as common
 here as on lower stretches of Wakarusa.

bees - 2

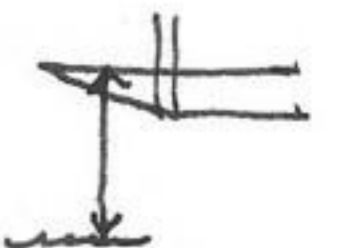
gnats - in quiet parts of river

fish - not much evidence of surface feeding

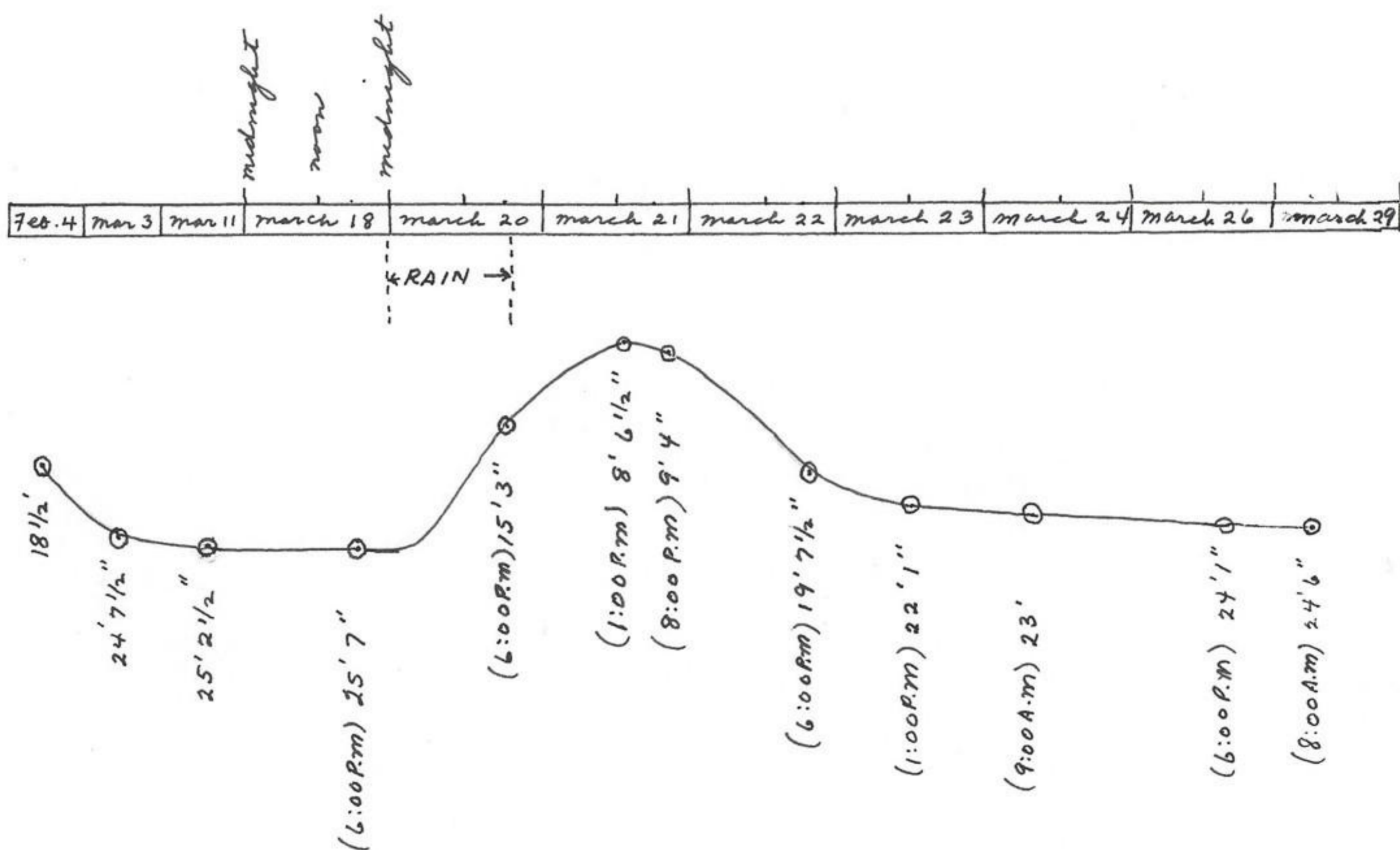
fox squirrels - 15 singles, 5 pairs. One squirrel crossed over
 trees from one side of river to other side. Some pairs chasing each
 other

No butterflies

measured Wakarusa at Louisiana Bridge, Lawrence as 25'7"



The fluctuation of the Wakarusa River is plotted against the few records made this spring. There is a gradual lowering of water in creek after the first major spring thaw when ice and debris moves out of the creek. The first solid rain produced an increase to near flood and then subsided. Crest followed about 18 hours after rain had



stopped. The river at 22' (below bridge) is judged to be a good height for navigation in canoe. At 25' there are too many shallow spots. As late as March 18 there were isolated spots of ice on bank both water level & high flood ice. These ice spots, however, are rare at this time of year.

[see 2 page beyond for March 20, 21, 22, 23, 1962]

Nashell Bottoms, 4 1/2 mi. S Lawrence, Douglas Co., Kansas

March 23, 1962


This afternoon son James and I collected the following birds from the river and slope adjacent to the river. (* mounted)

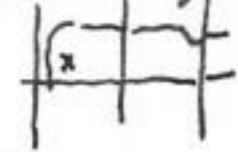
- | | | | |
|------------|---------------|---|---|
| * 620323-1 | American Coot | ♀ | length 370, weight 403gms. |
| 620323-2 | Tree Sparrow | ♀ | t. length 158, wt 18gms, ovary 4 1/2 mm |
| 620323-3 | " " | ♀ | " " 157, " 17gms, ovary 3 mm length |
| * 620323-4 | " " | ♀ | " " 152, " 19gms ovary 4 x 2 mm |

Wakarusa River from U.S. Highway 75 to Richland, Shawnee Co., Kansas.

March 18, 1962

Left Lawrence at 7:25 A.M. at 8:43 at 1 mi E Clinton noted 50 snow geese flying north. One striped skunk road kill. Red-winged blackbirds in large flocks at about 1 flock per mile along the route. No hawk until 1 mi east of Richland and from here to 2 mi. W Richland noted 2 marsh hawks and 3 redtail hawk. No hawks noted beyond to highway 75 S of Topeka. A shrike was clocked at 30 miles per hour. A pigeon at 40 miles per hour. Few horned larks on uplands and the usual small flocks of juncos, tree sparrow, cardinals in definite groups. Early in the morning at near daybreak (last week) there were small sparrows along side of road. Meadow lark common. A few ducks in ponds. Arrived highway 59 at 8:25 where Wakarusa crosses. Departed ^{in canoe} at 8:30 A.M. Rained a few minutes at 7:30 A.M. which accompanied an abrupt front but after it passed they day was cloudy and windy all day. In slow water at 8:46 noted an American Coast. This trip of over 15 miles will require almost constant paddling, portaging and leading canoe down rapids so will not make a complete census as I had planned. Census of the great horned owl, red-tailed hawk, fox squirrel woodducks and beaver will be complete. The squirrel count is not as complete because of lack of critical observation. 9:25 fox squirrel. 9:30 left the valley side. Usual winter birds included isolated groups of juncos, cardinals, chickadees, titmouse & nuthatches. These groups are generally isolated with intervening area without birds. Cardinals now generally distributed all along the route. At 9:35 temp under clouded skies 56°F, water 2 inches below surface of water 40°F, 2 fox squirrels, 1 killdeer overhead. 9:43 limestone ledge of stratified layer dislodged from cliffs on N side, black at edge of water. 3 crows in river bed. 10:00 fox squirrel, 10:05 fox squirrel. 10:12 first great horned owl. 10:15 T.H. owl, 1 fox squirrel. 10:28 1 fox squirrel, 2 fox squirrels together. 10:45 great horned owl, redbellied tailed thrush (could be hermit) in pile of driftwood, also wren. The trees which overhang the river (those injured from high water abrasion, are dropping juices into the water. A few frogs are on bank & edge of river and are jumping into water (Rana pipiens and a small one probably Acris crepitans). At this time they are about 1 per every block or more. 10:47 along valley side to S. Two black capped chickadees calling - one high and one lower in tone.

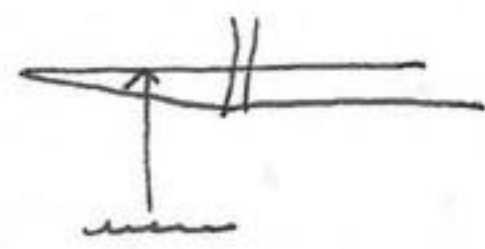
- * 620323-5 Song sparrow ♂ 158 mm T.L., 23 gms, testes $1\frac{1}{2} \times 1\frac{1}{4}$.
- * 620323-6 Field sparrow ♂ 135 " " , 15 gms, testis left $2\frac{1}{4} \times 1\frac{1}{2}$ mm which was the largest of the two.
- * 620323-7 Winter wren ♂ 100 mm total length, tail 28 mm, wt 10 gms. left testes $1\frac{3}{4} \times 1$, right testes $1\frac{1}{2} \times 1$ mm.
- * 620323-8 Fox sparrow ♀ 180 mm total length, 32 gms wt, ovary 3.5 mm square and largest ovum 1 mm.
- 620323-9 Tree sparrow ♀ 155 mm total length, 16 gms, ovary $3\frac{1}{2}$ mm
- 620323-10 Black-capped chickadee, ♂ 145 mm total length, 14 gms; left testes 7.2×6 , right testes 6.5×5.5 .
- 620323-11 Slate-colored junco. ♀ 150 mm total length, 17 gms wt; ^{ovary} ~~testis~~ 6×3 mm 
- 620323-12 Harris' sparrow ♀ 180 mm total length, 33 gms wt.

5 blue-winged teal, one American coot and 1 pied-billed grebe in pond at SW corner of Washell Bottoms . The blue wings were in a proportion of 1 male and 4 females. Two shrike on utility line 50' apart, other singles noted. At about 1 mile up Coal Creek we made several observations of note - there are extremely few birds associated with areas of woodland which are flooded and where *Pseudacris niger* are in full chorus. The sound of these frogs probably keeps other birds away. There are also a lack of buds along the Coal Creek which has just recently overflowed its banks. The best place for sparrow and for juncos are on slopes which have been cut and the brush piled; woodland along overflowing creeks are not prolific in bird numbers. In open field about 1 mi. W of Blue mounds noted 18 Wilson snipes, 45 killdeer in water soaked field. The killdeers were in open field and the snipes in short grass part of field. One Great horned owl in open field about 2 blocks from woodlands. Several horned larks in some general area. Few Rana pipiens calling, occasional *Acris crepitans* ^{not in chorus} but the great majority were *Pseudacris* and in temporary ponds that I am sure will dry before eggs are hatched or tadpoles complete. This evening, ^(6:00 P.M.) noted about 1000 grackles at Chancellors Home on Campus of K.U. These are the first ones noted this season. They have not set up territories across the street from 1620 Tenn. where they have usually formed a colony of 5 or 6 pairs. Starlings are now using the area & nesting holes.

Louisiana Bridge, Wakarusa, S Lawrence, Douglas Co., Kansas
March 24

Water 23 feet below girder of bridge at 9:00 A.M.

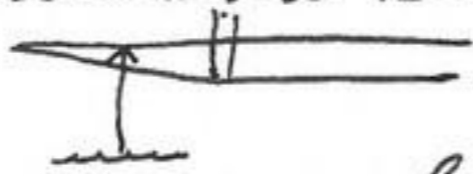
[see page before for dates March 20, 21, 22, 23, 1962 following]



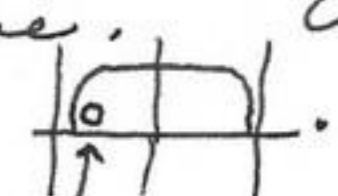
Both the great blue heron and the purple martin were seen by Mr. Kloss this date.

Lawrence, Douglas Co., Kansas

March 20, 1962

Started to rain sometime last night after 10:00 P.M. and continued all day today to shortly after 6:00 P.M. About an inch or so was deposited. At 6:00 P.M. the water was 15 feet 3 inches below the Louisiana Bridge over the Wakarusa River (from top of girder ) which is about 10 feet higher than on Sunday March 18 when we made our canoe trip down this River. Many robins in area. Pseudacris niger in full chorus. At Hasell Bottoms no Acris crepitans calling.

March 21, 1962

At 1:00 P.M. the Wakarusa river was 8 feet 6 1/2 inches below the Louisiana Bridge as measured as above. One American Coot in pond at SW corner Hasell Bottoms .

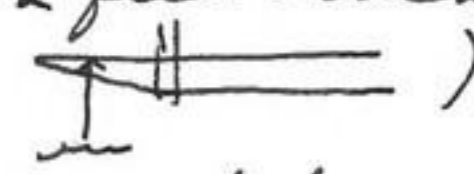
March 21, 1962

at 8:00 P.M. the water in Wakarusa river was 9 feet 4 inches below the Lawrence Bridge. Measured as above. The crest was reached between 1:00 P.M. + 8:00 P.M. and probably at 1:00 P.M. or very shortly after. The water at the highest point 8' 6 1/2" at 1:00 P.M. was at base of tree east of the bridge on N side of river. In pond east of Hasell Bottoms noted 4 shoveller + yellowlegs.

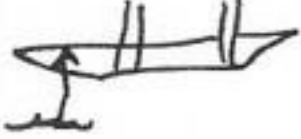
March 22, 1962

Drove Dr. Hull from northwestern Ill. to K.C. Airport. Slight rain (about noon). Some small creeks over banks. At 6:00 P.M. the water was 19 feet 7 1/2 inches below the Louisiana Bridge, measured as of March 20 from top of girder. Pseudacris niger in full chorus but no Acris crepitans calling.

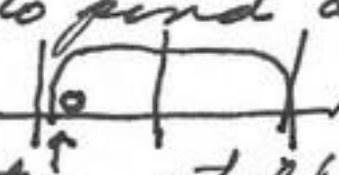
March 23, 1962

at 1:00 P.M. the water in Wakarusa River was 22 feet 1 inch below Louisiana Bridge (measured from girder ) water muddy and sides of banks covered with almost pure mud. 2 American Coots in pond at SW corner of Hasell Bottoms and one in roadside ditch. Pseudacris niger calling at 1:00 P.M. but not in same volume or chorus as in evening. mating (male clasping ♀) Phoebe nesting and eggs.

march 26, 1962

water 24' 1" below Louisiana Bridge on Wakarusa measured 

march 29, 1962

water 24' 6" below Louisiana Bridge over Wakarusa River as measured above. Water relatively clear and with heavy sediment of previous days. Recession lines in mud in last foot bay but are about 1 inch apart. Higher on bank the drop is nearer a foot or so. It would be of considerable value to keep an hourly ^{or continuously} check on fluctuation of water as an expression of the dynamic influence of climate on the drainage system. This information would be of greater value than temp, wind, rain etc as recorded separately. On pond at SW corner of Haswell Bottom (SW Haswell Bottoms refers to pond at junction of Louisiana and Armstrong roads.  5 spoonbills, 1 blue wing). *Rana pipiens* laying eggs. *Pseudacris nigrita* still in full chorus. Last night there was an abrupt change in the temperature at about 9:45 P.M. from a warm to chilling temperature. Yesterday evening there were 3 pairs of grackles at 1613 Tennessee St in Lawrence. They were in tops of conifers but were not investigating trees as possible nesting sites. These trees are used by these birds every year. This year there are starling nesting in several holes.

Haswell Bottoms, 3 1/10 mi. S and 5/10 mi. W Lawrence (P.O.)
Douglas Co., Kansas

march 29, 1962

At 6:00 P.M. noted approx. 275 geese (snows and blues) flying high to NNW. From near pond collected the following:

* 620329-1	grackle	♂	315 T.L.	138 wt.	L. testis 6 x 2.9 mm R. testis 4.9 x 3.5 mm
620329-2	grackle	♀	297 T.L.	124 gms	largest testis 5 mm
* 620329-3	swamp sparrow	♂	139 T.L.	18 gms.	R. testis 2 x 1.2 L. testis 2.2 x 1.6
620329-4	red-winged blackbird	♀	233 T.L.	65 gms.	testis 2.8 x 1.5
* 620329-5	fox sparrow	♀	T.L. 178	35 gms wt.	ovary 1 mm long.

At 3 1/10 mi. S and 5/10 mi. E Lawrence (P.O.) noted several thousand grackles and redwings arriving to roosting grove just east of Haswell Avenue. Water completely inundates ground of grove and gives excellent protection to roosting birds.

4 1/10 mi. S and 2 2/10 mi. E Lawrence (P.O.), Douglas Co., Kansas

march 29, 1962

Collected one phoebe from along Coal Creek:

* 620329-6 phoebe. ♂ T.L. 175 - wt. 23 gms testis 3.3 x 2 right, left smaller

Also noted 1 fox sparrow and 1 swamp sparrow. These two birds

were feeding in a weed patch about 50⁺ feet from edge of timber where there was considerable brush and saturated soils. and to which they flew when I passed by. They alighted on edge and remained there without the usual concern of man. Time 6:30 P.M.

1613 Tennessee St., Lawrence, Douglas Co., Kansas

March 30, 1962

Three pairs^(?) of grackles in tops of conifer trees. They were definitely inspecting area for territories or nesting sites. At this time there did not seem to be conflict with the already established starling. A non-migrating bird has the advantage of migrating birds in this case, as the starling have been using this area for the last 2 months, or for a matter of fact, all winter.

Potters Lake, Univ. Kansas, Lawrence, Douglas Co., Kansas

March 30, 1962

Dr. Edward H. Taylor reported that in the early days of his teaching at K.U. he noted a swan on the lake. White pelicans have been frequently seen on this lake, more so in early days than recently.


4 1/2 mi. S Lawrence (P.O.), Douglas Co., Kansas

April 2, 1962

From brush at side of Wakarusa River collected 3 Harris' Sparrows:
620402-1 Harris' Sparrow 185 T.L., 34 gms. ovary 6 mm x 2.8
620402-2 " " ♀ 200 T.L., 42 gms. (worms inside ~)
620402-3 " " ♀ 190 T.L., 41 gms molting over entire body.
yesterday evening inspected Washell Bottoms and elsewhere and noted the Pseudacris not calling except in duodecals who's call was slow and weak. These few frogs were calling in areas where a few days ago the entire area was a solid chorus of calls. The wind and low temperatures (40°F at 6:00 P.M.) accounted for this condition. Many areas where frogs were calling, mating and laying eggs are now dry. Did not hear Rana pipiens or Acris nigrita. Snowed during night between 9:00 P.M. Sat, March 31 and Sun morning April 1. On March 31 and April 1 at evening time I found that bird life is scarce (unusually) in forested areas.

4/10 mi. E and 7/10 mi. N Clinton, Douglas Co., Kansas

April 2, 1962

Collected several birds from timbered area in Wakarusa valley NE of Clinton. This area is an old stable land mass surrounded by a high level oblong drainage. The larger trees have recently been cut and center sections of trees removed & upper limbs now remain as brush piles. This area consists of about 1/5 mile square  ROAD
Bridge
Wakarusa

that is $\frac{1}{5}$ mile on each outer dimension. This area is immediately east of the county bridge that crosses the river. The Le Conte Sparrow was from weed patch south of timbered tract.

- 620402-1 Blue Jay 305 mm t.L. - 100 gms wt., R.T. 6.5 X 4.8, L.T. 8.1 X 5.5
 620402-2 Cardinal 218 mm t.L. - 48 gms ♂
 620402-3 Red-bellied woodpecker 247 T.L. - 89 gms. R.T. 6.2 X 5, L.T. 7.5 X 5.3
 620402-4 Cardinal 213 mm t.L. - 46 gms. ♀
 620402-5 Fox sparrow 178 mm t.L. - 38 gms. ♂
 620402-6 Sapsucker 208 mm t.L. - 56 gms, ovary 4.5 mm. fat on body 9 gms and in places $\frac{1}{4}$ inch thick and solid.
 620402-7 Downy woodpecker 158 mm t.L. - 25 gms ♂
 620402-8 Le Conte sparrow 125 mm t.L. - 14 gms ♂
 620402-9 Lincoln sparrow 146 mm t.L. - 19 gms ♂
 620402-10 Song sparrow 154 mm t.L. - 31 gms ♂
 620402-11 " " 155 mm t.L. - 31 gms ♂
 620402-12 Harris' sparrow 183 mm t.L. - 42 gms ♂
 620402-13 White-breasted nuthatch 144 mm t.L. - 22 gms. ♂
 620402-14 Swamp sparrow 135 ^{mm} gms t.L. - 16 gms wt. ♂
 620402-15 Ruby-crowned kinglet. 112 mm t.L. - 8 gms. ♂
 620402-16 eastern phoebe 178 mm t.L. - 25 gms ♂
 620402-17 slate-colored junco. 148 mm t.L. - 19 gms ♂
 620402-18 tree sparrow 155 mm t.L. - 19 gms. ♂

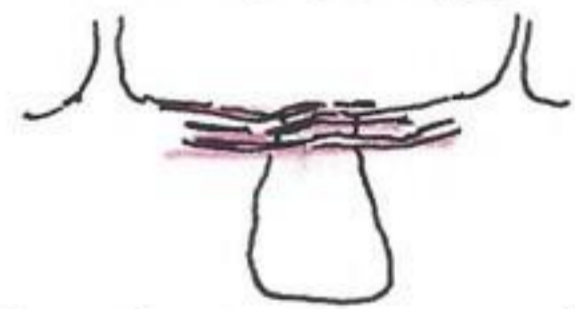
Other birds in the wooded area were:

Crow. One concerned as if nesting or on territory.
great horned owl. one, probably nesting in area as it circled area but did not leave

turkey vulture. Pair flew by overhead.

great blue heron. one flying east along n side of valley.

winter wren. a dark wren flew into an erosional gully. This gully was unusual in that the roots still formed a network on surface of ground but gully 8 feet or so deep and four feet wide. The older gully of about 3 feet deep was 20 feet away a parallel to the new one.



The wren flew into this section of the gully and I could not dislodge it. Several good deep meanders of a small creek in this area.

titmouse, bled. several during the entire time I was in area from 2:00 P.M. to 5:00 P.M. On three occasions a ♀ bird flew directly to me from about 200 feet away and lit within 20 feet of me. They remained a few minutes and then continued on. One flew across the Wakarusa River to inspect me.

Robin. 8 in area in loose group.

red-tailed hawk. One on ridge to S.

red-winged blackbird. Small group flew by to S
killdeer. 9 in field to east which was recently plowed.

black-capped chickadee. about 18 in area.

eastern bluebird. one on open slope to south of Wakarusa River.

shrike. In weed patch W of area.

eastern phoebe. One pair in area

meadowlark. 2 in field east of area

horned lark. 4 or 5 in open field east of area.

no starling in area

pair mourning dove at edge of timbered land.

few butterflies.

red-billed grebe in Wakarusa.

The Le Conte Sparrow is confined to the grass-weed fields and fly from the center of field to high weeds at edge. It was not seen beyond these limits and is the most characteristic bird of the weed field.

The other small sparrows will occasionally enter wooded areas.

The field adjacent the river valley sidehills are wet from drainage, probably underground drainage. In timbered sidehill among dry leaves noted several roosting places of small birds. At about 100 feet east of bridge took photo 620402-19 of the Wakarusa River. Green grass on bank showing some growth. The gooseberry bush is the most noticeable green bush in the timbered area. The banks of the Wakarusa has a small frog.

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

April 3, 1962

13 Bohemian waxwings eating seeds from tree (^{Sophora japonicum?} ornamental) at the Chancellor's residence. In former years these trees were the favorite feeding grounds for the cedar waxwing. This year I have only seen the Bohemian waxwing in the area.

4 1/2 mi. S Lawrence, Haskell Bottoms, Douglas Co., Kansas

April 3, 1962

Collected the following birds near Wakarusa River:

- x 620403-1 meadowlark ♂ 242 mm t.l. - 129 gms R testis 12.2 x 6.8, L. 11.8 x 6.7
- x 620403-2 Song sparrow ♀ 153 mm t.l. - 24 gms ovary 2 mm
- x 620403-3 " " ♂ 149 mm t.l. - 24 gms testes 1.8 x 1.5 mm
- x 620403-4 Lincoln sparrow ♂ 137 mm t.l. - 16 gms L. testis 1.9 x 1.2, no right testis
- 620403-5 eastern phoebe 162 mm t.l. - 21 gms ♀
- x 620403-6 juncos. ♀ 145 mm t.l. - 20 gms ovary 3.9 x 3.4

After the sun went down the meadowlarks were perched on small weeds about 1/2 foot above grass level. They were generally distributed and were calling in a very soft toned song. At a bridge, which was only 2 1/2 feet above the water, two eastern phoebe were sitting nearby. They both flew under when approached and when a rock was dropped into the water they both left. The female 620403-5 was collected.

Dightman's Crossing, Wakarusa River, Douglas Co., Kansas
NE 1/4 NE 1/4 sec. 14, T. 13S., R. 20E.

April 3, 1962

Took 4 colored photographs of Wakarusa River showing massive Tonganokic sandstone member of Stranger Formation. Light poor and about 4:00 P.M. Photo 620403-7 from W side of river and showing formation and wood debris up creek. Photo 620403-8 from E side and beyond bend up creek from main group. Three trees and cliff. Photo 620403-9 of erosional pattern and rocks in foreground shooting up river and about middle of exposure. Photo 620403-10 of formations shooting down creek.

2 3/10 mi N and 1 1/2 mi. W Lawrence, ^(P.O.) Douglas Co., Kansas

April 4, 1962

From along Atchison-Topeka and Santa Fe railroad between Kansas Power & Light Co and Callery Chemical Co collected the following birds:

- | | | |
|----------|-----------------------|--|
| 620404-1 | Cardinal ♂ | 208 mm t.l., 48 gms., Rt. 2.8 x 2.3, L.T. 3.7 x 2.2 mm |
| 620404-2 | Song sparrow | 160 mm t.l., 24 gms. |
| 620404-3 | " " | 160 mm t.l., 24 gms ♀ |
| 620404-4 | Lincoln sparrow | 138 mm t.l., 19 gms ♀ |
| 620404-5 | Vesper sparrow | 153 mm t.l., 29 gms. ♂ |
| 620404-6 | Slate-colored sparrow | 152 mm t.l., 23 gms. ♂ |
| 620404-7 | Oregon junco | 152 mm t.l., 19 gms. ♀ |
| 620404-8 | Brown creeper | 130 mm t.l., 10 gms ♂ |
| 620404-9 | Eastern bluebird | 170 mm t.l., 37 gms Rt. 8.7 x 6.0, L.T. 9.0 x 5.0 mm |

The most favorable place for sparrow is in tall 8 feet high weeds (dry straight stalks) associated with small bushes. No tree sparrows in area. Lincoln sparrows generally on ground along wet course among sparse willows or trees. They keep close to the ground.

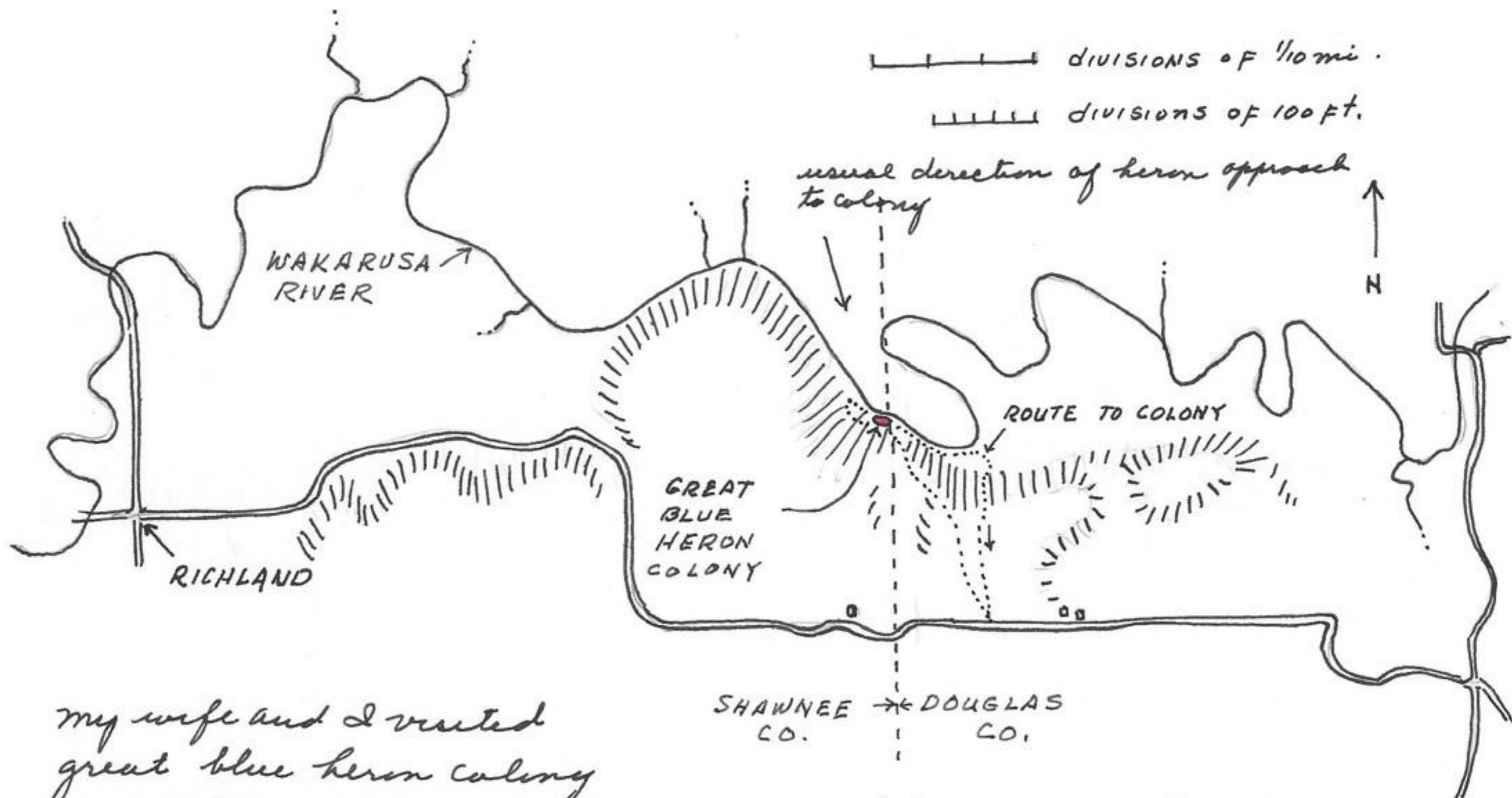
201 Vermont St., Lawrence, Douglas Co., Kansas

April 4, 1962

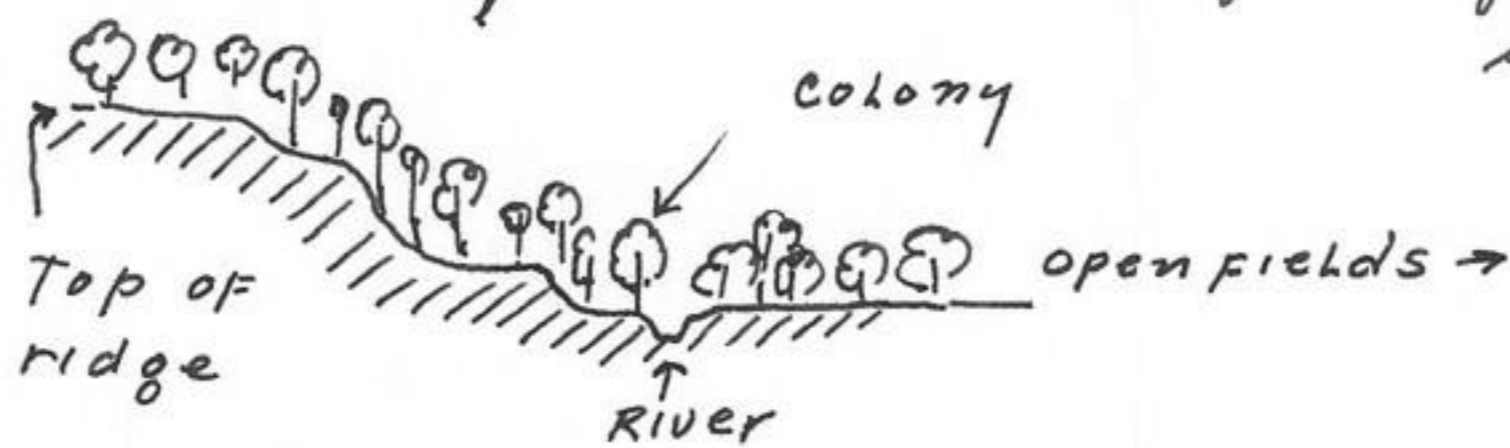
Pet Rierson killed a screech owl near his home. He had seen it before this season. 620404-10 Screech owl 222 t.l., 147 gms. wing sp 551 mm. testes 8.6 x 6.8 mm. 9.3 x 7.4 mm left. Testes bluish grey.

1 4/10 mi. E and 600 ft. N Richland, Shawnee Co., Kansas

April 5, 1962

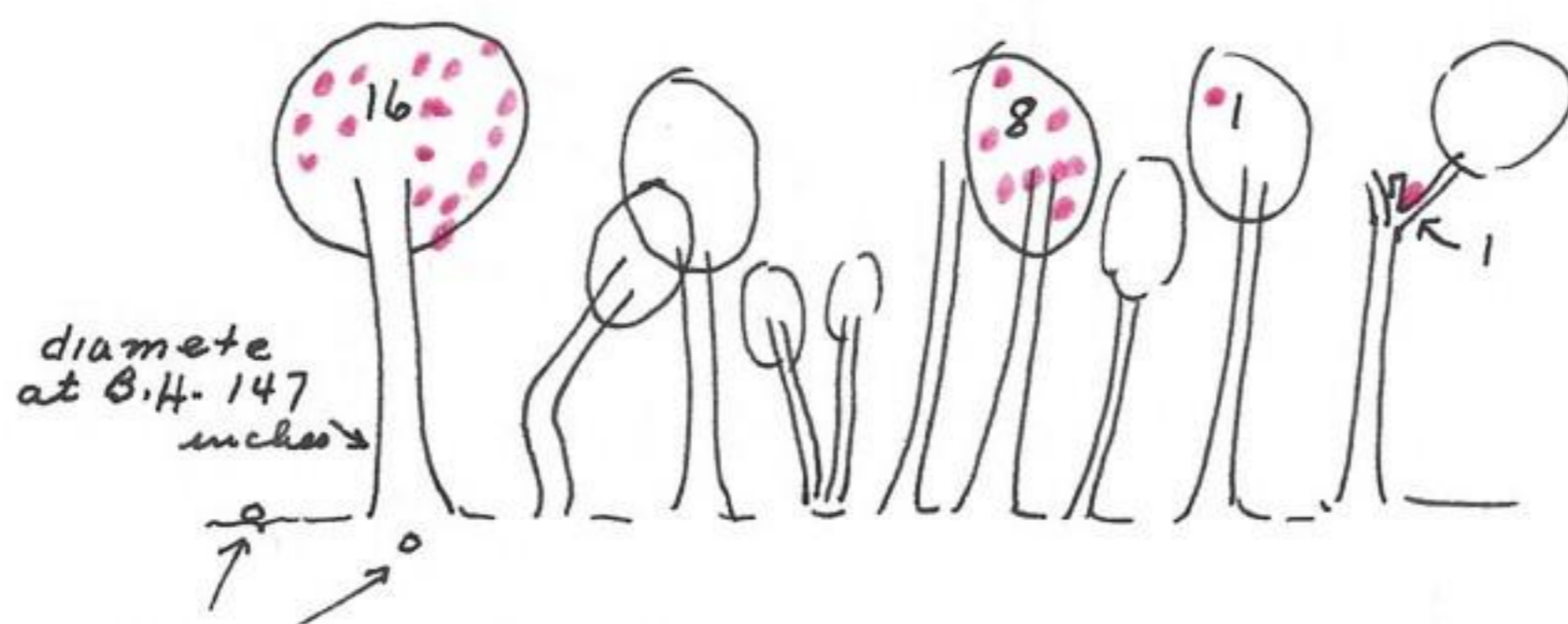


my wife and I visited great blue heron colony on Wakarusa River east of Richland, (3:00-4:00 P.M.). Colony of 26 nests in sycamore trees at edge of river (S side). This colony is on the south side of the valley and at base of hillside which is 140 high. The largest sycamore had 16 nests, a second



stems in crutch as if being constructed.

sycamore 8 nests which is 2 more than note on a previous trip (see), a third sycamore with 1 nest and a fourth with a few nests mainly on outer limits of branches.



Element, under nests covering about 40 percent of ground surface and thin in surface, indicate that the colony had not been in use for very long. 2 fragments

of eggs with yellow yolk stains under largest tree (probably fresh). One bird remained near nest while all others kept away from the colony while we were under trees. Birds that approach ^{and} then flew away were generally from the NW or N. Occasionally a bird would give a deep but not too audible squawk.

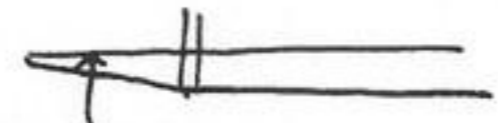
The birds returned to nests after we left. On approach we counted 18 birds leaving the colony at one time. This area should be posted but people could view colony with binoculars from vantage point on ridge to south. There did not appear to be any unusual association of other kinds of birds with the colony. Three turkey vultures were noted flying over colony on three occasions but they did not seem to be concerned directly with the colony. On plateau above ridge (near ear) the *Microtus achrogaster* had completely utilized a clover field during winter. Runways were in all directions and seemed to have been used when wet. Some trails appeared to be recently used but in about a block of searching did not see any animals. Coyotes and skunks? had excavated many underground nests. While at colony photographed the nests in the largest tree from SSW of tree 620405-1, one photo of nesting tree from about 100 feet up creek 620405-2, and a third general view of creek from colony showing Wakarusa River to west. 620405-3. Tracks of heron were uncommon in mud near colony - numerous racoon along river, however. The gooseberry and small hickory? were most noticeably in beginning foliage (gooseberry) or bud (hickory). Other tree did not show conspicuous budding or leaves. From near Richland collected a killdeer 620405-4 from a pond along side of road. Also noted 1 yellowlegs and 3 Wilson Snipe from another drainage pond in Wakarusa river valley near Clinton. measure of killdeer: 620405-4 ♂ Killdeer 251 T.L. - 100 gms - L testis 5.0 x 4.3, right testis 9.6 x 5.3 (heavier end posterior 0).

4 3/20 mi. S and 400 ft west Lawrence (P.O.), Douglas Co., Kansas

April 7, 1962

Took 2 photographs of Wakarusa River S of Haskell Bottoms showing cliff outcrops 620407-1 and small creek that enters from S 620407-2. These same kinds of cliffs are exposed down river near Louisiana Bridge. In this area collected the following birds:

620407-3	Savanna sparrow	132 T.L. - 20 gms. ♂
620407-4	" "	132 T.L. - 20 gms. ♀
620407-5	Titmouse	157 T.L. - 25 gms. ♂
620407-6	Oregon junco	155 T.L. - ¹⁹ 23 gms. ♂
620407-7	Vesper sparrow	149 T.L. - ²⁸ 37 gms. ♂

Wakarusa River at Louisiana Street 25 feet 8 inches below girder of bridge  water relatively clear.

Mouth Wakarusa River, Douglas Co., Kansas

April 8, 1962

Collected the following birds from near mouth Wakarusa River on S side:

- 620408-1 Cardinal 225 mm T.L. - 48 gms ♂
 620408-2 Oregon junco 149 mm T.L. - 18 gms ♂
 620408-3 black-capped Chickadee 131 mm T.L. - 12 gms ♀
 620408-4 goldfinch 120 mm T.L. - 11 gms ♀

James Robert, Robert Pearson and Richard Hemphill made canoe trip from Haskell Ave Bridge to Bridge # of Eudora. James & Richard stopped at Slightman's Crossing. They noted one dead beaver. measured a cottonwood tree on S side of Wakarusa near mouth at 2 1/2 feet at 3 feet high $\frac{1}{2}$ V L

3 1/2 mi. S and 1/2 mi. W Lawrence (P.O.), Douglas Co., Kansas

April 14, 1962

Collected the following from pond at side of road in Haskell Bottoms:


- 620414-1 Wilson snipe 275 T.L., 120 gms ovary 14 mm long, largest ovum 3 mm in diameter
 620414-2 American coot 278 T.L., 600 gms. testes ^{Right 9.1 x 6.2} _{left 9.3 x 6.0}
 620414-3 Red-winged blackbird 238 T.L., 65 gms ♂
 620414-4 " " " 231 T.L., 62 gms ♂

3 1/2 mi. S and 2 7/10 mi. E Lawrence (P.O.) Douglas Co., Kansas

April 14, 1962

Collected the following birds and mammals from along the creek:

- 620414-5 *Sciurus niger* 177 total length, 45 gms. ♂
 620414-6 " " 525 " " 600 " ♀ This female

and young from nest of dry bark shreds and leaves from locust tree (completely thorny and would have been impossible to climb.) nest 12 feet high and lodge in crotch and thorny branches. The above young was the only one in nest. Eyes not open. These young of the squirrel are difficult to hold by heart pressure. nest open fields  open fields
 20 feet from open field nest creek
 and 40 feet from creek

- 620414-7 Harris sparrow 192 T.L. 35 gms ♂
 620414-8 " " 189 T.L. 38 gms ♂
 620414-9 Downy woodpecker 170 T.L. 27 gms ♀

- 620414-10 eastern bluebird 173 T.L., 30gms ♂
 620414-11 black capped chickadee 136 T.L., 12gms ♂

In field 1 block of creek collected 2 horned lark in open plowed field.

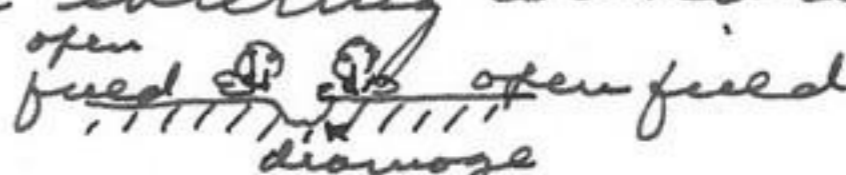
- 620414-12 Horned lark 186 T.L., 31gms ♂
 620414-13 " " 180 T.L., 30gms ♂

3 1/2 mi. S and 3 mi. E Lawrence (P.O.), Douglas Co., Kansas
 April 15, 1962

Collected the following bird from fence line. Open fields on both side of road. Nearest trees 1/10 mi to SW. The bird was very confiding and allowed car to approach to within 20 feet. This habit of sitting on fence lines within easy shooting distance may be a factor in keeping the population down.

- 620415-1 scissor-tailed flycatcher. 325 T.L., 42gms testes
 Right 6.0 x 4.3, left 6.4 x 4.0.

4 2/10 mi. S and 3 mi. E Lawrence (P.O.), Douglas Co., Kansas
 April 15, 1962

From bush along small drainage entering Wakarusa River shot the following birds 

- 620415-2 lark sparrow 165 T.L., 29gms ♂
 620415-3 white-throated sparrow 175 T.L., 27gms ♂
 620415-4 fox sparrow 174 T.L., 37gms ♂
 620415-5 bluebirds 175 T.L., 33gms.
 620415-6 Harris' Sparrow 192 T.L., 35gms
 620415-7 " " 178 T.L., 36gms ♂
 620415-8 W.B. nuthatch 145 T.L., 20gms ♂
 620415-9 swamp sparrow 140 T.L., 15gms ♂
 620415-10 white-throated sp. 170 T.L., 26gms ♂
 620415-11 lark sparrow 168 T.L., 28gms ♂

Camp, Univ. Kansas, Lawrence, Douglas Co., Kansas
 April 21, 1962

Noted chimney swifts on campus for first time this year. They were in small numbers compared to summer population.

April 24, 1962

Noted 2 pairs of starling copulating (6:00 P.M.) at residence, 1620 Tennessee, Lawrence.

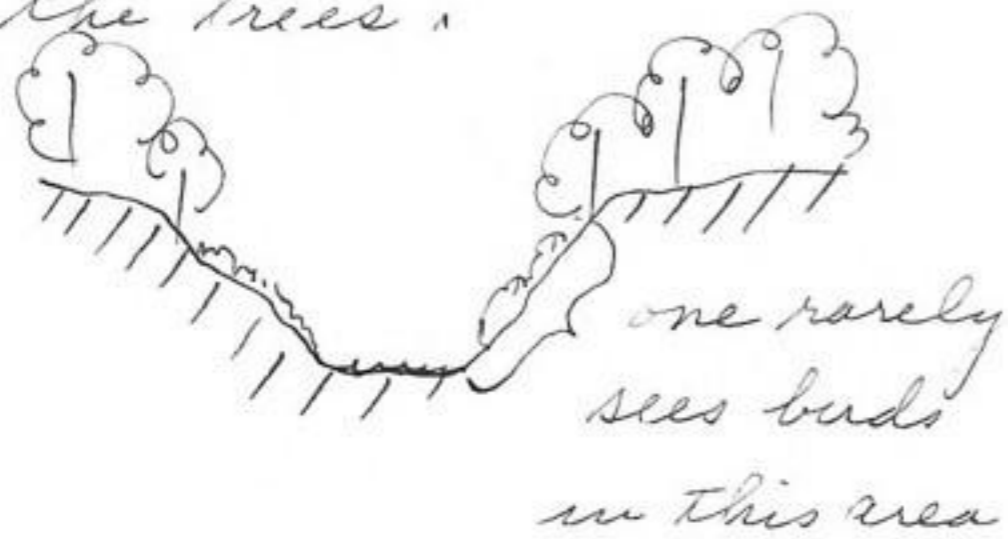
13/20 mi E and 3/4 mi. N Clinton, Douglas Co., Kansas

April 28, 1962

Son James and I made canoe trip down Wakarusa River from bridge at locality above N E of Clinton to next bridge down river about $4\frac{1}{3}$ miles by river and $2\frac{1}{5}$ miles by straight line. Collected the following birds:

620428-1	Savanna sparrow	138 mm total length,	17 gms wt ♀
620428-2	" "	132 mm t.l.,	16 gms. ♂
620428-3	Harris' sparrow	172 " " "	33 " ♂
620428-4	field sparrow	142 " " "	12 " ♂
620428-5	Myrtle warbler	140 " " "	12 " ♂
620428-6	" "	140 " " "	13 " ♂
620428-7	Spotted sandpiper	177 " " "	40 " ♀
620428-8	white throated sparrow	172 " " "	30 " ♂

There is a real scarcity of birds in creek vegetation proper, that is the area between the edge of creek and the edge of the trees.



The ground is covered with small trees and few weeds and soil generally bare and muddy when wet. This is the zone of flood waters when creek is flooded. Most of the birds are in high trees.

Collecting is not satisfactory because of the inconvenience of climbing steep bank and then the thick weeds (stinging nettle) where birds fall and are not recoverable. We did not see beaver or muskrats or usual signs of raccoon activity, and we believe that these animals have change location or their numbers have been reduced by poaching and hunting dogs. We noted 1 dead beaver in debris about 8 feet above present level of creek and one at present level of creek, both small and probably of last years animals. James Robert (son) told me that last week he saw 1 dead beaver (large and whitish in color) between Washell Bridge and Rightman's Crossing.

In Wakarusa River valley in open fields we noted and heard ducks but we did not find them on uplands where in former years they were numerous. There was a noticeable lack of fox squirrels along a route where earlier in the season there were many. Earlier in the season during breeding they are conspicuous whereas at this time of year with young in nests, they are very inconspicuous.

3³/₁₀ mi. E and 8¹/₁₀ mi. N Lawrence (P.O.), Douglas Co., Kansas

April 29, 1962

Collected the following from area of pond and from timber along mud Creek about a ¹/₁₀ mi. East of the pond. This area is bordered by extensive elevated field of river bottoms:

620429-1	Bronze grackle	320 mm T.L.,	134 gms	♂
620429-2	Lincoln sparrow	139 "	14 "	♂
620429-3	Savanna sparrow	138 "	20 "	♂
620429-4	Downy woodpecker	162 "	32 "	♀
620429-5	Warbling vireo	138 "	11 "	♂
620429-6	Orange-crowned warbler	115 "	9 "	♀
620429-7	Baltimore Oriole	191 "	34 "	♂
620429-8	Dickcissel	175 "	30 "	♂
620429-9	Horned lark	180 "	33 "	♀
620429-10	White Crowned Sparrow	179 "	34 "	♂
620429-11	Pilot black snake	1140 mm body length,	232 tail length	
620429-12	Thamnophis	420 mm body length,	108 tail length	
620429-13	Bufo ^{Cognatus} compactus	45 mm total length		

This toad was taken from the stomach of the Thamnophis above. The hind feet and parts of the legs were eaten. The snake was resting on top of a tree stump 2 feet above the ground with area of toad on uppermost part of stump and head lowered. It appeared as if it was taking advantage of the sun's rays for digestion purposes.




Toad eaten front end first. The time collected was 11:45 A.M.
 620429-14 Scaphiopus From under rock on old R.R. grade.

The downy woodpecker 620429-4 was one of two in process of copulation. One little green heron on mud Creek. The blue jays in the city of Lawrence, have for the last week and a half, been traveling in groups of 2-6 and calling continuously. I believe they are organized for hunting eggs and small birds. The same kind of hunting organization is also taking place in areas removed from the city. There is a definite correlation between arrival of small birds from the south and the appearance of leaves on the trees which has occurred in the last week.

noted a female fox squirrel working slowly along branch about 4 feet from two nests of dried leaves which probably supported young of the squirrel.

This afternoon son James Robert and two of his friends made a canoe trip on Wakarusa River from Haskell Bridge to Eudora. Time 4 hours. They saw only one muskrat, no beaver except one dead (whitish pelage). Last week they noted 1 great blue heron ^{on river} between Haskell Bridge and Dixie's Crossing.

They capsized twice, once because of one of them springing from edge of canoe to shore causing the two other individuals to shift weight in opposite direction. The boat turned over in the direction of the shift of weight. The other time was when one man was in canoe on back end beyond seat  and when canoe was pulled up on land (front end) the high point of gravity turned the canoe over.

The dickcissels are common in cultivated fields of riverbottom (alfalfa) and are singing. Many males in outer edge of trees bordering these fields; others singing from telephone lines, small bushes and tops of weeds.

Lawrence, Douglas Co., Kansas

May 4, 1962

There was a noticeable falling of the seeds of the elm ⁽¹⁶⁾ today. The ground had accumulated masses, especially under trees. Collected a *Neodophis* 620504-1 on campus at K.U.

Delaware River, Perry, Kansas

May 6, 1962

Son James & I made canoe trip up river from highway bridge to second bend (A-A'). One eastern Kingbird at first bend. Along

good
Telposeves
of bank

little green heron

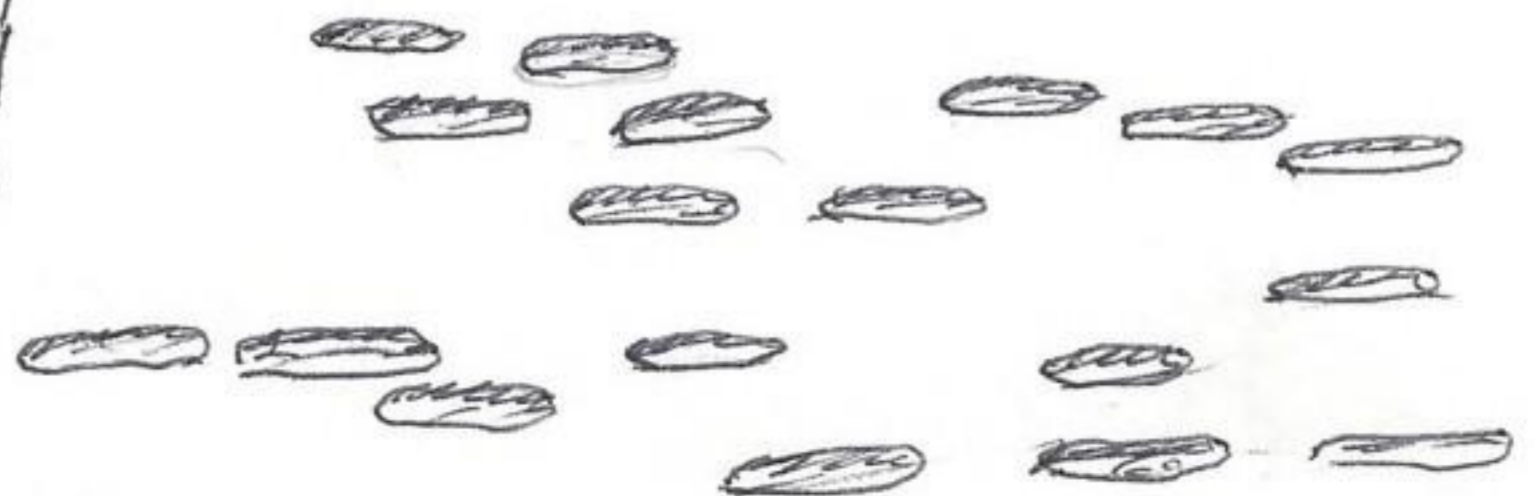
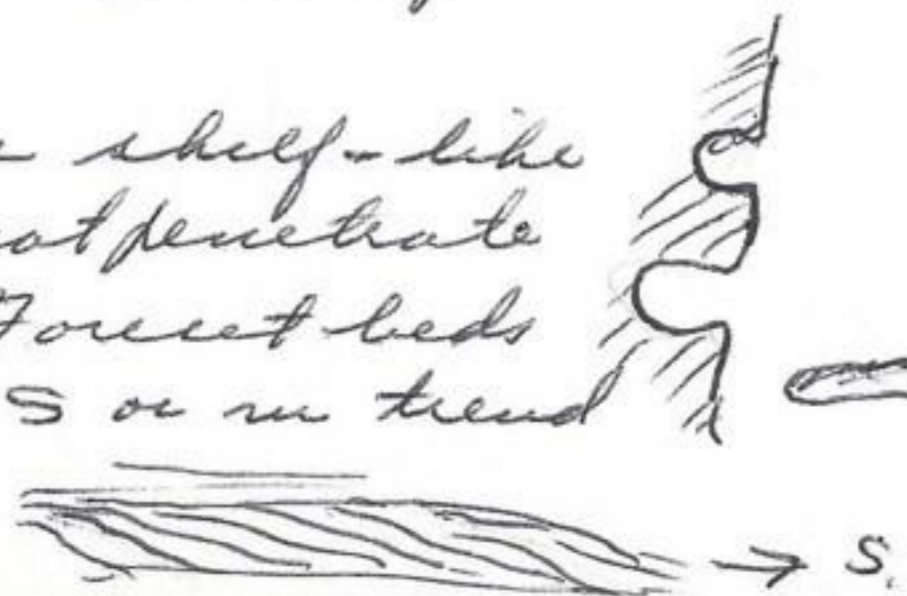
beaver house
in middle of
river.

A ← highway
bridge
R.R. bridge



edge of river in native soils of bank noted many small parallel holes thus (nat. size)

They were shelf-like and did not penetrate soils. Forest beds dipping to S or in trend of river



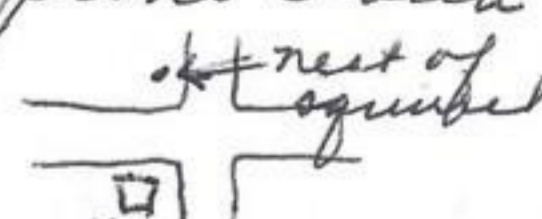
Noted about 20 frogs along bank. when cone is close to land they will jump into side of cone rather than into water. One fisherman caught a 14 inch Channel catfish on trout line set. One set line held a red fox which was caught by the foreleg. The fox apparently was attempting to get at the bait or fish when caught and was drowned. Few *Acris crepitans* calling (4:00 P.M.).

3 3/10 mi. E and 8/10 mi N Lawrence (P.O.), Douglas Co. Kansas

May 7, 1962

Collected the following birds from around interurban pond:

620507-1	Orchard Oriole	wt. 23 gms.	♂
620507-2	" "	166 mm T.L.,	²¹ / ₇ gms ♀
620507-3	Warbling vireo	142 mm T.L.,	14 gms ♂
620507-4	Savanna sparrow	132 mm T.L.,	¹⁷ / ₅ gms ♂
620507-5	Seedeater	159 mm T.L.,	30 gms ♂
620507-6	"	166 mm T.L.,	31 gms ♂
620507-7	"	165 mm T.L.,	30 gms ♂
620507-8	"	165 mm T.L.,	²⁹ / ₂₈ gms ♂
620507-9	Savanna sparrow	140 mm T.L.,	²¹ / ₇ gms wt ♂

One pair of eastern Kingbirds at pond and remained in area. At 1/2 mi. N & 16/10 mi. E Lawrence (P.O.) at a point across street to N from Bismarck School ^(Superior School) noted one *Citellus franklinii* enter one of two holes in den area. It had crossed street from east when first observed. Except for a few 1 foot high weeds, there was no vegetation on ground. This area was formerly a processing plant which was destroyed by tornadoes several years ago. ^{nest of squab}
The soil was composed of material of disintegrated cement and building material. 
Bismarck School

May 7, 1962

Robert Pierson presented me with the following material from above locality:

620507-10 Copperhead body 232 - tail 44

620507-11 Timber rattler total 950, body 850, buttons 48, 500 gms wt.

620507-12 *Carphophis amoenus* body 229 - tail 48

620507-13 *Thamnophis* body 440 - tail 140 - 30 gms

620507-14 *Natrix* tail 126 - body 360 - 35 gms

620507-15 *natrix* body 380 - tail 137 - 36 gms

620507-16 *Eumeces*

620507-17 *Eumeces*

620507-18 *Eumeces*

620507-19 *Eumeces obsoletus*. largest egg 

May 10, 1962

Robert Pierson presented me with the following snake:

620510-1 Blue racer 642 body, 175 tail, 90 gms wt. From above locality.

Lawrence, Douglas Co., Kansas

May 10, 1962

Noted nighthawks over buildings in town, some of the birds were chasing each other only a few feet above ground between buildings. These are the first birds observed this season.

Haskell Bottoms, 4 1/2 mi. S Lawrence (P.O.), Douglas Co., Kansas.

May 11, 1962

Collected the following herps:

620511-1 *Natrix* 690 body - 83 tail - 170 gms.

620511-2 *Coluber Constrictor* 631 body - 195 tail - 118 gms

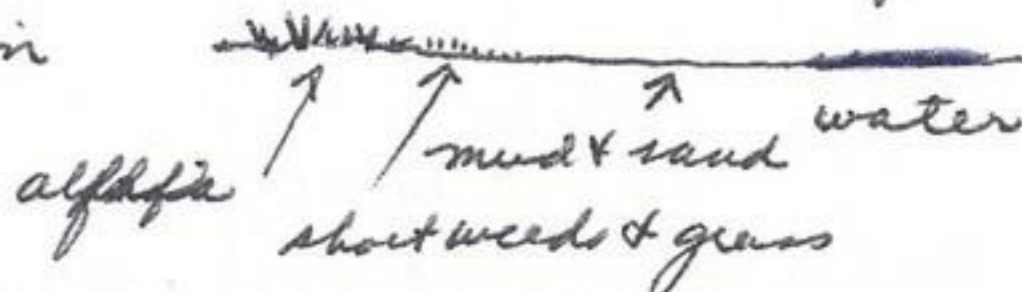
620511-3 *Eumeces obsoletus* 112 - 120 - 40 gms

620511-4 *Eumeces obsoletus* 112 - [95] - 37 gms.

1 8/10 mi. N and 1 6/10 E Lawrence (P.O.), Douglas Co., Kansas

May 12, 1962

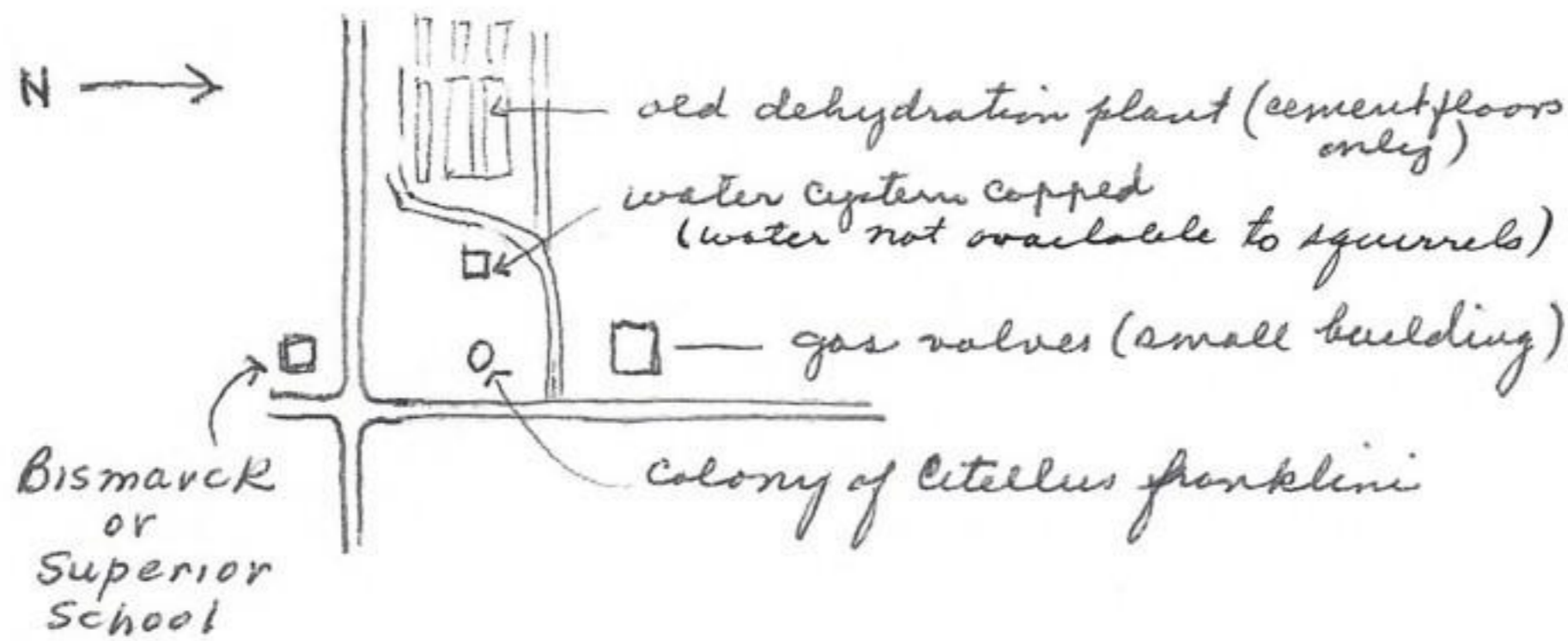
In old meander course of Kaw in river valley noted the following birds: 5 black tern, 4 Wilson phalarope, 4 blue winged teal (2 pairs), male & female killdeer and 4 young about 3/4 size adult, and 4 kinds of sandpipers probably pectoral, Baird, western & least. I could not be positive about the kinds. Cross section Highway.



 alfalfa ↑ mud & sand water
 short weeds & grass

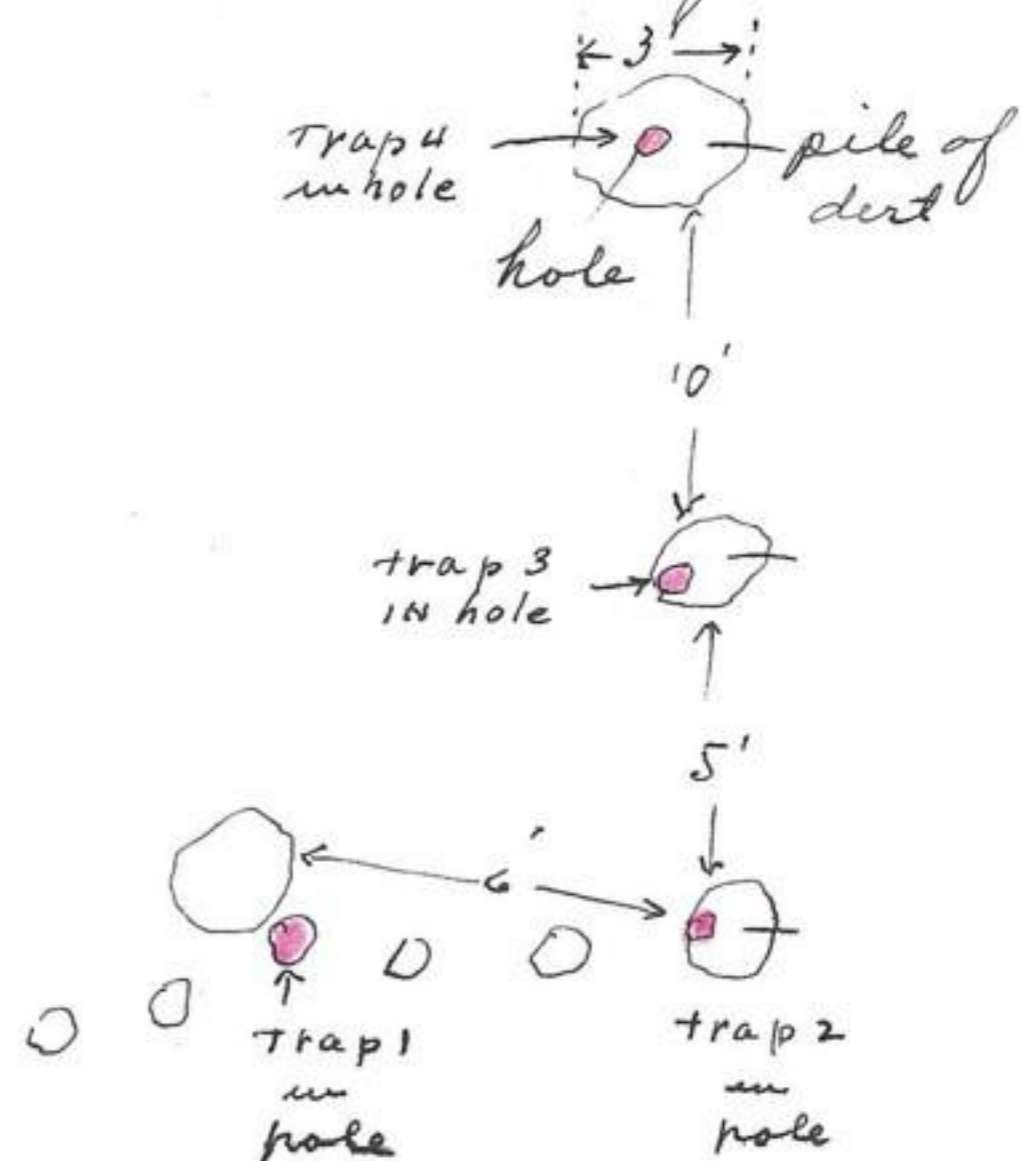
1/2 mi. N and 1 1/10 mi. E Lawrence (P.O.), Douglas Co., Kansas
 May 12, 1962

at 10:00 A.M. set four no. 0 steel traps in area where I observed a Franklin ground squirrel (See notes May 7, 1962). The colony of 4 major holes

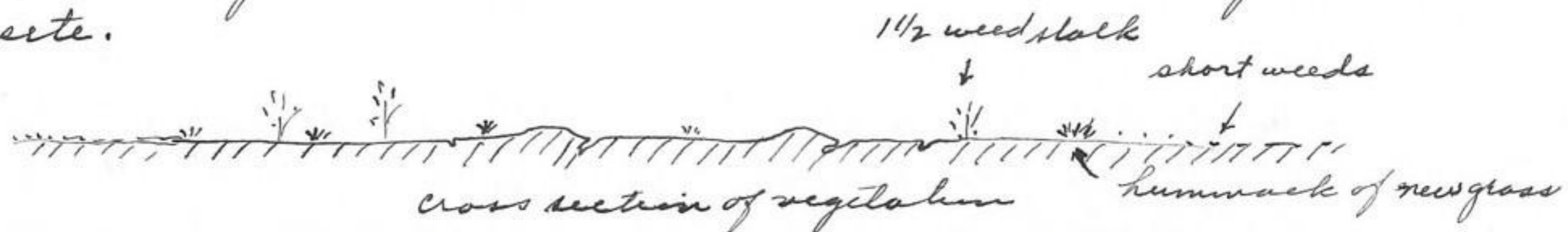


was 50 feet from road to east, 100 feet from road to south and 50 feet from service road to N. This area was at one time a dehydration

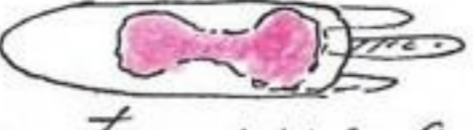
plant which processed alfalfa. Several years ago a tornado completely destroyed the plant except cement foundations and floors. The immediate area of the colony is now bare ground except a few weed stalks about 1 1/2 to 2 feet high and some grass bunches about 3/4 feet high. Other low ground weeds cover the area but only sparsely. For all tense and purposes the colony is in an open and exposed situation where all holes can be seen at a distance. One week earlier the vegetation (grass) was even smaller and more sparse. Later in the season the weed will give some protection to the colony but nothing compared to those descriptions of plant community completely hiding colony site. The area had previously been extensively used by other microtus ochrogaster or Sigmodon as evidenced by numerous runways in area. These runways were deep and suggested M. ochrogaster. The dens were part of the runway system. In addition to the 4 holes with dirt there were several other hole (cover-in) of squirrel size and several small hole about 1 1/2 inches in diameter which were used by the small rodents at the time they inhabited the site.



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From this colony collected the following *Citellus franklini*:
620512-1 *Citellus franklini* 405-140-60-18-550gms testes 27mm

This male squirrel was from ^{trap} placement no 2 and was taken between 10:00 and 12:00 A.M. The skin of this animal was as difficult to remove from body of any *Citellus* I have ever prepared. The fasciae and connective tissue between the skin and muscles had to be separated with scalpel. The entire back of animal was scar tissue, particularly on rump area and shoulders . The skin on rump was almost solid scar tissue and with depth ^(thickness) of about 1 1/2 mm. The tissue was differently colored yellow, brown, white. It is apparent that these squirrels fight among themselves at an accelerated tempo. This colony produced 4 males and no females. It was appear that these squirrels meet at a common fighting ground which is not immediately associated with the dening site of the female. This squirrel called while in trap.

620512-2 *Citellus franklini* 399-147-56-18-430gms testes 25mm

This squirrel was from trap no. 1 and like above was taken between the hours of 10:00-12:00 A.M. The back of this squirrel was also heavily scarred but not to the same degree as the older male above. Two of the wounds had hemorrhaged beneath the skin in the rump region; wounds that could have been made ^{by other squirrels} while the animal was in the trap. There were a few scars on venter. The skin was not as difficult to remove as the skin of no. 620512-1 above.

620512-3 *Citellus franklini* ^{in trap #} 391-147-56-17-430gms testes 25mm.

This squirrel was caught ^{in trap #} between 12:00 noon and 6:00 P.M. The animal was dead and the front trap leg ^(entire) was in trap and cleaned of flesh. The body was eaten into lungs and heart at region of leg attachment. Puncture wounds in chest and thoracic region and on rump had penetrated body cavity and had hemorrhaged beneath the skin and internally; a clear case of cannibalism among *Citellus franklini*. The body had not been removed from side of trap.

620512-4 *Citellus franklini* 397-146-56-16-480gms, testes 25mm.

Caught from trap #4 between 6:00 P.M and 8:00 P.M. Three puncture wounds penetrated body cavity and had hemorrhaged. Animal dead in trap as result of these wounds.

The four traps were left in position the following day (checked 8-12-6 o'clock) and the morning of the third day without results.

It is noteworthy that this colony supported only males and that these squirrels will kill each other if they become defenseless. It is probable that extremely old aged males who are not capable of defending themselves are eliminated by the younger males. It is also interesting that a colony would not support females. Because of the commotion of fighting of males which would attract predators, the females are probably removed to some adjoining area.

Lawrence, Douglas Co., Kansas

June 2, 1962

The young starting left nest box today. These were the young of the pair noted copulating April 24, 1962 (see notes of that date).

Lawrence, Douglas Co., Kansas

June 5, 1962

The young of June 2 observation have not been seen since they left the nest. Today the adult female was carrying nesting material into the box and soliciting the male by extended and slowly vibrating wings.

2 7/10 mi. E of Big Springs (Highway 10), Douglas County, Kansas.

June 11, 1962

noted a scissor-tailed flycatcher fly out over highway to pick ^{up} an insect out of the air and then return to fence post.

1 7/10 mi. W and 1 2/10 mi. N Leecompton, Douglas Co., Kansas

June 11, 1962

From this point along A.T. and Santa Fe railroad to a point 1 mi. west counted 4 ^{Indigo} ~~Indigo~~ bunting. The wooded bluffs to south are the least disturbed and most extensive along the Kaw Valley between Lawrence and Topeka. This area would make an excellent natural area.

Lawrence, Douglas Co., Kansas

June 11, 1962

I have noted many bluejays, probably young of the year, feeding on insects on the ground. They are more confident in man at this season of the year than at other times.

These young birds and other preyng birds, are vulnerable to attack during the learning process of foraging.

On June 4 a red-headed woodpecker arrived at home (1620 Tennessee St) and remained until today. It called frequently. This species is rarely seen in this area.

Lawrence, Douglas Co., Kansas
June 17, 1962

Two young of blue jay on ground and unable to fly. nest in tree above.

5 3/4 mi. S on Louisiana St., Lawrence, Douglas Co., Kansas
June 18, 1962

noted 8 cottontail rabbits in groups of 3-1-1-2-1 at edge of road (1 block). Time sundown. Other areas near Lawrence also supported rabbits in greater numbers than last few years. Two of the 8 above were adults.

From the above area picked up a road kill:

620618-1 yellow-billed cuckoo, T.L., wt.

Lawrence, Douglas Co., Kansas

June 19, 1962

Jefferson Brobler presented me the following:

620619-1 Chimney Swift 136 T.L., 22 gms wt. It had entered a room via a fireplace. ♂

620619-2 Am. Robin. no measurements

1116 Hilltop Drive, Lawrence, Douglas Co., Kansas

June 20, 1962

Jefferson Brobler presented me the following:

620620-1 Cuckoo, yellow-billed 295 T.L., 72 gms wt.

620620-2 " " " 268 T.L., 53 gms wt.

5 3/4 mi. S and 1 1/4 mi. W Lawrence, Douglas Co., Kansas.

June 27, 1962

Red-wing blackbuds with nest of eggs, young 3/4 grown and empty nest.

1325 W 19th St., Lawrence, Douglas Co., Kansas

June 27, 1962

Mr. C. S. Edmonds presented me with the following bats:

620627-1 *Lasurus borealis*, ^{red bat.} 108 - - - - 41.7 gms ♀

This ♀ had 2 young which measured:

620627-2 *Lasurus borealis* 80 - - - - 8.2 gms

620627-3 " " 81 - - - - 8.4 gms

At 6:00 A.M. Mr. Edmonds noted this bat flying under a tree at his home. At the same moment a pair of robins flew at the bat and struck it in the air. The bat and its two attached young dropped to the ground with the robins in pursuit. The birds acted the same as if a cat had been in the area. The female protects her young by expanding dorsal area of back and interfemoral membrane. At times she will lie on her back. The young, although separated in bat, will find mother for attachment & feeding.

Tonganoxie Lake, Leavenworth Co., Kansas

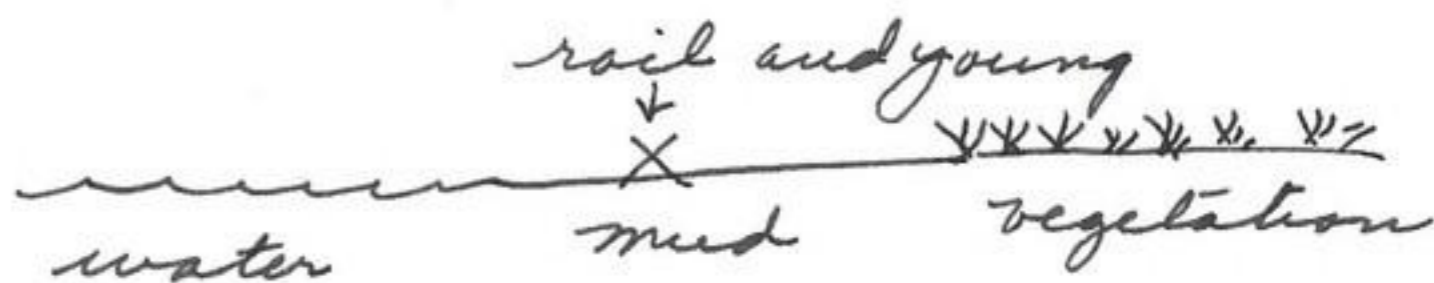
July 1, 1962

A whop-poor-will called for first time this evening at 8:10 P.M. Sky almost cleared from afternoon clouds. Sun behind horizon and lights fading from sky.

3 1/2 mi. S and 7/20 mi. W Lawrence (P.O), Douglas Co., Kansas

July 2, 1963

noted one adult and 2 black young (3/4 size of adult) of the King rail, *Rallus elegans*, feeding on recently exposed mud between the present pond and the bordering vegetation.

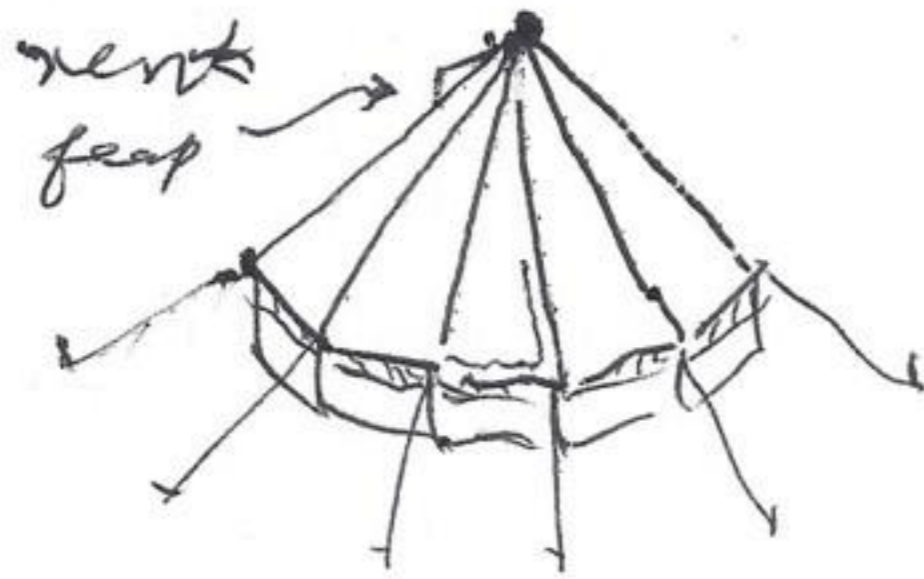


On approach, the two young ran to cover followed by the adult. Observations about 1/2 hours before sundown. Also noted a scissor-tailed flycatcher fly west about 50 feet above the ground.

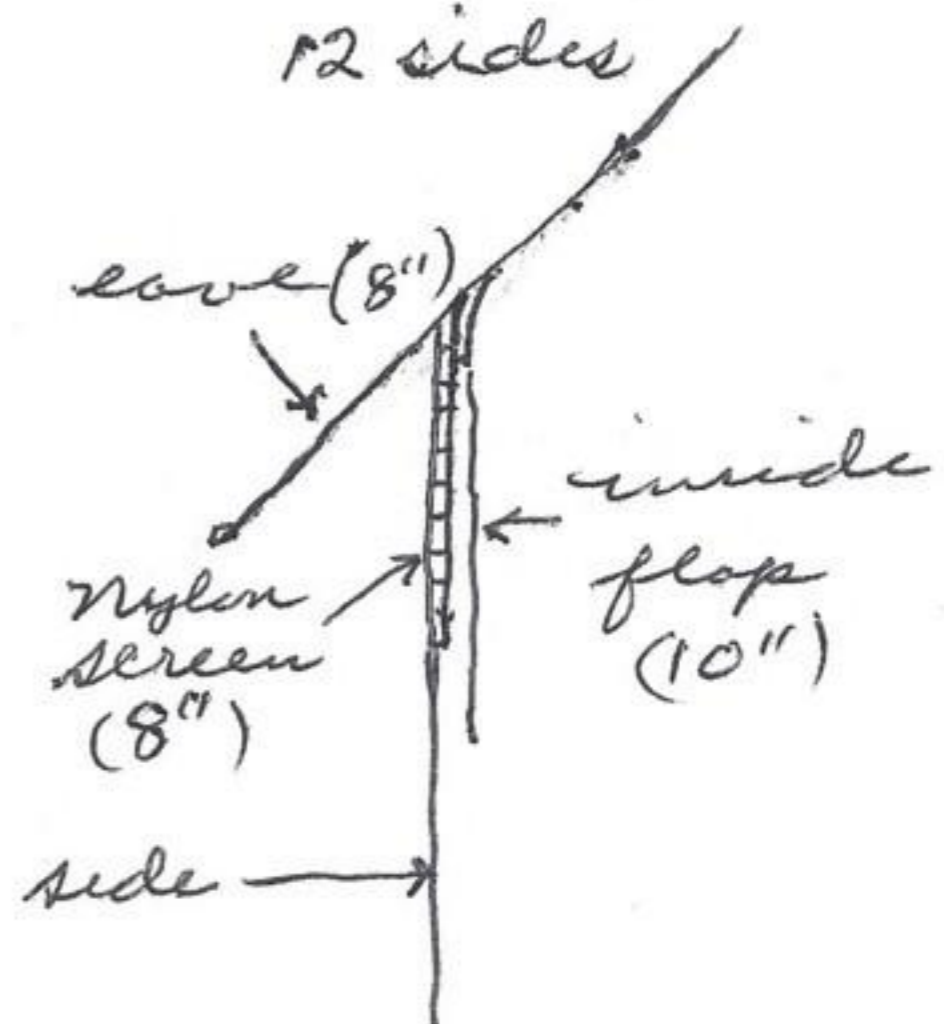
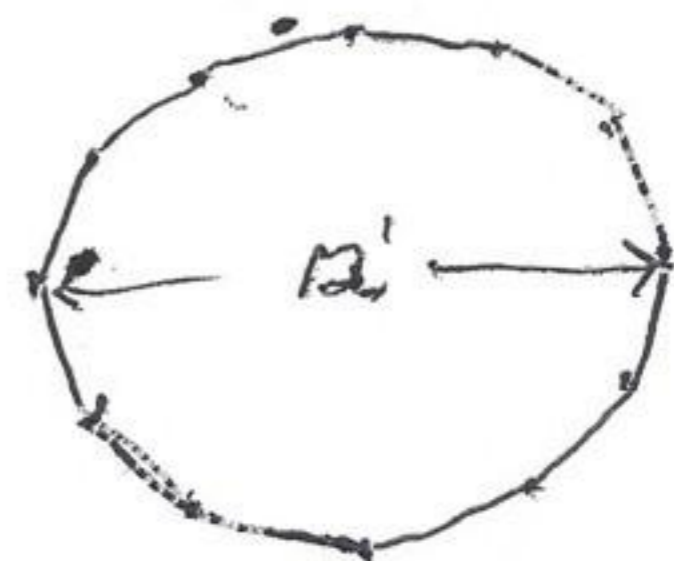
Lawrence, Douglas Co., Kansas

Aug. 2, 1962

Prepared for summer vacation. materials needed
 grommet set and extra grommets
 wrench for springs and general tools
 camera - film - et meter
 air pump for sleeping bags
 mammal and bird books - permit
 live traps and snaps.
 journal paper & pens - tags - labels
 made tent out of unbleached muselin (about 135 threads
 per inch which measured:



approx. 10' high
 3 foot side walls
 including 1 foot
 ground cloth.



Recorded the new
 pond and rock
 ledge at home
 with new Nikon F

Camera. F.1.4 lens and Kodachrome II.

620802-1 Annette C on steps leading down to pond

620802-2 Mary Pauline on bottom steps.

620802-3 Close-up of ledge and water - lilies

620802-4 Close-up of ledge (not saved)

This camera with accessories will require special
 handling

Lawrence, Douglas Co., Kansas

Left Lawrence, Aug 4, at 10:30 A.M. Mileage 95269.

-Preparation for vacation trip -
 Clean house 3 days before trip. Prepare for trip 5 days in advance. Adequate tent facility 1 month before trip. Have children prepare for trip.

-Materials taken on trip-

5 tent, poles, stakes, and ropes, hatchet
 (2) sleeping bags, raincoat, umbrella
 knee boots, 5 gallon water can, plastic ground cloth, shovel, canteen, 2 chairs, food box, bread butter, peanut butter, jelly, salt, pepper, shortening, bacon, eggs, coffee, milk, canned meats, soup, sugar, milk drink, cooking box, fry pan & lid, pot and lid, carrying knife
 knife, fork, spoon, cup, plates, dish bowl, paper towels, detergent, TP, SOS, rags, spatula, gas stove, (extra generator) gas lamp (extra mantles & funnel) 1 gallon gas can, extra qt. oil for car, car tools, medical kit, Band-aids, sun lotion
 misquito repellent, unguentien, sterial pads, splinter tweezers, mirror, watch, flashlites, batteries, extra bulbs, misc, pocket knife, knife stone, tooth brush & paste, combs & brushes, sunglasses, kleenex, binoculars, camera, film, exposure meter, journal, clothing, 2 pair shoes, socks, panties, jeans, warm shirts, warm weather clothes (shorts) gloves, caps, jackets, dress clothes - mum, face soap, field books, car light, spot light, car licences, hunting & fishing licences, Blue Cross Blue Shield, car registration, MONEY
 Leaving town noted one red-bellied headed woodpecker at Mississippi and 9th street. at 4 mi. n Lawrence on highway 40 saw one Citellus franklini. First crow at Holton! Continuing north on no. 75 to Omaha

arrived Omaha, Nebraska at 5:45 P.M. (north part of City) at 95470. Arrived Fremont Lakes (about 4 mi. W of Fremont) at 7:00 P.M. Mileage 95515 or 246 miles (19.6 per today. Photo 620804-1 of tent at night 1 sec + F. 1.4 gal.)

4 miles west Fremont, Nebraska (Fremont Lakes S of grain elevator)
Aug 5, 1962

Daybreak 4:00 A.M. up at 4:30 A.M. Eastern Kingbird calling at 4:15 A.M. On road at 6:00 A.M. Photo 620805-1 of tent, Amettes at table. at next stop get sugar, bacon, milk, cups for sleeping bags, matches, fruit, along Elkhorn River between Fremont and Norfolk along river bottom found birds common, especially swallows and blackbirds. More red-headed woodpeckers than to south in Kansas. Cattle ranches with feeding and resting pens on south exposures of river valley. First black tern (about 8) some 4 miles east of Newport, Nebraska. The eastern kingbird has been increasing in numbers since we left Fremont this A.M. noted one field of pure Carex. In all the lakes and marshes we have passed have not seen duck. One grebe (pied-billed 4 miles W Newport, other black tern also. This area for last 20 miles has been field of grasses & Carex and supersaturated soils. Some sand dunes exposed. Valentine at 93790 - approx 19.5 miles per gallon. North on 83 to S. Dakota. Continued to Badlands Natl Monument arrived 7:00 P.M. Mileage 95945. Photos 620805-2 to 620805-5 of Badlands on plateau N E of Park Headquarters.

Badlands Natl Monument, S. Dakota (Camp ground at Headquarters)

Aug 6, 1962

Left 7:00 A.M. Wind last night caused tent to vibrate beyond comfort so lowered. A combination of high wind & rain would be undesirable. Photo 620806-1 of Jay peak south of headquarters. Photo 620806-2 a few miles west of rugged buffalo. Photo 620806-3 at "Leaves of time" and family to S. Photo 620806-4 abrd to west of abrupt slopes & pointed peaks. Photo 620806-5 at "Life in gullies of general area to east. ~~620806-6 abrd.~~ 620806-6 abrd. all about 7:30 A.M. Photo 620806-7 of fruit yellow soils of bad Oligocene. Isolated grass meadow should be examined for relat populations of plants and insects. Left monument at 8:30 A.M.

continued to Rapid City, thence 16 to Rushmore Mt. Memorial
 Photo 620806-8 of four presidents carvings with ponderosa
 Pine limb framing. Photo 620806-9 with telephoto 250 mm
 of Washington. First exposure 30 sec 16F. 2nd 30 sec & 18 sec.
 Photo 620806-10 of family & monument in background.

Continued N to Deadwood, thence 85 N. At Four Mile Cr.,
 Butte Co., on highway 85 noted striped-skunk road kill.
 at Four Mile Creek (to about 4 miles south) noted more
 lark buntings (mostly young) than any part of route covered
 N of Deadwood. Average about 20 per 1/10 mile in group of
 3 to 20. In an equivalent distance N of Four Mile Creek
 the numbers changed abruptly to about 5 per mile. 3 other
 striped skunks as road kill in Four Mile Cr. The vegetation
 is plain grasslands and extensive broad exposures. The
 lark bunting congregation was very noticeable. Only two
 marsh hawks and no other kind were noted between
 Belle Fourche to Redox on highway 85. The lark bunting
 and mourning dove the two principal and common birds. The
 eastern or any songbirds is lacking in this area. Time of census
 about 6:00 P.M. Large flocks of sheep are grazing the prairie
 lands. Striped skunk road kill 2 mi N Redox. Census
 of lark bunt about 3 mi N Redox. first mile 3; second
 mile, 0; 3rd mile (one jackrabbit) 0. At N Moreau River
 9.2 mileage (6:30 P.M.); 15 lark bunting in one flock; 2nd mile,
 8 lark bunting & 1 marsh hawk; 3rd mile 16; 4th mile 4;
 5th mile 34 in one flock; 6th mile 0; 7th mile 0; 8th mile one
 mourning dove; 9th mile 6 lark bunting and 1 meadow lark;
 10th mile, 0. Arrived Picnic Springs about 4 or 5 mi NW of
 Ludlow, Harding Co. S. Dakota at 7:00 P.M. mileage 96247.

Picnic Springs, Harding Co., S. Dakota

Aug. 7, 1962

up 4:30 A.M. Left 6:00 A.M. 302 miles yesterday. Photo 620807-1
 at Picnic Springs of interior of tent with Annette in sleeping bag.
 early morning light (5:00 A.M.). Photo 620807-2 of tent with
 pine border. Photo 620807-3 of tent and family just up.
 Mosquitoes many & hungry. Spring at camp good for trapping.
 Leaving camp noted unusual congregation of meadowlarks,
 & mourning dove (150 meadow larks & 30 mourning doves) in
 upper valleys of slope above lowland plains. Below
 hills at base found fewer mourning doves but many

5.7/10 mi. S Tribune, Saskatchewan Co., Canada

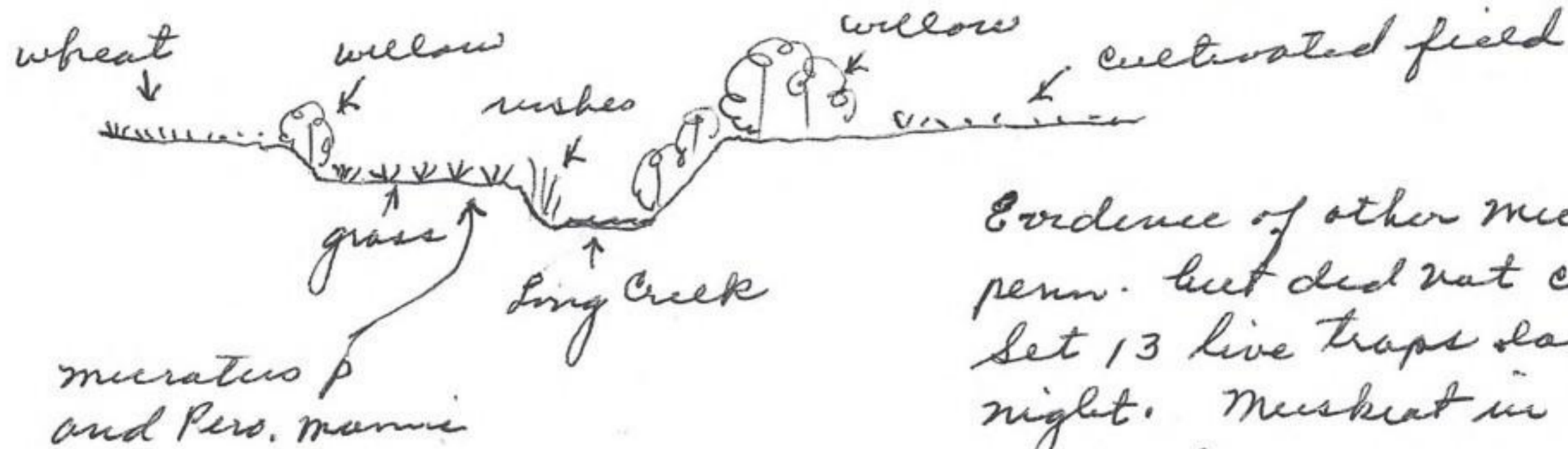
Aug. 8, 1962

Left Long Creek Camp at 9:00 A.M. Mileage 96553. From grasses along creek collected the following: (serological)

620808-1 *Microtus pennsylvanicus* - 10 grams of potassium ^(normal) _{ochalate} and 1 drop of merthiolate, 1 drop distilled H₂O. (See Aug 10)

620808-2 *Peromyscus maniculatus*. *ibid* (See Aug. 10)

620808-3 *Tyrannus tyrannus* - 80 crystals potassium _{ochalate} and 3 drops merthiolate, one drop normal saline. Pool of 6 birds.



Evidence of other *Microtus penn.* but did not catch. Set 13 live traps last night. Muskrat in creek. Mallard and young, noted

one large *Thomomys*. Photo 620808-4 of camp at the above camp. Chris & Polly at tent. Continued N to Regina, visited City. Photo 620808-5 and 620808-6 of yellow and varied colored flowers respectively at General Hospital to East. At museum of natural history Photo 620808-7 of beaver exhibit. 620808-8 of Coyote young; 620808-9 of sandhill cranes and 620808-10 of barren-ground caribou exhibit.

Arrangement: The exhibits were backed by solid wall to eliminate reflection of opposing wall exhibit. The ceiling was flat and joined circular perpendicular wall which is a bad arrangement. Inside frame too conspicuous. Foreground did not blend into wall background and did not express mood. One floor diagrammatic and educational - Nat. good for naturalistic interpretation. Cold room about 10' x 7'. Scientific housing 3 mammal boxes, metal archeology & Pale

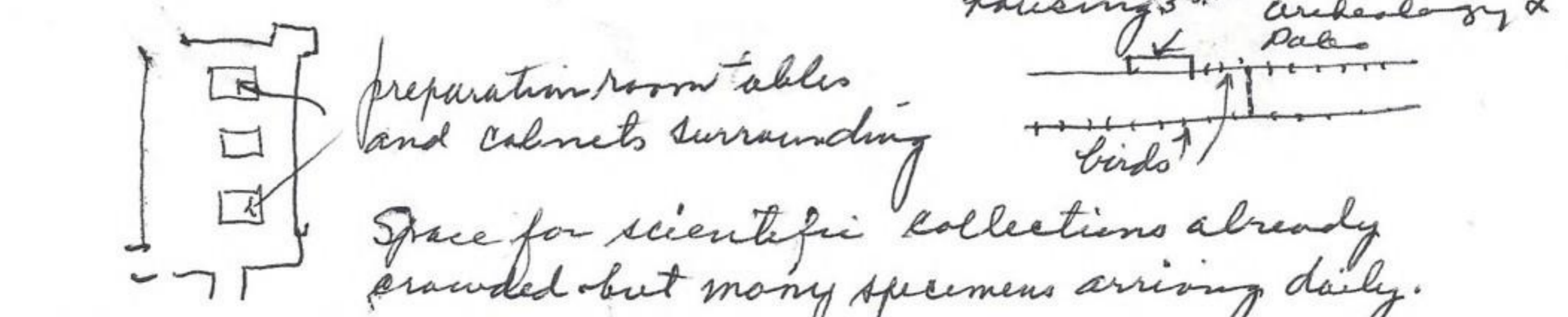


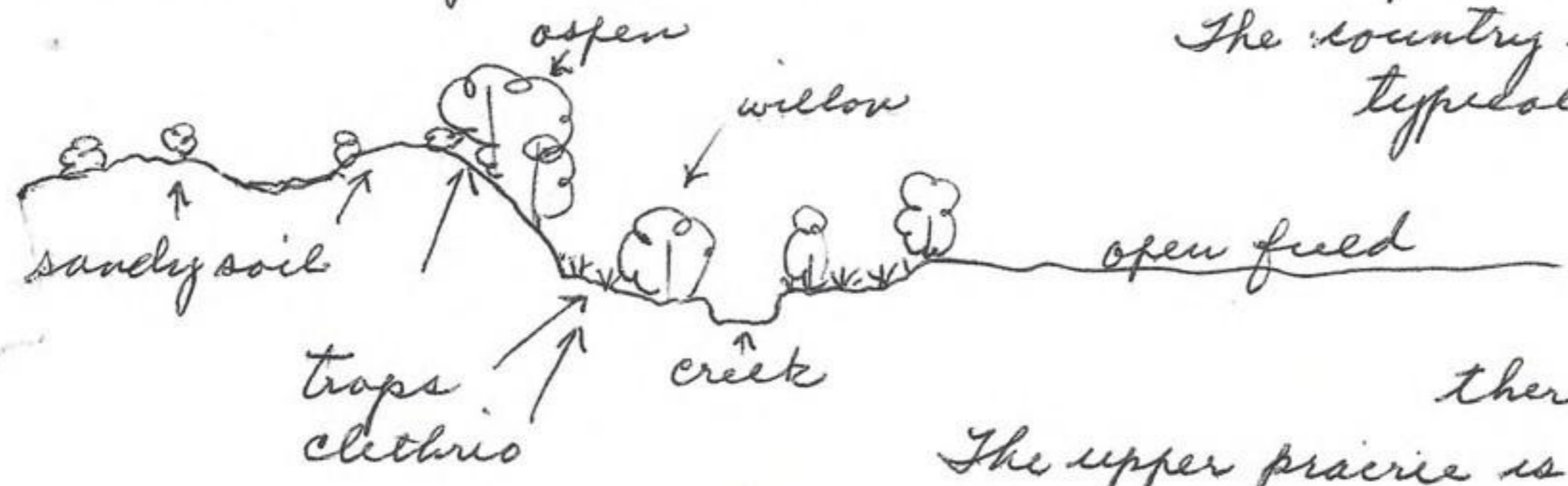
Photo 620808-11 of family in front of museum. Photo 620808-12 and 620808-13 of flowers at museum. Photo 620808-14 of Chris and Polly

and Polly and sculpturing at museum. Mr. Gard was not at museum this afternoon. Photo 620808-16 of mounted Police Training Barracks W of Regina, James R by entrance sign. He was much impressed with the regimentation of trainees. Museum with a case of artifacts from John Franklin's expedition. Continued west and will camp in evening for more trapping. Will travel highway no. 1 to Calgary. Sent first film of 36 to Chicago and to be sent to Provo (K256932). Continued west on highway 1 to Trans-Canada Camp grounds. (Besant), 6 miles W of Mortlach. Set 13 live traps along creek.

Besant Camp Grounds, west Moose jaw, Saskatchewan, Canada

Aug 9, 1962

mileage at camp 96748. From 13 traps set along creek caught one *Clethrionomys gapperi*. Rained hard last night. The specimen of *Clethrionomys*, 620809-1 was prepared as serological tissue. 10 crystals, 1 drop pot. oxalate, 1 drop normal saline.



The country is more typically montane with aspen in valleys and vegetation there also montane.

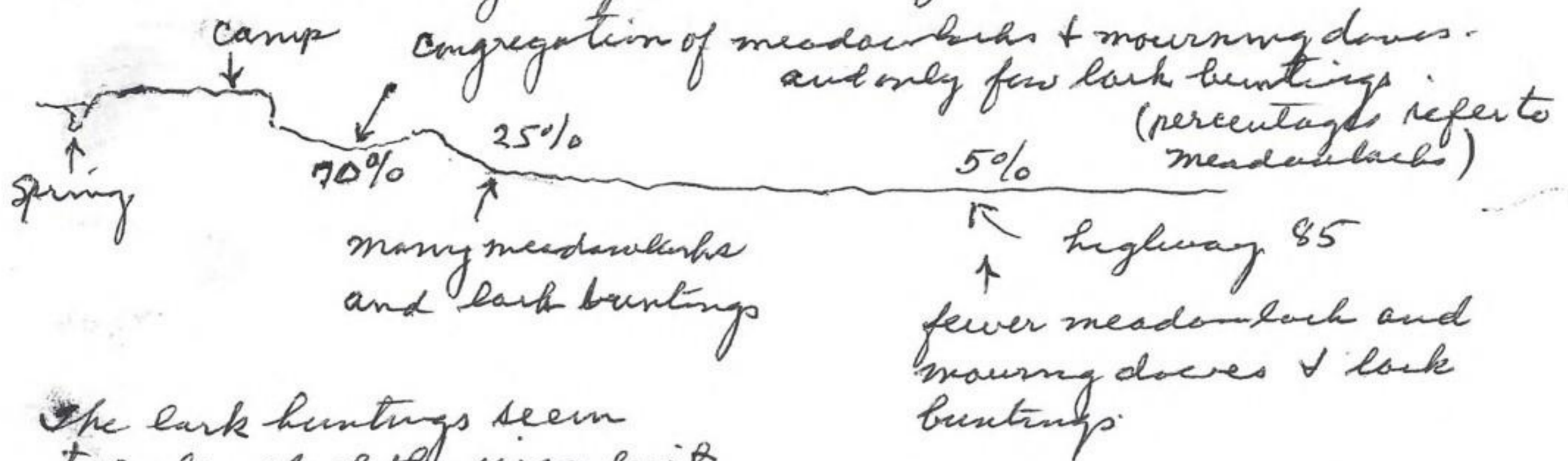
The upper prairie is cultivated in wheat and alfalfa and slightly rolling. The prairie seems to be as is to south except in draws and short shrubs in protected areas. Only rarely are aspen in open situations. From here to east the topography is as flat as a table top. Photo 620809-2 of Camp at Besant. Chair and Carvette in photo. Rained last night but tent did not leak. At area of Secretan the country rolling, small lakes and vegetation including more dwarf shrubs in gullies and on slopes. Isolated willow trees associated with small lakes. Many ducks and other water birds on lakes. The soil is sandy-gravel but not exposed. In traversing Canada from Regina to Calgary (no. 1 highway) the following topography and vegetation is encountered west of Regina flat as a table top and without lakes. In western Saskatchewan rolling hills (not associated with drainage systems) and many small lakes, most of them lined with alkaline and red alkali tolerating plants.

Some lakes completely covered with white everesting salts (potassium sulfate). Vegetation still good prairie. Toward border the country loses many lobes and is severely overgrazed and associated with drainage systems. In Alberta (eastern edge) the country changes to a more spine type, dry lake beds, most frequently without vegetation, short grass and cacti. Bare spaces between plants. This area up to Brooks is reminiscent of west Kansas & eastern Colorado. This area is not like the more montane vegetation used by *Microtus ochrogaster minor* and may be the limiting factor in excluding them from this part of Canada. Vegetation beyond Brooks less fertile. Greatest congregation of Antelope (we have seen 25 in groups of 7-5-4-3-6) in the Brooks area. At 3 miles west of Brooks took photo 620809-3 of white fox-tail-like grass and shallow lake beyond 60 x 16 F. Across Saskatchewan S of Highway 1 is a mesa that dominates the landscape. Photo 620809-4 of battle lake a few miles east of Calgary on Highway 1, Alberta, Can. Arrived Forest Lawn Camp site about 8 miles E of Calgary. Set 13 trap

Forest Lawn Camp (6 mi. E Calgary, Alberta, Canada)
Aug 10, 1962

Added 2 *Peromyscus maniculatus* to serological sample 620808-2.
Added 1 *Microtus pennsylvanicus* to 620808-1. Left 9:30 A.M. mileage 97154 for Calgary. Continued N to Edmonton, first good stands of aspen in gullies between Calgary & Red Deer, beyond aspen in open stands. at Edmonton country mainly open with solid stands of aspen. photos 620810-1 to 620810-4 at Edmonton + Capital Building. City cosmopolitan and beautifully situated. In general an excellent place to live. People well dressed and polite. Camped at Edmonton Beach approx. 24 mi. W Edmonton. Set 13 live traps met Fish & Wildlife men at this camp. They report that census at yellowknife (ducks) is lower than last year and due to lack of water has dropped consistently for last 6 years. Over-shooting is not responsible. They used a carryall truck and umbrella tent and 2 Conaco with motor attachment (square end). From traps collected 1 *Peromyscus maniculatus* and added to serological specimen 620808-2. The Hudson Bay Co. store is outstanding and modern. Occupies 1 square block & 3 high

more than on highway 85 in valley.



The lark buntings seem to prefer slightly irregularity of surface or elevated than the flat lowlands river bottoms. Magpies and prairie jays in upper area. In 2 miles of road (25% area) counted 62 meadowlarks in large flocks, 4 sparrow hawks, 12 mourning doves and 30 lark sparrows. Another group of 4 sparrow hawks beyond. Census of birds on highway 85 below above area (for 2 miles) was 2 meadowlarks, 14 lark sparrows & no mourning doves. Censuses ^{are} conflicting and must be taken into consideration when judging actual populations. Cottontail, jackrabbit & deer in area. A small *Citellus* (armatus type) at Pecora Camp. Valley mainly prairie but some dry farming of wheat & corn. Mosquitoes everywhere in this country. Lakes & ponds with ducks which are breeding birds. Only rarely meadowlarks singing. The lark bunting, especially males flying in front of car (side roads) for 200 or 300 feet and dart irregularly back and forth. Lakes with good stands of bull rushes and vegetation. First aspen trees in gullies 4 or 5 miles N of Grassy Butte, McKenzie Co., N. Dakota highway 85. Lark bunting common to Grassy Butte and a little beyond. At Little Missouri River & beyond I did not see the bunting until Alexander where I noted one. The country changes only slightly beyond Little Missouri River. The river itself could be a barrier to prairie mammals. I expect the Missouri River is the actual northern barrier. Will check vegetation north of this river. Arrived Williston at 12:10 at 96455. Continued to Fortuna, thence N to Long Creek approx 2 1/2 miles S of Tribune, Saskatchewan, Canada. (Memorial Park) Arrived 5:30 P.M. Mileage. Set 13 live traps near camp along Long Creek.

Edmonton Beach Campsite, 24 miles w Edmonton, Alberta, Canada.

Aug. 11, 1962 (Saturday)

Left Camp 8:00^{A.M.} at 97394. Heavy dew last night. Best to place tent where sunshine dries tent in early morning. Country west of Edmonton gradually changes from open country to parkland to solid forests of aspen, birch, then aspen, birch, larch and black spruce; some areas of lodgepole pine. Good stands of black spruce in low extinct lake beds. no noticeable change of fall colors. Porcupine most common road kill. Lakes in timbered country supported only a few ducks probably on the basis of 1 duck to 50 on the prairie. Photo 620808-3 prominent peaks to left at Pochontas 620808-4 & 620808-5 Jasper + deer. Photo 620808-6 - Whirlpool F. Bridge - Mt + River to west - amette in foreground - Leach Lake 620808-7 Jay in foreground - (8) (9) (10) Athabasca Falls - rangers point a few miles west Athabasca Falls 620808-11 Photo (12) 7 mi. east of Stutland Glacier & photo (13) shooting upstream at base of icefield 620808-12 near above Photo (14) Columbia Ice Field (15) sign of Mt. Saskatchewan (16) moose at Survey Peak Sign (17) Jay + Chris junction of rd from east (18) mts (19) Lower wildlife Lake; (20) ^{and (21)} below upper wildlife lake of mt. Arrived Bow Lake Camp.

Bow Lake Camp, Banff Natl Park, Alberta, Canada

Aug 12, 1962


Left Camp 9:00 A.M. at 97741. Photo 620812-1 of Lohut Camp. 620812-2 of tent. 620812-3 of glacier + flowers above Lake Louise. Photos 620812-4 of family at Lake Louise Chateau; 620812-5 of Lake and 620812-6 of family + Lake. Will continue highway 1 to west. [Leaking water pump caused us to go to Banff for repair. At Banff photo 620812-7 of private home and 620812-8 of city to N. ^{620812-9 of hotel to 2000 ft. + 50. There.] Returned to Lake Louise, then west highway 1 about 3 mi. w photo 620812-9 of mts + lake in foreground. Photo 620812-10 of same area in telephoto (N. 60) In Glacier Natl Park 620812-11, 620812-12 and 620812-13 ^{and 620812-14} of cloud pictures. This road is thru wilderness and is new but did not see small mammals or birds or road-kills. Larger trees than in Jasper Park areas. Two bears}

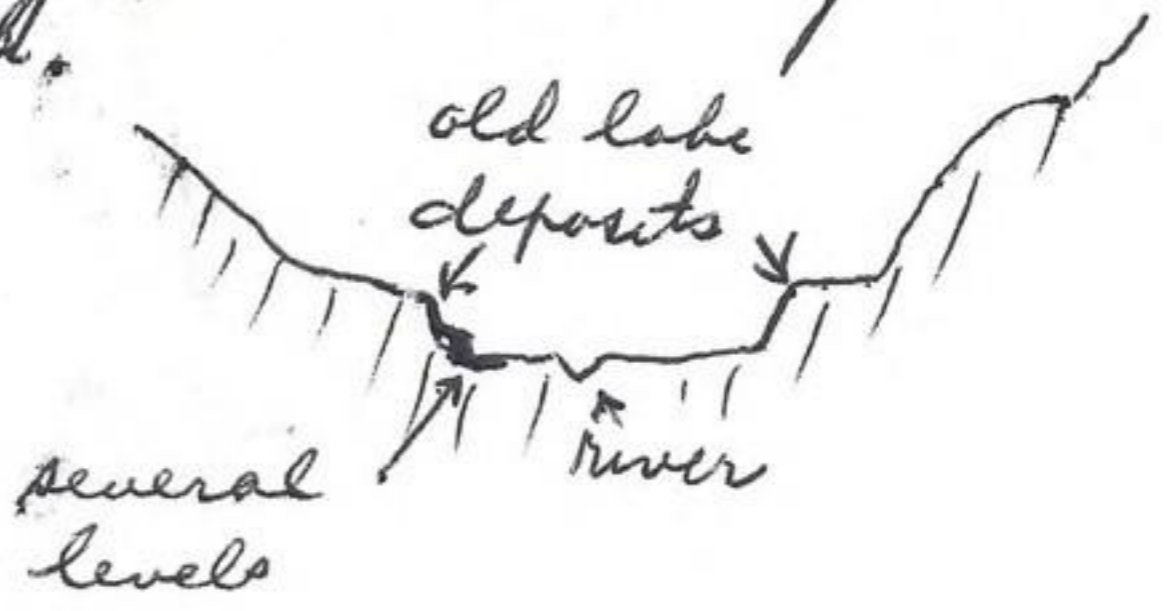
(Photo 620812-15 as we arrived ⁶²⁰⁸¹²⁻⁵⁶ from east)

arrived Revelstake, (Rotary Park 5 City) at 9:00 P.M. 97997.
Entire route in clouded condition (but visible for mts).

Revelstake, Alberta, Canada

Aug 13, 1962 (Monday)

Left ^{10:00} 9:30 A.M., highway 1 at camp took following photos:
 620813-1 Camp; 620813-2, 620813-3, 620813-4, 620813-5, 620813-6, 620813-7 of Jay's canyon, ^{also 620813-7a-7b-7c} ^{13a, 13b, 13c, 13d} ^{Christy valley along lake} Photo
 620813-8, 620813-9, 620813-10 of houses in city with metal surfaces. ^{Country west of crest}
 of range belongs to NW Vegetation Complex. A tourist in-
 formant (Revenue Service living at Calgary) reported the
 following: a. Calgary best climate in ^{western} Canada. at northern
 limit of Chinook winds, more wind than at Edmonton.
 Edmonton considerably colder both in summer & winter. Area
 east of Calgary drier and more windy. Last few years dry, nearer
 Rocky mountains. In Malakwa area some birch trees
 changing to yellow and some ground shrubs. First apple
 trees noted 4 miles W of Malakwa. Canada has overextended
 itself financially and new political program (austerity program)
 will reduce expenditures. Color change first in valleys.
 No evidence on hillsides. Home in Malakwa valley and
 beyond are old and weather beaten. The wild grass is piled
 in high columns  10 feet x 4 feet approximately. Rowen
 not uncommon here. Photo 620813-11 of Lake Shuswap
 from W. end to east near Salmon Arm. Eastern Kingbird
 at Chase. First mourning dove ^{since} ^{south} ^{Jasper area}
 at Chase. Country along ^{Bay} Thompson mainly
 Ponderosa pine and open slopes of chit grass and sage brush
 (junction 97 and 1). This valley is bordered by old lake
 deposit several hundred feet high.
 most of the lake level
 deposits are unvegetated, others
 in grass sagebrush. This
 country is becoming more
 and more like Columbia Gorge
 on east end of Cascade mts.
 Once lined with a narrow,
 sometimes isolated cottonwood trees. Hope country. This
 valley certainly has an outstanding lake deposit on side of
 valley. The volcanic rocks of slopes may control vegetation



type. Kamloops Lake Look out Photo 620813-12
 Elev. 1810 Photo (13) 11 mi. east Cache Creek junction
 Photo 620813-14 of Fraser River at Litton, B.C. at
 convergence of Thompson & Fraser River. Cross uncommon
 except when in flocks of 50-150 birds. Rare on dry part
 of country. Arrived Rosedale, B.C. at 8:30 P.M.
 98338.

Rosedale, British Columbia, Canada

Aug. 14, 1962 (Tues)

Left 11:00 A.M. for Vancouver. Visited Wilmonsky at Univ.
 met Dr. Hoar. Chown not at school. Museum consisted of 4 or 5
 cabinets of mammals and 10 times the number of birds. Good
 large skull osteological collection. Wilmonsky to publish fishes
 of Alaska this fall coming year. Char at Schneider Lake.
 Continued S to Tsawwassen & ferry to Swartz Bay, Vancouver
 Island. On ship took 620814-1 to 3 of gulls. 2-7 of
 family, 9-12 of general scenic shots. 620814-12 Jay's committee and British flag.
 Victoria City (Parliament Building) at night. Camped 6
 miles S of Sidney.

Sidney, Vancouver Island, Canada

Aug. 15, 1962 (Wed)

Photo 620815-1 of sunrise at Washington State Ferris 5:15 A.M.
 mileage 98330. Left Sidney 7:00 A.M. Stopped at Friday
 Harbour, Orcas, Shaw, Lopez. Took several misc shots:
 620815-2 - approaching Friday Harbor Island enroute
 620815-3 Friday Harbor Marine Station (Univ. Washington)
 620815-4 Friday Harbour, San Juan Island
 620815-5 " " " " "
 620815-6 Friday Harbour Marine Station (Univ. Washington)
 620815-7 N E end Friday Harbour Island
 620815-8 Century 2 Ferry (sister ship) near Orcas Island
 620815-9 Shaw Island? (net enroute from Orcas) and family
 620815-10 Ferry nearing Anacortes (Pally in foreground)
 620815-11
 620815-12
 620815-13
 620815-14 } not recorded
 620815-15
 620815-16
 620815-17

noted black whale, bald eagle, cormorants, murrelets, tern & gulls
 the latter 4
 as common. at deception pass took the following
 photos 620815-30 boat directly below, 620815-31 from
 pass to north, 620815-32 beach line to south
 Photo (33) 1/2 mi so Arlington Wash. on Portage
 Creek - hi-way 99 Western red cedar - 2000 yrs
 old.

Arrived Sammamish Lake St. Plk 3:30 PM - set
 up camp at 98646. went to Century 21 Fair in Seattle.
 Recorded the following photos at Fair.

620815-34 The needle at Seattle Fair (World Fair)

620815-35 Family at Fair

620815-36 Thailand Exhibit

620815-37 Fountain at night

620815-38 " " "

620815-39 James Robert at Concession

620815-40 Ferris wheel

620815-41 needle at night

620815-42 Car-go-arounds

620815-43 U.S. Exhibit

Space needle most outstanding feature of World Fair. Nations
 concessions second in interest. Ate at Norselanders SW of
 Fair.

Sammamish Lake State Park, on highway 10 east of Seattle
 Aug. 16, 1962

Left. 11:30 A.M. at 98686 mileage for Seattle and thence S.
 Mailed two film today to Chicago K 256931 and K 256930.
 Continued S. to Olympia, thence west toward Aberdeen
 to a camp site 3 miles E of Summit Lake Road. Rained
 several times last night and tent did not leak. In
 morning tent packed & ringing wet. At Seattle, visited
 Mr Todd of Shorey Book Store. 4 floors of well organized
 books. Purchased Cones. monograph of Mustelidae \$5.00.
 Todd says that if books are purchased in volume he will
 give better price. One should spend 2 days, at least, to
 check miscellaneous material note recorded on lists.
 Has several items from Kansas, one a early volume
 of rare value.

3 mi. E Summit Camp Road, Weymouth 620817-59

Aug. 17, 1962

Left camp at 9:30 mi. 987855 mi. east
 Summit Lk. Rd. - Rainbow Falls State Pk
 Hi-way 12 Photo 620817-1 of Falls (2) Family
 by Douglas Fir (3) Private home Highway 12
 red flowers in foreground. at Raymond
 visited Weyerhaeuser Lumber mill. One saw with 39
 unit (saw) at one operations. Photo 620817-4 of James R.
 under hair drier at Raymond. Oyster shells and ~~more~~ Day
 South Beach Photo 620817-5. visited Long
 Beach which is a good surf for swimming, although 8
 strong winds today made undesirable. Photos 620817-6-7-8
 and 9 of Chris, Jay & Pally at edge of beach. Photo 620817-10 a
 telephoto of swimmers swimming out of surf. Sand which are saturated
 are hard or at least do not make impressions when walking upon.
 Continued south to state park at mouth of Columbia. Camped
 at base of cliffs north of light house. Tide low

Arrived Conby Beach, Washington 8:30 P.M. 98951 -
 Photo 620817-11-12-13 of driftwood & Chris, Pally & Jay just W of camp.

Conby Beach, Washington:

Aug. 18, 1962

620818-2 mouth Columbia
 river to W of lighthouse
 to N from lighthouse

Photo 620818-1 of camp from hill. Left 9:00 A.M. Continued
 east to Astoria Ferry. Photo 620818-2 from ferry with Chris
 & Pally with Astoria City in background. From monument
 on top of hill at Astoria photo 620818-3 of City below. Continued
 east to Longview, crossed bridge and thence to Vancouver.
 Mrs. Vaccar at Portland with sister. Photo 620818-4 of her house
 visited Barnes General Hospital and Fort Vancouver. Saw a historical site. Country
 completely changed. At point where road is high and on cliffs
 on N side Columbia River photo 620818-5 up river with open
 field below (N.B.) At point N of Dalles on N side river photo 620818-6
 of Mt Hood and Dalles countryside & river. Clothed a great
 blue heron flying 42 miles per hour. Crossed bridge just
 east of Dalles at Dam. Continued east to 2 miles west of
 Boardman for camp.

2 mi. W Boardman, Oregon

Aug. 19, 1962

Left 7:00 A.M. - 99236. Tent dry for first time in a week.
 Moggie + review in area. Sent 30 roll film H 657723.
 Arrived Craters of the Moon 8:00 P.M. 99713

Craters of the Moon National Monument, Idaho

Aug. 20, 1962

Left ⁷ 8:40. Photo 620820-1 of camp ^{620820-1a of annette} x Photo 620820-2 of inside of tent showing Chris, Jay & Polly. Photo 620820-3 of town Buttes near Atomic City. Photo 620820-4 of Mormon Temple at Logan, Utah. Photo 620820-5 of Wasatch mountains between Logan and Ogden, Utah. Photo 620820-6 of Wasatch Range near Ogden, Utah. Photo taken at 1000 sec showing car travelling at 60 miles per hr - our at 50 per hour. Photo 620820-7 of Granite Range at S end Salt Lake Valley. Photo 620820-8 of Bonneville Terrace at Point of Mountain, Salt Lake Co., Utah. Photo 620820-9 from Point of mt to NW across Salt Lake Valley, S.L. Co., Utah. Photo 620820-10 of Cascade Range (Wasatch Range) in Utah Valley - from Orem, Utah Co., Utah. Photo 620820-11 of mts east of Provo, Utah. Arrived Provo, Utah with mileage 40 (mileage meter turned over to zero). Arrived late afternoon.

Provo, Utah Co., Utah

Aug 24, 1962

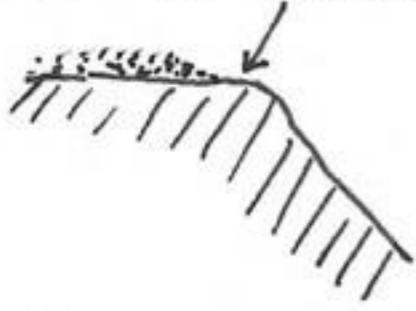
Photo 620824-1 of some old equipment that I used many years ago including tent, 2 packs, flypole, cotteer, buckskin shoes or moccasins, atlas, deer antlers. The pack racks were made from bicycle rims (wood). Photo 620824-2 of James Jensen (man's son). Photo 620824-3 of Indian or trapper profile on cliffs east of Provo below Maple Flat Point. Photo 620824-4 of Mothers High School Diploma 1902.

Traverse Range, Utah - Salt Lake Co., Utah

Aug 25, 1962

San James and I made afternoon trip to top of range separating Utah & Salt Lake counties, east of the Jordan narrows. Part of the photos may have been in Salt Lake County but I am referring to all of them as having been taken in Utah Co. Dad left us on main highway just north of the gravel pit at the Point of the Mountain. Our objective was to take photos of the area and to investigate a shoreline above the Bonneville Level. Itinerary from Point of mt to ridge leading east, to top, thence SE to high point, thence S to valley, thence W to main highway where we were picked up again by Dad on his return from Salt L. City.

photo 620825-1 Western extent of Bonneville Level at narrows. The gravel slope is at gravitational repose from gravel pit at base of slope. The exposed gravels has allowed wind to blow sands up slope onto flat part of the delta. It will be noted that the prevailing wind is from the south and not from the north as apparently it was in Pleistocene time (from N). The sands have created an ecological niche that supports the kind of vegetation usually associated with the more desert areas of western Utah County. *Dipodomys* are in sandy area and small holes that could be *Perognathus*. wherever the wind has blown clear the soils at edge of delta, one can find artifacts of old Indian Camps.



The north end of Utah valley can be seen in the distance. The upper slope of grass (Chet) is the upper Bonneville level. It would be of value to trap this area for mammals, especially for possible *Perognathus*.

Photo 620825-2 From top of Bonneville level near western extent. Jordan narrows in foreground. Also Jordan River can be seen. The successional shoreline are well defined from the river west to unsuspected Bonneville Level. This area would be a profitable one to work and correlate with shorelines on east side of Antelope Island in Great Salt Lake. The ^{flat} level above the Bonneville Level is perhaps an old erosional level of Pleistocene or pre-Pleistocene times. The rocks on the slopes of the foreground are calcareous tufa.

Photo 620825-3 from near above but to east with Mt. Timpanogas and Cascade Mt in background. The Bonneville level is at base of two knolls at right side of photo. These knolls are old sites of Indian Camps (S side). An irrigation ditch, a rail-road grade and an old highway are in foreground. Successional levels can be seen below knolls. The lower level is Provo level.

Photo 620825-4 from same area as above showing calcareous tuff cementing gravel and stones. The calcium bicarbonates is precipitated when air is mixed with water in zone of evaporation. This zone is just below Bonneville level. Jones R in foreground.

620825-5 On Bonneville level at base of mt showing flat level of Bonneville level and eroded slope of mountain from action of Bonneville Lake. Granite Range in distance. The currents were SW along this slope and debris produce delta beyond.

620825-6 From ridge, shown in photo above, showing steep slope created by Bonneville Lake. Granite Range in background

Bonneville level at base of Granite Range. Sagebrush on lower slopes of the foreground. The same type of faceted spur can be seen on ridges of Granite Range as occur of the Traverse Range.

620825-7 James R on ridge trail leading to top of ridge. Same ridge as photo above. An interesting erosional gully parallels this ridge. Artemisia of limited growth.

620825-8 James R on main ridge of Traverse Range beyond high point. Cheat grass covers slope. Utah Lake, Lake Mt and Mt. Nebo in distance. Grazing and winds probably produce the cheat-grass covering.

620825-9 N side of ridge (Traverse Range) with steep slope leading down to Bonneville level. Sheep trails mark the slope. E end Salt Lake Valley in background. There is good evidence of old erosional levels than Bonneville in distance. Oguruk Range in distance (far distance).

620825-10 James R on ridge just beyond top. Cheat-grass slopes. Cedar valley in distance. Despite the dryness of these slopes, they are beautifully covered with grass.

620825-11 Some general area on ridge as above. Utah Lake and Lake Mt. in background. A golden eagle was noted flying in canyon directly below. It was seen later on high peak to S of here. Artemisia covering lower slopes.

620825-12 east end of main ridge (long faceted spur) with Granite Range in distance. Bonneville level below. On flat area above Bonneville level may be higher level. In the area to right of this photo on flat divide sat a blue-grey gnatcatcher feeding a bird three times the size of the gnatcatcher. I could not determine kind but about size of a bluebird. The foster bird fluttered wings as the gnatcatcher brought in food. Watch the feeding take place 5 times. The foster bird moved about and followed in the general direction of the movement of the gnatcatcher. Area of Quercus & Artemisia.

620825-13 Salt Lake Valley from ridge. Large uncultivated delta the Provo level of old Lake Bonneville.

620825-14 From ridge to east showing Bonneville levels. One elevated level in back of faceted spur in foreground. The canyon in foreground, when viewed from head of drainage looks like a glaciated canyon. Could it have been glaciated when Traverse Range was much higher before faulting ^{down} from Wasatch Range? Even the slopes of the Range look like the wind swept erosions of above timberline topography.

620825-15 From ridge to west. Lake Mt and Utah Lake in distance.

The vegetation to left was the type inhabited by the quackcatcher.

620825-16 Granite Range (telephoto). Bare slope caused by wind.

620825-17 From peak in center of Traverse Range with Utah Lake, West Mountain and Mt. Nebo in distance. Rock Island in Utah L.

620825-18 James R from South peak showing ridge in middle ground (the ridge of the faceted spur and the one we traversed from left to right and the one from which we took several of the above photographs) and Great Salt Lake in the distance. Antelope Island can be seen.

620825-19 From S peak of Traverse Range at rock outcrops showing long gentle slope to Utah valley below. Utah Lake and West Mountain in background. Also West Mt & Mt. Nebo can be seen. Lehi in valley below.

620825-20 Ibid.

620825-21 From south peak showing knoll to east with unusual distribution of oak, sagebrush and chest-grass exposure. Timpanogas and Cascade Range in background. The knoll in the middle distance would be an excellent vantage point to photograph the Alpine area (Granite Range and Timpanogas).

620825-22 From S peak to west showing Jordan Narrows and beyond to Oggarth Range. Puff of smoke from Utah Copper mine (generally blasts at 4:00 P.M.). The large delta of the Bonneville level is clearly pictured here.

620825-23 Near base of Traverse Range on S side. Utah Lake and valley at sundown. Lehi in foreground. The elevated level above the Bonneville level is above the general area where this picture was taken. This level slopes from west to east where it joins the Bonneville level. A photo taken years ago from near Lehi shows this shoreline.

Provo, Utah Co., Utah.

Aug 26, 1962

Photo 620826-1, 620826-2 and 620826-3 of Grace Spear Bee and Robert G. Bee in front of their home in Provo.

Photo 620826-4 of Annette Bee at same place.

Provo, Utah Co., Utah

Aug 27, 1962

Dad possesses several of W. E. Adams original paintings. Mary & Max have both received one of Adams work.

15
63

620827-63

Dad presented me an Adams original records the following information about this painting: He
 W.C. Adams, ^{painting} near Synderville, Utah (near Park City) sketched with Hafen (Judge Reitter interested in Adams work. Adams died about 1930 in Salt Lake City. Home in Sugar House but lived in Park City. (see Aug 25, 1971 for further entry.)
 Dad also presented me with a sepia photograph from Synderville area and taken by W.C. Adams (see 710825-15)

Provo, Utah Co., Utah

Aug 27, 1962

Left Provo 9:25 A.M. at 190 mileage. Photo 620827-2 of Timpanogas from Deer Creek (Telapotos) a few individual maples red on slopes S of Deer Creek. Photo 620827-3 of Trip from Deer Creek. Solif Gull in Cirque area Photo 620827-4 split mountain between Vernal and Greenriver. 620827-5 of sky west of ~~Craig~~ Maybell. 3 lemming jack rabbits ^(road kills) between Elk Springs and Maybell. As I remember in a former trip the rabbits & road kills were numerous. Road kill badger 1 mi W Maybell. + striped skunk killed between Maybell and bridge across Yampa River. Arrived Yampa Valley Campground, 441 at 7:30 P.M.

Yampa Valley Campground, Colorado.

Aug 28, 1962

Left 6:50 A.M. Photo 620828-1 ^(n.g.) of Yampa Valley from near camp. 620828-2 of prominent peak on Muddy Creek between muddy pass & Kenning. Many magpies on muddy Creek Valley, many feeding on road kill rabbits. Photo 620828-3 of saw mill at Grandy, Colorado along the Fraser River. 40 Highway all the way. At Jones Canyon in Arapahoe Natl Forest at airplane crash no 539 photographed 620828-4-5-6-7-8-9 of wreckage & family on trail. Serological sample 620828-10 from slide area directly above plane wreckage (*Ochotona princeps*). 2 drops mercuric iodine and 10 grams of potassium opalate. Arrived Denver 4:00 P.M. at 605 mileage. Arrived Limon 7:00 P.M. 700 miles

Limon, Colorado

Aug 29, 1962

Left 7:00 A.M. at 700 mileage. Will travel 40 all the way.

Swanson hawk 831, telephone pole

" " 846 " "

Winona, 849

Swanson hawk, 852, telephone pole.

Only hawks observed today. Arrived Lawrence, 7:30 P.M.

Lawrence, Douglas Co., Kansas

Aug 29, 1962

Salwit Lekagul, a student of mine presented me with an oil painting that he had painted. This painting is no. 620829-2. a photograph of this painting also bears the same number. Salwit won honors at the University of Kansas for this painting in an exhibit. His father living in Thailand is a prominent doctor and an avid conservationist in the field of ornithology.

Photo 620829-4 of Chris & her doll.

Lawrence, Douglas Co., Kansas

Sept 3, 1962

James Robert caught several bass from Hemphills pond east of Lawrence. The largest measured 15 1/2 inches (standard measurement) and weighed 3 lbs 5 oz (1500 gms). The second largest was 13 1/4 inches (standard length) and weighed 1220 gms. Photo 620903-1 of these two bass showing closeup of heads. Photo 620903-2 of others from the catch. Photo 620903-3 of James R. and stringers of same bass. Photo 620903-4 ibid. Photos 620903-5 to 6 of sunset at Lawrence, Kansas.

Lawrence, Douglas Co., Kansas

Oct 7, 1962

Tried out a roll of Agfa color film today:

621007-1 Family and grandma Malsseed.

621007-2 " " " "

621007-3 Grandma Malsseed

621007-4 Snow Hall, Univ. Kansas

621007-5 K.U. Campus near Snow Hall

621007-6 SW of Univ. Kansas Campus

621007-7 Country Club golf course

621007-8 " " " "

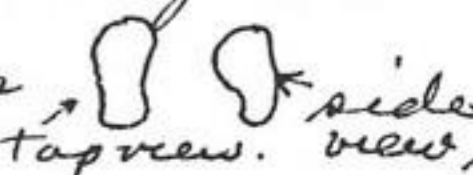
621007-9 Annette at Lake View.

621007-10 " " " "

- 621007-11 " " " " " "
 621007-12 Univ Kansas from South of Lawrence
 621007-13 " " " " " "
 621007-14 Pond at Haswell Bottom S of Lawrence
 621007-15 Grasses at Haswell Bottoms S of Lawrence
 621007-16 " " " " " "
 621007-17 Home of Marjorie McCloskey at 1613 Tennessee St
 by 'letaphoto'
 621007-18 Indian gift by Ray Narayana, an Indian student.
 from Madras.

4 mi. S Lawrence (P.O.), Douglas Co., Kansas
 Oct. 19, 1962

Robert Pierson presented me with 2 Buteo jamaicensis which he shot while hunting other game. One of these hawk was prepared as a museum specimen:

621019-1 Buteo jamaicensis, ^{mm}663, total length, 925 gms weight. ♂
 The left testis measured 6 x 2 mm; the right one 4.2 x 1.5 mm.
 The second bird 621019-2 measured 680 mm T.L., 1175 gms wt.
 and was a female with ovary measuring 11 x 3.5 mm. 
 The wing spread was 1305 mm.

Topeka, Shawnee Co., Kansas
 Oct. 20, 1962

Noted continuous line of bronze grackles flying across the city of Topeka at about 3/4 hr. before sundown. These birds were fly SSE into sun at about the Y.M.C.A. building. The flight line was approx 80 birds abreast and the flock almost continuous in length. It required 20 minutes for this long line of birds to pass by. Photos 621020-1 to 5 of Mary Pauline and her four faces of Rushmore and her normal.

Wakarusa River, Douglas Co., Kansas
 Oct. 21, 1962

Annette and I made canoe trip on Wakarusa River from Blue Mounds Bridge to Slightman's Crossing. Left 3:00 P.M. arrived 4:30 P.M. numerous tracks of raccoon along edge of river at water edge and below on shelf which is probably made and maintained by raccoon. 3 active beaver. noted 5 Rana pipiens on bank at edge of water. Other birds were 1 mallard, 1 great blue heron, 2 red-tail hawks, 3 great horned owl, numerous squirrel (3 at edge of water). At

Sightman's Crossing which is approx. 6/10 mi. W of the mouth of Spring Creek (Tanganyic sandstone of the Stronger Formation of Pennsylvanian Age) turned canoe over to son James and his friend Robert Pierson. They continued to Bridge N of Eudora arriving 7:00 P.M. They noted 2 beaver, small flock of ducks, probably blue winged teal, 1 great blue heron and other small birds and squirrels.

Wakarusa River (From Blue Mounds Bridge to Sightman's Crossing). Douglas Co., Kansas.


Oct. 28, 1962


Usual birds and mammals observed on route. No spotted sandpipers on this date.

Wakarusa River - Kaw River, Douglas and Leavenworth Co., Kansas.

Nov. 3, 1962

James Robert Bee and I made trip (canoe) on Wakarusa River from Blue Mounds Bridge to Kaw River. Left 12:00 A.M. Between Blue Mounds Bridge to Sightman's Crossing (next bridge down river from Blue Mounds Bridge) noted approx. 25 squirrels, 40 red-bellied woodpeckers, 6 *Rana pipiens* (jumped into water from bank), 8 great horned owls, 5 red-tailed hawks, muskrats and the usual small birds. Arrived Sightman's Crossing at 2:00 P.M. From this bridge to bridge N of Eudora did not keep complete river. Arrived bridge N of Eudora at 4:17 P.M. At a point on Wakarusa River 5/10 mi W and 3/10 mi. N Eudora (P.O.), Douglas Co., Kansas, son James Robert shot two wood ducks:

621103-1 ♂ wood duck, 440 mm T.L., 660 gms weight, testes 

621103-2 ♀ wood duck, 430 mm T.L., 620 gms weight, ovary 

The two ducks were resting on a limb of a submerged log in river.

Continued down Wakarusa arriving at mouth at 4:45 P.M. One active beaver at mouth on left side of river. Vegetation along river after leaving bridge N of Eudora predominately willow in contrast to vegetation along Wakarusa upstream. Harris sparrows in area; no spotted sandpipers.

Lawrence, Douglas Co., Kansas

Nov. 4, 1962

Son James Robert shot 1 mallard, ♀, east of town. It measured 485 mm t.l., 940 gms wt.

4 mi. S Lawrence, ^(P.O.) Douglas Co., Kansas

Nov 5, 1962

noted 1 Wilson Snipe. Last night 28° F. This A.M. at 8:00 A.M. leaving falling like rain; the first of this kind of activity this autumn.

Wakarusa River - Kaw River (from Blue Mounds Bridge, Douglas County to De Soto), Kansas.

Nov. 10, 1962

Son James Robert and I made canoe trip down Wakarusa to mouth, thence down Kaw River to De Soto. Left at 8:45 A.M. from Blue Mounds Bridge. Made few observations of special interest. At 9:15 twenty mourning doves in one group in vegetation bordering the river. Arrived Slightman's Crossing at 8:50 A.M. having used paddle moderately but all the way. Enroute noted 6 great horned owls, 21 red squirrels, 2 red tailed hawks, 1 killdeer, blue jays unusually common and calling about every block or so, large flock of starling, no frogs, beaver or muskrats, no crabs. There were the usual small birds. Arrived Cliffs (about 300 feet down creek from Little Wakarusa Creek) at 10:35. One great blue heron here. 10:40 flocks 20 robins and several yellow-shafted flickers together. 10:55 Cliff (next bend above and beginning of last long stretch to bridge (Highway 10)). 11:05 Highway 10 bridge, no owls since Slightman's Crossing. 11:30 bridge N Eudora. 11:55 Mouth of Wakarusa River. A great horned owl was noted at exactly the same spot as noted on a previous trip. It flew down creek and alighted in same tree. At mouth of creek noted 1 spotted sandpiper and 1 kingfisher. Continued down Kaw River. Beyond the first bend to east at a point 9/10 mi. E and 1 7/10 mi. N Eudora (P.O.), Douglas Co., James Robert shot a lesser scaup duck. It measured:

621110-1 ♀ lesser scaup, 385 mm t.l., 700 gms wt. ovary .

Two shorelarks also left the river at this same point.

At 1:30 at N end of bend (under utility lines). At 2:10 at S end of next bend at train arch (bridge). Arrived De Soto at 5:00 P.M. Crows arriving to sandbars at about 4:45 P.M.

Wakarusa River, Douglas Co., Kansas

Nov. 11, 1962

Took 5 color shots of Annette C and Mary Pauline at cliffs at a point 1 mi S and 1 1/2 mi. W of Eudora (P.O.) or 1000 feet E and 2000 ft N mouth Little Wakarusa Creek. They are as follows:

- 621111-1 Mary Pauline & Annette Christine in canoe below rapids.
 621111-2 " " " " " " " " at cliffs
 621111-3 ibid, large tree in foreground.
 621111-4 ibid " " " "
 621111-5 ibid, from top of cliffs
 621111-6-7-8 of Mary & Chris in same general area in canoe.

Wakarusa River, 1 mi S and 1 1/2 mi. W Eudora^(P.O.), Douglas County, Kansas

Nov. 13, 1962

Took several color photos of cliff and river (same area as Nov. 11):

- 621113-1 to 621113-~~5~~. I have noticed that the trend of clouds in sky is clear in A.M. and at about noon clouds appear from S and continued to about 80% sky coverage before 3:00 P.M. Afternoons are not favorable for photography. Wasps at rocks (cliffs) and about 1 per sq. yard - too many to approach cliff area. Photos taken between 12:30 P.M. & 2:00 P.M.

Sightman's Crossing, Wakarusa River, Douglas Co., Kansas

Nov 13, 1962

Took six color photos of Torganokie Limestone along Wakarusa River just above bridge (about 4:00 P.M.)

- 621113-16 under east limestone just upstream from bridge
 621113-17 " " " and mosses on protected slope
 621113-18 " " " " " " " "
 621113-19 " " " " " " " "
 621113-20 down creek from bridge
 621113-21-22-23 upper limits^{of cliffs} and ripples in foreground (n.e.)

At bridge made telephoto shot to east of creek & trees. This area about 7/10 mi. W mouth Spring Creek, Little Wakarusa Creek.

Wakarusa River, Douglas Co., Kansas

Nov. 18, 1962

Son James Robert and I made canoe trip down Wakarusa River from Blue Mounds Bridge to Bridge N of Eudora. Left 10:25 A.M., arrived Sightman's Crossing 11:30 A.M. One great blue heron & a muskrat here. Cliffs near Little Wakarusa Creek 12:30

near cliffs noted approx. 40 mourning doves in one group.
Arrived Eudora bridge (N of Eudora) 2:00 P.M.

Lawrence, Douglas Co., Kansas
Nov. 17, 1962

Mr. Davis killed a wood duck near Peoria, Kansas.
It measured: ♂ 625 gms wt and 453 mm t.l. This bird
was more brilliant than the wood duck we recently shot
on the Wakarusa ~~621103~~ Collected Nov. 3.

Wakarusa River, Douglas Co., Kansas
Nov. 23, 1962

At a point on Wakarusa River approx 8000 feet down river
from mouth of Little Wakarusa River, took several color photos
of cliffs and river.

621123-1 cliffs and down river - sycamore on left of picture

621123-2 ibid and canoe in foreground.

621123-3 (n.g.)

621123-4 (n.g.)

At a point about 1000 feet up creek from highway bridge 10
photographed

621123-5 of trees reflected in river

621123-6 ibid (n.g.)

621123-7 up river with two large stumps in water in foreground

621123-8 low cliffs and canoe.

Photo taken between 1:00 P.M. + 3:30 P.M.

6 mi. S and 4/10 mi. W Lawrence (P.O.), Douglas Co., Kansas
Nov. 25, 1962

At a pond S of Lawrence took 4 color photographs of the
area to test Ansco film:

621125-1 Cottails, close up

621125-1a " " "

621125-2 east end of pond to north

621125-3 to S from N end.

621125-4 (n.g.)

NE of Pleasant Grove, Douglas Co., Kansas
Nov. 25, 1962

Photo 621125-5 of fence line, well handle + pastures somewhere
a few miles NE Pleasant Grove.

Photo 621125-6 of forest edge + creek in same general area

20
70

621125-70

2 2/10 mi. E and 1 2/10 mi. N Lone Star ^{city,} Douglas Co., Kansas

Nov. 25, 1962

Photo 621125-7 of Washington Creek.

S end Lone Star Lake, Douglas Co., Kansas

Nov 25, 1962

Photo 621125-8 of an arm of the lake.
Photo 621125-8a tree over lake on east side of Lone Star Lake.

Rock Creek SW Clinton, Douglas Co

Nov. 25, 1962

Photo 621125-9 of creek and forest trees.
Photo 621125-10 of orange orange fruit on ground.

Coal Creek, Douglas Co., Kansas

Dec. 2, 1962

Collected along Coal Creek from mouth of creek to point directly west of Blue mounds. From the specific locality 4 1/10 mi. S and 4 1/10 mi W from the mouth of Coal Creek collected the following:

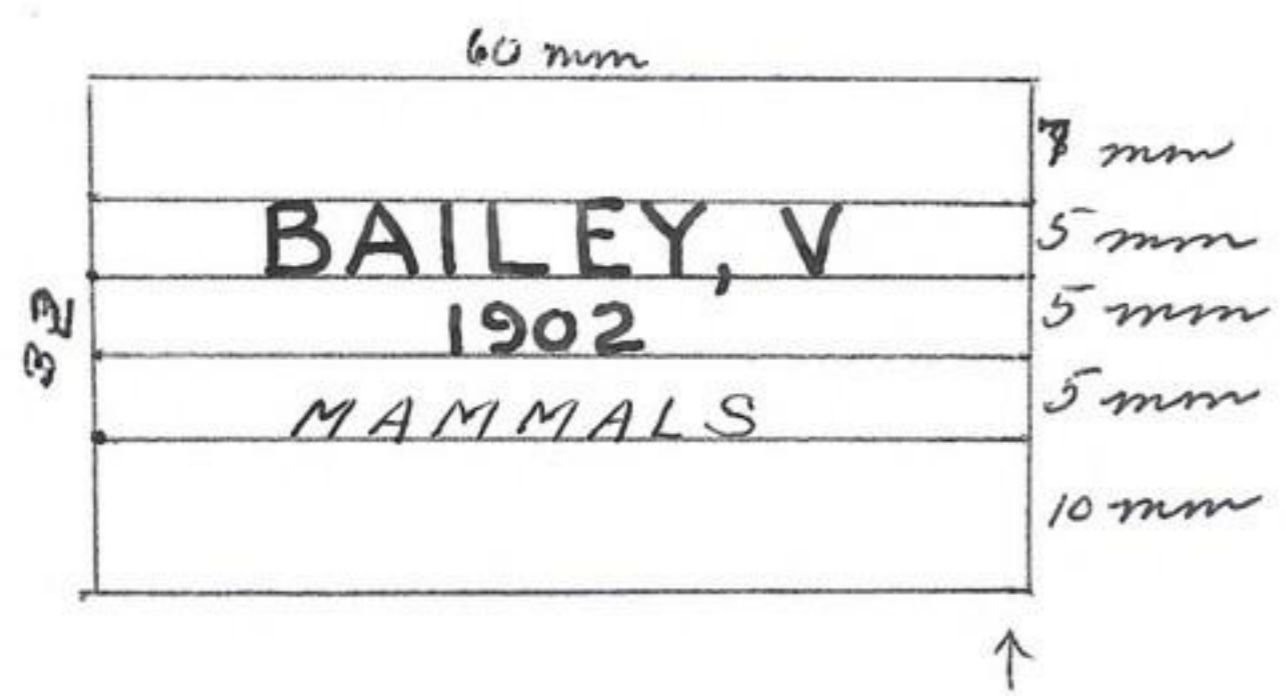
- 621202-1 Cedar warbling 202 T.L., 36gms ♀ ovary 7 mm in length
- 621202-2 Tree sparrow 155 T.L., 13gms ♀ ovary 2 mm " "
- 621202-3 " " 156 T.L., 14gms ♂ testis approx 1 mm.
- 621202-4 Goldfinch 125 T.L., 11gms ♂ testis 1 mm
- 621202-5 L. shrike 189 T.L., 98 wing.

Other observations are: frog calling, others noted; a snake approx 1 foot long swimming up current in Wakarusa River at mouth of Coal Creek; 1 butterfly; crickets calling; a pair of *Peromyscus maniculatus* and young in nest under board in open cleared field, young about 80 mm T.L., the adults were different in color; usual winter birds; many robins; few bluebirds; 6 rabbits (collontails).

Lawrence, Douglas Co., Kansas

Dec 2, 1962

determined proper size card for file cabinets. measurements should be taken from



bottom of card which in turn should be of good quality and of proper thickness.

*

Lawrence, Douglas Co., Kansas

Dec 10, 1962

First snow of season and low temperatures

Dec 12, 1962

Patterson Lake on K. D. Campus frozen completely. Yesterday
lake frozen around edges.

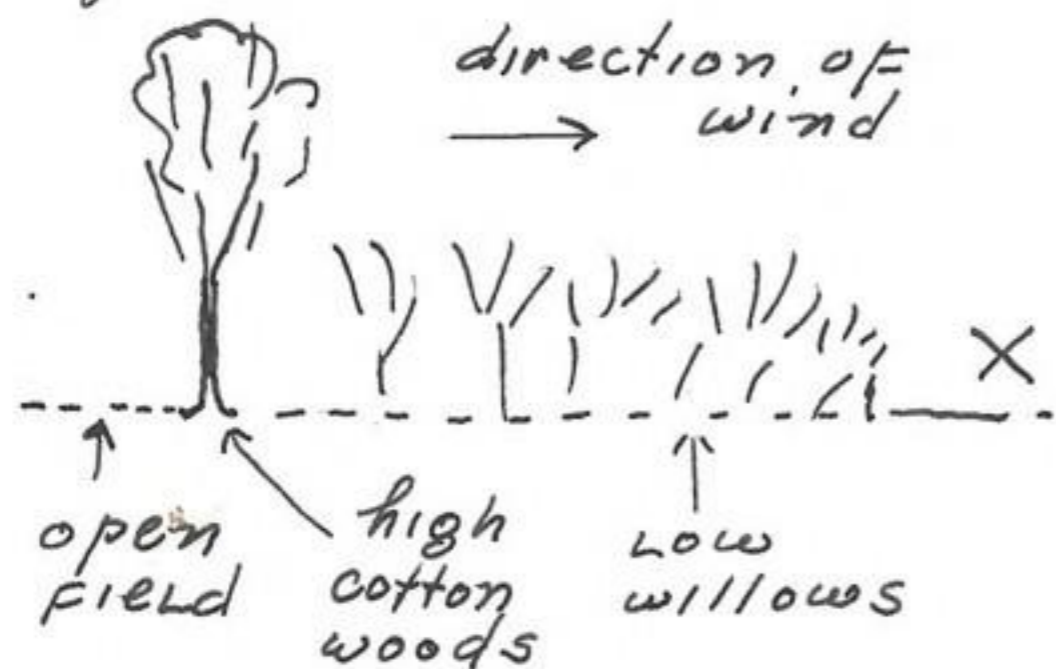
8/10 mi. N and 3 1/2 mi. E Lawrence (P.O.), Kansas

Dec. 9, 1962

Collected the following birds from above locality and made museum specimens:

- 621209-1 Red-bellied woodpecker, 241 mm T.L., 77 gms, ♂, testes 2 1/2 mm
 This bird had several pieces of Conifer sap on belly feathers.
 621209-2 Song Sparrow, 170 mm T.L., 19 gms wt., ♂, testes 1 mm.
 621209-3 Lincoln Sparrow, 143 mm T.L., 13 gms wt., ♀, ovary 2 mm
 621209-4 Swamp Sparrow, 142 mm T.L., 11 gms wt., sex?
 621209-5 Tree Sparrow, 150 mm T.L., 10 gms, ♀, ovary 2 mm.

Wind blowing from NW and extremely cold for human comfort. This condition was particular tree on broad open field of the river bottom. On the lee side of trees the wind was reduced in velocity and temperature



appeared warmer. It is necessary to have high tree as first barrier and small trees or willows as secondary barrier. There was apparently no adjustment by birds to this protected area. Small tree alone do not offer as good a barrier as the com-

bination of high tree and low trees.

*

4/10 mi. N and 3 1/2 mi. E Lawrence, Leavenworth Co., Kansas

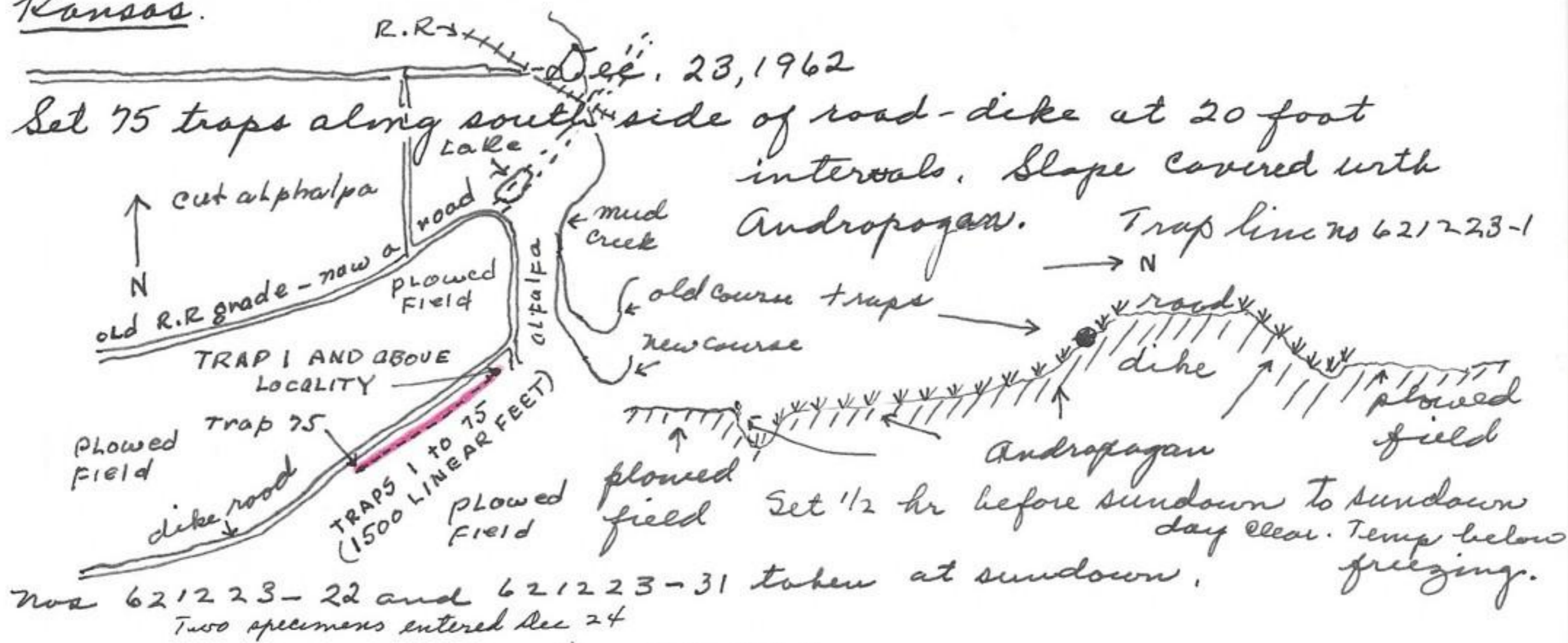
Dec 15, 1962

Collected the following birds and prepared as museum specimens:

- 621215-1 Song sparrow 150 mm T.L., 16 gms wt., ♀ ovary 2 1/2 mm
 621215-2 " " 152 mm T.L., 17 gms wt., ♀ " 3 mm
 621215-3 Cardinal 220 mm T.L., 43 gms wt., ♂ testes 2 mm
 621215-4 S. Cr. Kinglet 102 mm T.L., ♂

Noted a prairie falcon resting in field at about the county line between Douglas and Leavenworth counties on old railroad bed. When it left the area it flew in a more or less direct line to the south as far as the Kaw River. Horned larks in area, some on sand bars along river. Beaver very active at mouth of Mud Creek, having cut about 20 cottonwood trees some 6 to 8 inches in diameter. Trees fell according to leaning angle, those near river toward river.

1/2 mi. N and 3.925 mi. E Lawrence (P.O.), Leavenworth Co., Kansas.



Dec 24, 1962

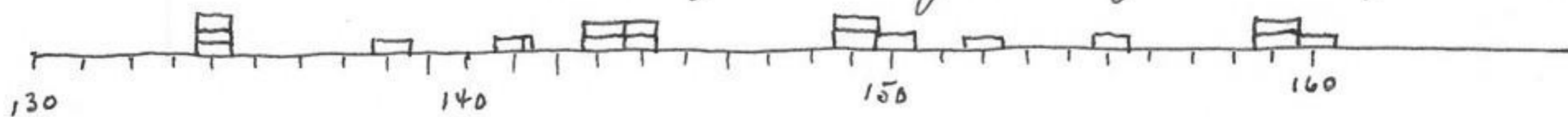
Same locality as above. Examined trap line 621223-1 this A.M. at 8:30. Temp 20°F. Cloudy sky. (nos 22 and 31 of last night)

Traps

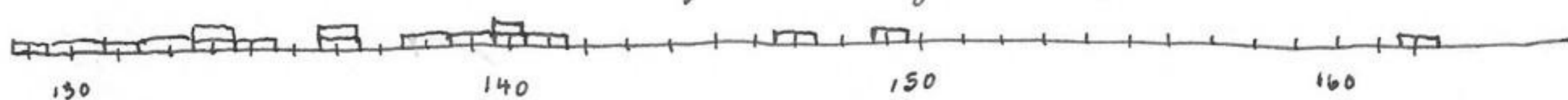
1 not visited	26 <i>Pero maniculatus</i>	51 not visited
2 not visited	27 not visited	52 <i>Pero maniculatus</i>
3 <i>Pero maniculatus</i>	28 " "	53 not visited
4 not visited	29 sprung	54 " "
5 <i>m. ochrogaster</i>	30 <i>m. ochrogaster</i>	55 " "
6 not visited	31 <i>m. ochrogaster</i>	56 " "
7 " "	32 not visited	57 " "
8 " "	33 " "	58 <i>m. ochrogaster</i>
9 <i>m. ochrogaster</i>	34 <i>m. ochrogaster</i>	59 not visited
10 not visited	35 <i>m. ochrogaster</i>	60 <i>m. ochrogaster</i>
11 " "	36 sprung	61 <i>Pero maniculatus</i>
12 sprung	37 not visited	62 <i>m. ochrogaster</i>
13 <i>Pero maniculatus</i>	38 sprung	63 <i>m. ochrogaster</i>
14 not visited	39 <i>Pero maniculatus</i>	64 sprung
15 " "	40 <i>Pero maniculatus</i>	65 sprung
16 <i>Sigmodon hispidus</i>	41 <i>m. ochrogaster</i>	66 <i>m. ochrogaster</i>
17 not visited	42 <i>Pero maniculatus</i>	67 not visited
18 " "	43 not visited	68 " "
19 " "	44 <i>m. ochrogaster</i>	69 " "
20 sprung	45 sprung	70 <i>m. ochrogaster</i>
21 not visited	46 <i>m. ochrogaster</i>	71 not visited
22 <i>m. ochrogaster</i>	47 <i>m. ochrogaster</i>	72 " "
23 <i>m. ochrogaster</i>	48 sprung	73 " "
24 <i>Pero maniculatus</i>	49 <i>Pero. maniculatus</i>	74 " "
25 <i>Sigmodon hisp</i>	50 sprung	75 " "

• <u>621223-22</u>	<i>Microtus ochrogaster</i>	141-35-29-12-40 gms	wt. normal
• <u>621223-31</u>	" "	155-36-20-12-42 gms.	wt. normal
<u>621224-3</u>	<i>Peromyscus maniculatus</i>	138-50-18-14-18 gms	
• <u>621224-5</u>	<i>Microtus ochrogaster</i>	144-36-19-12-36 gms	wt. normal
• <u>621224-9</u>	" "	160-32-20-12-62 gms	wt. normal each R uterus, 17/10 gms 2 emb 22 mm (C.R.)
<u>621224-13</u>	<i>Peromyscus maniculatus</i>	127-51-18-14-16 gms	destroyed partly eaten
• <u>621224-16</u>	<i>Segnodon hispidus</i>	200-85-90-17-59 gms	wt. normal
<u>621224-22</u>	<i>Microtus ochrogaster</i>	completely eaten	testes 9 mm
• <u>621224-23</u>	" "	143-36-21-12-31 gms	wt. normal
<u>621224-24</u>	<i>Peromyscus maniculatus</i>	almost completely eaten	
<u>621224-25</u>	<i>Segnodon hispidus</i>	[175]-[50]-30-17-71 gms	m. only
<u>621224-26</u>	<i>Peromyscus maniculatus</i>	(-)-26-18-(-)-(-)	anterior 1/2 eaten ♀
• <u>621224-30</u>	<i>Microtus ochrogaster</i>	159-36-19-12-49 gms	testes 9 mm
• <u>621224-31</u>	" "	138-34-20-12-29 gms	wt. normal
• <u>621224-34</u>	" "	143-32-20-12-33 gms	wt. normal
• <u>621224-35</u>	" "	149-36-20-12-39 gms	testes 7 mm
<u>621224-39</u>	<i>Peromyscus maniculatus</i>	123-48-18-13-14 gms	m. only skull broken
<u>621224-40</u>	" "	(-)-48-18-(-)-(-)	anterior 1/2 eaten ♀
<u>621224-41</u>	<i>Microtus ochrogaster</i>	completely eaten	
<u>621224-42</u>	<i>Peromyscus maniculatus</i>	129-53-18-13-13 gms.	
• <u>621224-44</u>	<i>Microtus ochrogaster</i>	134-33-21-12-30 gms	wt. normal
• <u>621224-46</u>	" "	152-38-21-12-40 gms	♂ testes 8 mm
• <u>621224-47</u>	" "	150-32-21-12-41 gms	♀ wt. normal
<u>621224-49</u>	<i>Peromyscus maniculatus</i>	128-49-18-13-13 gms	
<u>621224-52</u>	" "	143-58-19-13-19 gms	destroyed
• <u>621224-58</u>	<i>Microtus ochrogaster</i>	144-36-20-12-36 gms	testes 8 mm
• <u>621224-60</u>	" "	[124]-[14]-17-10-34 gms	testes 7 mm
• <u>621224-61</u>	<i>Peromyscus maniculatus</i>	144-55-18-13-21 gms	testes 8 mm
• <u>621224-62</u>	<i>Microtus ochrogaster</i>	159-37-20-12-47 gms	wt. normal
• <u>621224-63</u>	" "	134-33-19-12-32 gms	wt. normal
• <u>621224-66</u>	" "	134-33-20-12-31 gms	wt. normal
• <u>621224-70</u>	" "	149-38-22-12-38 gms	wt. normal

distribution of *m. ochrogaster* by total length (mm)



distribution of *m. ochrogaster* by wt (gms)



Lawrence, Douglas Co., Kansas

Dec. 24, 1962

Started to snow this afternoon. Temp at 6:00 P.M. - 23° F.

Lawrence, Douglas Co., Kansas

Dec 25, 1962

At 10:00 A.M. (light snow, Temp 28° F), noted an eastern fox squirrel, Sciurus niger climb up one tree on the underside of trunk and limbs and cross over to another tree and descend to the ground by hanging on to the underside of the limbs and trunk. New snow covered the upper surface of the limbs - ~~was~~ a definite attempt to wade the snow. Unusual number of robins in Lawrence area.

3/10 mi. S and 3/10 mi. W mouth Coal Creek, Douglas Co., Kansas

Dec 25, 1962

Collected the following birds from the above locality in wooded area along Mud Creek. This area has always supported many birds because of small pond associated. The pond is now frozen but the birds are still in area. They may be there because of protection from wind:

621225-1 Cardinal ♂

621225-2 white-throated sparrow 168 mm T.L., 32 gms ♀

621225-3 black-capped chickadee

621225-4 downy woodpecker

621225-5 titmouse

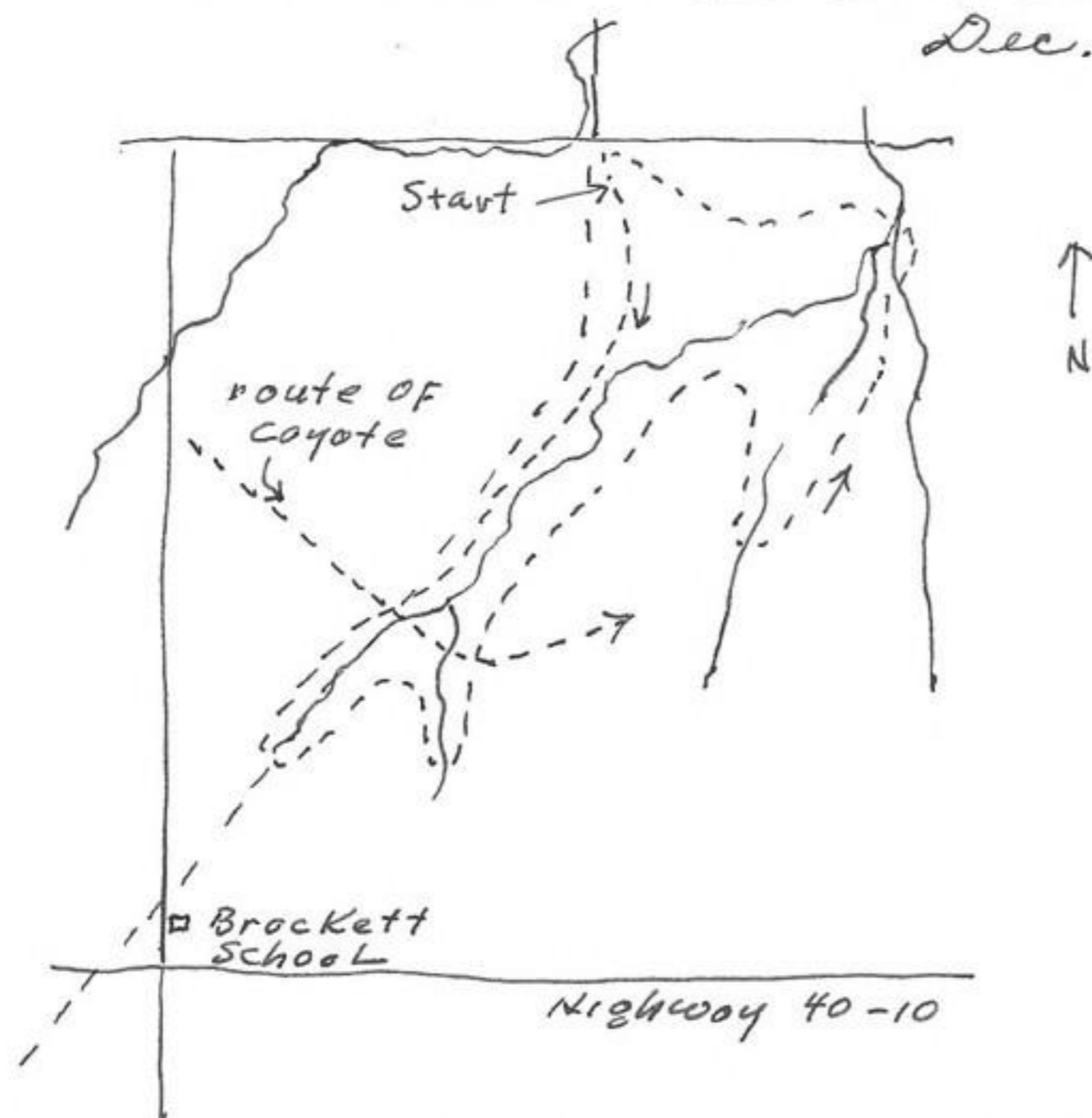
621225-6 titmouse

621225-7 Cardinal ♂

The following birds were observed in the area: unusual number of robins (this is true throughout the county), 1 mock-
ingbird, golden crowned kinglet, marsh hawk (in open field),
song sparrow, 8 bluebirds, 1 loggerhead shrike, crows, 1
great horned owl, 1 red-tailed hawk, meadowlark, sparrow
hawk, titmouse, clay-colored junco, downy woodpecker, yellow-
shafted woodpecker. At about 20 minutes before sundown, several
birds arrived to above area from the NNE including 5 male Cardinals,
1 white-throated sparrow. They appeared to be arriving for roosting
purposes. The white-crowned sparrow alighted in bushy growth 15'
above the ground and remained motionless for about 2 minutes until
shot. One coyote passed through area. Approx. 40 quail were
in area with tracks concentrated in one area. Three titmice
fed on one section of limb with concentrated effort.

2 6/10 mi. W and 1/2 mi. N Lawrence (P.O.), Douglas Co., Kansas

Dec. 26, 1962



Sam James R., his friend Robert Pearson and myself made short trip to check on birds. From above locality collected the following birds from the upper reaches of the canyon. This entire area is native trees with considerable downed timber. The utility line from the Kansas Power Co runs through the area and produces a cleared area through the forest.

621226-1 loggerhead shrike ♂

621226-1a *Pipilo erythrophthalmus* 200 mm t.l., 44 gms wt. ♀ ovary ^{5 mm long}

621226-2 Golden-crowned Kinglet 102 mm t.l., 5 1/2 gms wt. ♂, testes 3/4 long

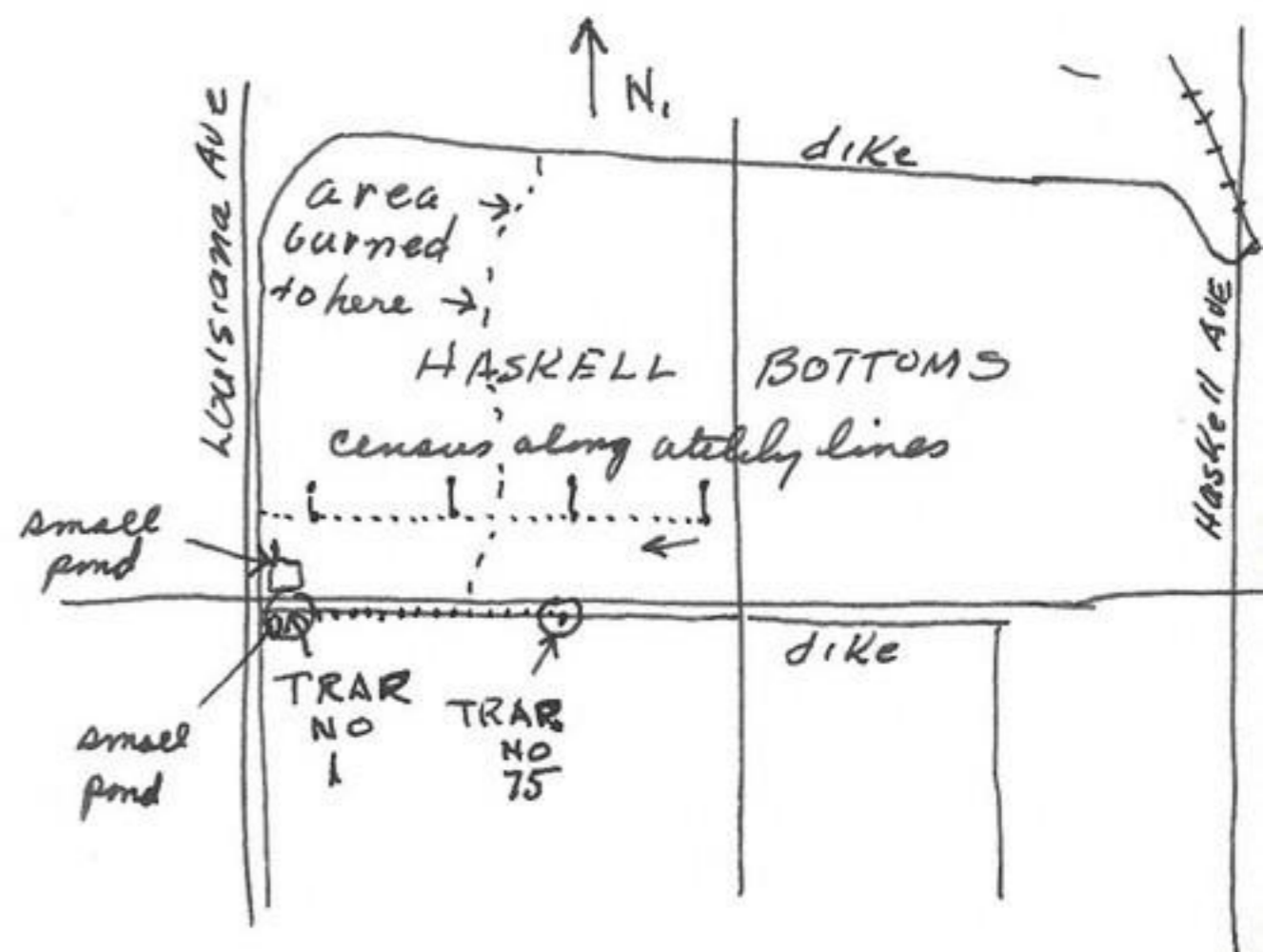
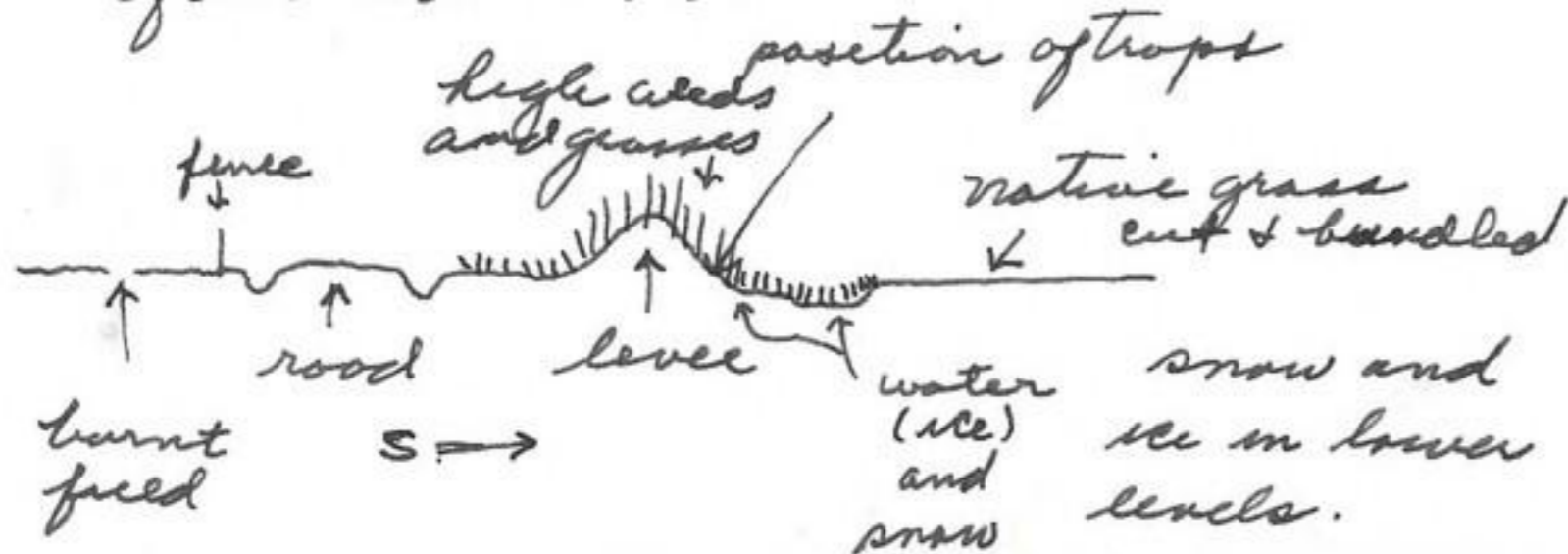
621226-3 downy woodpecker

Cottontail rabbit numerous, there being tracks at least every 20 feet or so, some areas concentrated. Observed 15 but there were probably many more. One coyote crossed canyon in a straight forward course even though we shot at it once and it was within 20 feet of point where the coyote crossed the canyon. This coyote had been chased by dogs in the canyon to the west and had escaped to this canyon. Other tracks of coyotes and fox in this area of rabbit concentration.

3 9/20 mi. S and 7/20 mi. W Lawrence (P.O.), Douglas Co., Kansas

Dec 30, 1962

at a point above to 1500 feet east along the ^{south} east side of a level that parallels a county road through the Haskell Bottoms, set 75 traps at 20 foot intervals.



Result of trap line (1-75 traps)

1	<i>Microtus ochrogaster</i>	41	not visited
2	not visited	42	" "
3	<i>Blarina</i>	43	<i>Microtus ochrogaster</i>
4	sprung	44	not visited
5	not visited	45	<i>Reithrodontomys</i>
6	" "	46	<i>Reithrodontomys</i>
7	<i>Microtus ochrogaster</i>	47	not visited
8	<i>Microtus ochrogaster</i>	48	sprung
9	<i>Microtus ochrogaster</i>	49	<i>Microtus ochrogaster</i>
10	<i>Microtus ochrogaster</i>	50	not visited
11	" "	51	" "
12	not visited	52	<i>Peromyscus maniculatus</i>
13	<i>Reithrodontomys</i>	53	<i>Microtus ochrogaster</i>
14	not visited	54	<i>Microtus ochrogaster</i>
15	" "	55	<i>Reithrodontomys</i>
16	<i>Peromyscus maniculatus</i>	56	sprung
17	not visited	57	<i>Peromyscus maniculatus</i>
18	<i>Peromyscus maniculatus</i>	58	sprung
19	not visited	59	<i>Mus musculus</i>
20	" "	60	sprung
21	<i>Microtus ochrogaster</i>	61	<i>Microtus ochrogaster</i>
22	not visited	62	<i>Reithrodontomys</i>
23	<i>Microtus ochrogaster</i>	63	<i>Microtus ochrogaster</i>
24	not visited	64	not visited
25	sprung	65	sprung
26	<i>Microtus ochrogaster</i>	66	sprung
27	<i>Microtus ochrogaster</i>	67	not visited
28	sprung	68	" "
29	<i>Microtus ochrogaster</i>	69	sprung
30	<i>Microtus ochrogaster</i>	70	sprung
31	<i>Sigmodon hispidus</i>	71	<i>Peromyscus maniculatus</i>
32	not visited	72	sprung
33	sprung	73	<i>Peromyscus maniculatus</i>
34	sprung	74	sprung
35	not visited	75	<i>Mus musculus</i>
36	" "		
37	" "		
38	sprung		
39	<i>Microtus ochrogaster</i>		
40	not visited		

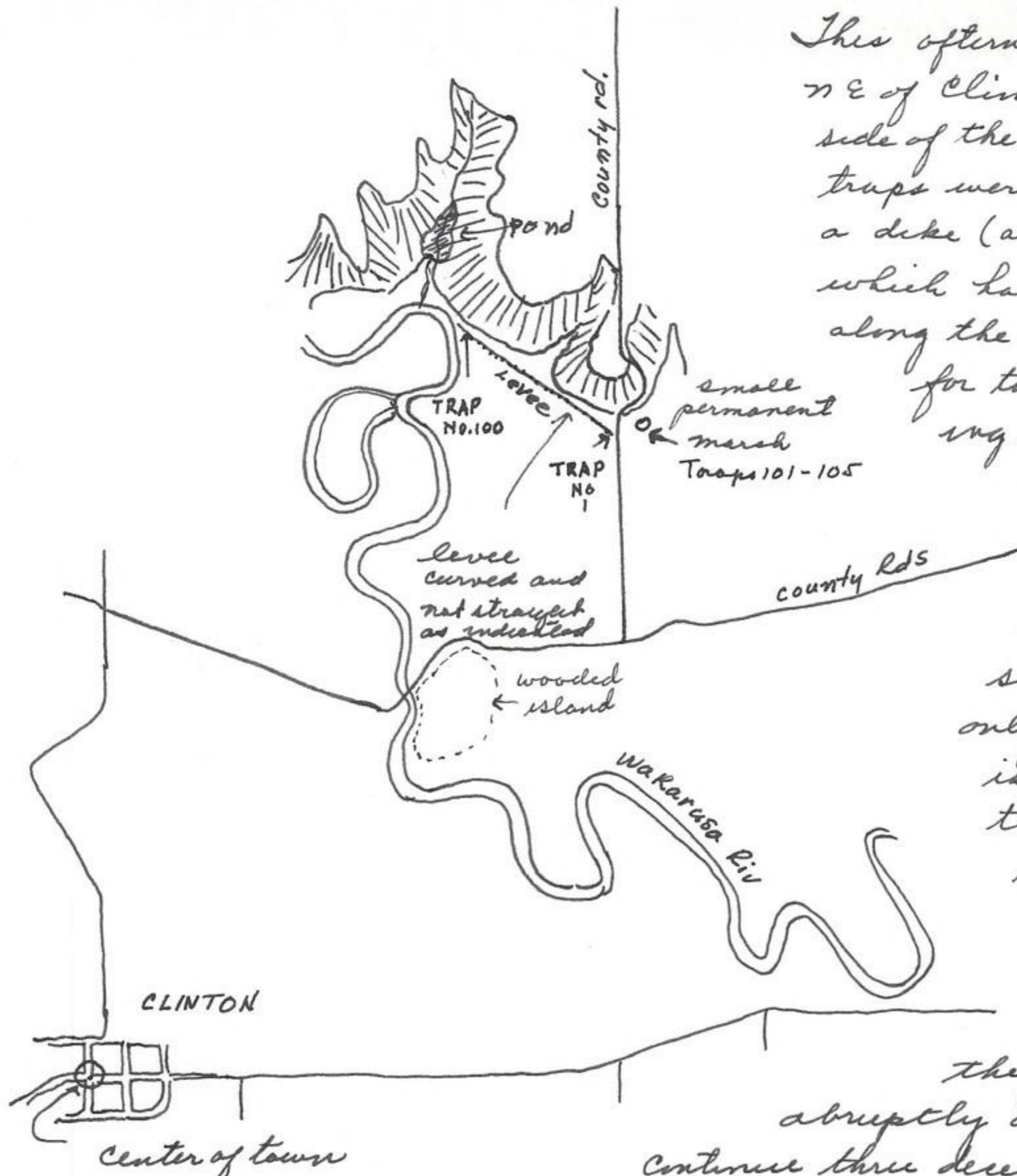
The *Reithrodontomys* were in areas where the soils were relatively free of matted vegetation. *Microtus o.* prefers areas where short grasses cover the ground although higher weed give overhead protection.

Following prepared as museum specimens (field number same as trap no.)

	621230-1	<i>Microtus ochrogaster</i>	159-37-20-12-51 gms ♂ testes 9 mm
SK ONLY	621230-3	<i>Blarina</i>	124-27-15-(-)-20 gms ♀ ut normal
	621230-7	<i>Microtus ochrogaster</i>	[130]-[18]-19-12-46 gms ♀ ut. normal
	621230-8	" "	154-38-20-12-47 gms ♂ testes 5 mm
	621230-9	" "	134-31-19-11-29 gms ♀ ut normal
	621230-10	" "	133-33-19-12-32 gms ♀ ut normal
	621230-11	" "	134-31-20-12-32 gms ♂ testes 4 mm
	621230-13	<i>Reithrodontomys</i>	125-61-17-12-8.5 gms ♀ ut. normal
	621230-16	<i>Peromyscus maniculatus</i>	151-61-20- ⁻¹⁵⁻ 19 gms ♀ ut normal
	621230-18	" "	145-61-19-15-17 gms ♀ ut normal
SK ONLY	621230-21	<i>Microtus ochrogaster</i>	153-37-21-13-48 gms ♂ testis 7 mm
	621230-23	" "	138-32-20-12-34 gms ♀ ut. normal
	621230-26	" "	148-35-19-12-41 gms ♀ ut normal
	621230-27	" "	133-31-19-12-27 gms ♀ ut normal
	621230-29	" "	155-39-21-12-46 gms ♀ ut normal
	621230-30	" "	142-34-20-12-40 gms ♀ uterus normal
	621230-31	<i>Sigmodon hispidus</i>	233-90-32-16-79 gms ♀ ut normal
	621230-39	<i>Microtus ochrogaster</i>	128-30-19-11-22 gms ♀ ut. normal
	621230-43	" "	156-36-21-12-54 gms ♂ testes 9 mm
	621230-45	<i>Reithrodontomys</i>	132-61-18-12-10 gms ♀ ut normal
	621230-46	" "	130-65-17-13-9 gms ♀ ut normal
	621230-49	<i>Microtus ochrogaster</i>	123-32-19-11-20 gms ♀ ut normal
	621230-52	<i>Peromyscus maniculatus</i>	139-54-19-13-12 gms ♀ ut normal
	621230-53	<i>Microtus ochrogaster</i>	122-30-19-11-22 gms ♀ ut normal
	621230-54	" "	118-28-19-10-22 gms ♀ ut normal
	621230-55	<i>Reithrodontomys</i>	120-56-17-13-9 gms ♀ ut normal
	621230-57	<i>Peromyscus maniculatus</i>	147-60-19-14-17 gms ♀ ut normal
Dist.	621230-59	<i>Mus musculus</i>	161-77-18.5-13-17 gms testes 7 mm
	621230-61	<i>Microtus ochrogaster</i>	156-36-21-12-45 gms ♀ ut. normal
	621230-62	<i>Reithrodontomys</i>	128-60-17-12-9 gms ut. normal
SK ONLY	621230-63	<i>Microtus ochrogaster</i>	140-34-20-12-35 gms testes 6 mm
	621230-71	<i>Peromyscus maniculatus</i>	128-49-19-13-14 gms ♂ testes 5 mm
	621230-73	" "	116-43-18-12-11 gms ♀ ut normal
	621230-75	<i>Mus musculus</i>	150-75-19-13-11 gms ♀ ut normal

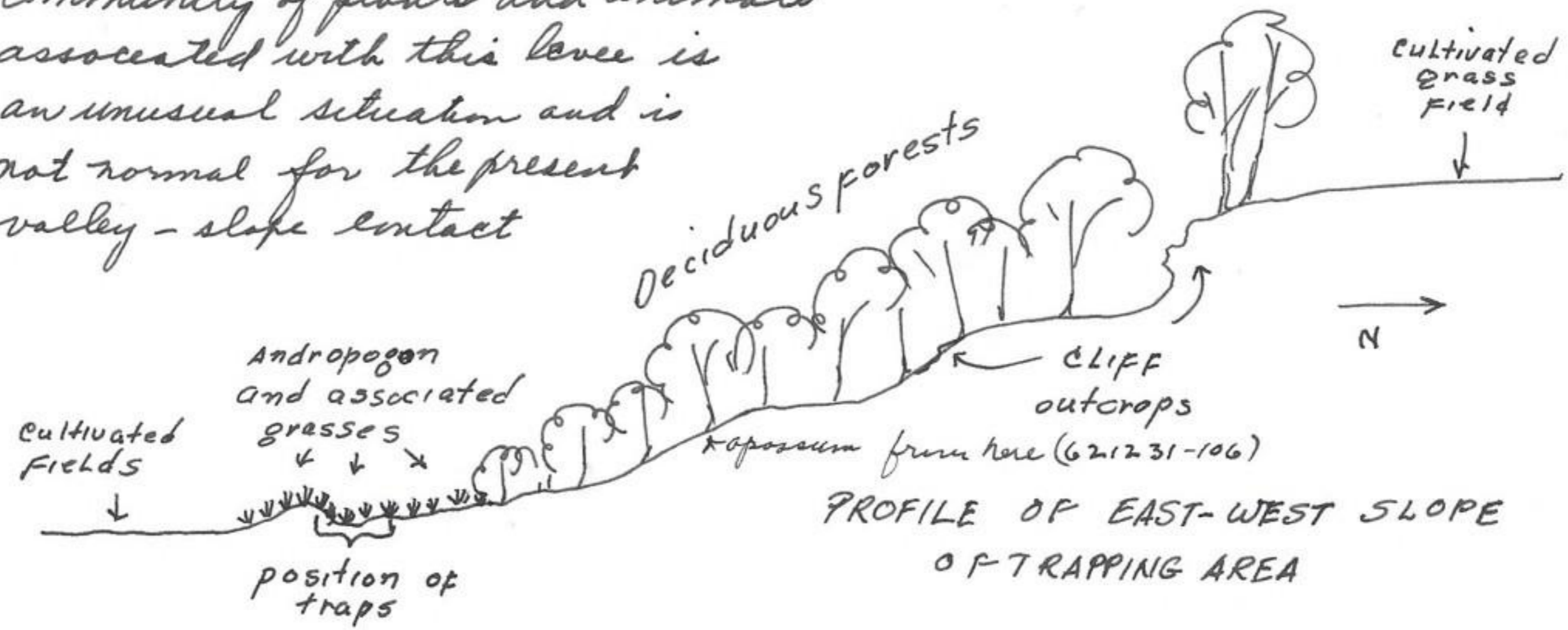
Made census of *Microtus ochrogaster* & *Sigmodon* along utility line (see figure at first of account) from 4th set of poles to levee to west. There were no runways except at level (20 feet E.) where dense grasses had protected from trampling of cattle (area now burned). Cattle prints almost continuous with droppings averaging 6 feet apart. In areas east of levee area the grasses were too completely trampled to permit small mammals to exist in the fields.

15/20 mi. N and 1 mi. E Clinton, Douglas Co., 621231-78
 Dec. 30, 1962 [Trop not exact locality]



This afternoon set 100 traps N E of Clinton on the north side of the valley. All traps were associated with a dike (about 3 feet high) which had been placed along the base of the slope for the purpose of directing runoff water to the east. Except at the lower end in area of traps 1 to 10, the soils were dry. The only permanent marsh is across the road to the east. Marsh type vegetation is limited to this small area.

Toward the valley the grasses end abruptly at base of levee and cultivated field (corn etc and plowed each year) continue to the Wakarusa River. The community of plants and animals associated with this levee is an unusual situation and is not normal for the present valley - slope contact



along the Wakarusa. Traps set at sundown (concluded). Temp 40°F, Day clear.

Dec. 31, 1962

Inspected trap line of 100 traps set last night:

1 uneffected	34 uneffected	67 <i>Synaptomys</i>
2 uneffected	35 "	<i>Microtus ochrogaster</i>
3 <i>Sigmodon hispidus</i>	36 sprung	68 uneffected
4 uneffected	37 uneffected	69 "
5 <i>Peromyscus manic.</i>	38 sprung	70 "
destr. 6 <i>Peromyscus manic.</i>	39 uneffected	71 "
7 uneffected	40 "	72 "
8 <i>Reithrodontomys</i>	41 "	73 "
9 sprung	42 "	74 "
10 uneffected	43 "	75 "
11 "	44 "	76 "
12 "	45 "	77 "
13 "	46 "	78 "
14 "	47 <i>Synaptomys</i>	79 "
15 "	<i>Microtus ochro.</i>	80 <i>Peromyscus manic</i>
16 "	48 uneffected	81 <i>Reithrodontomys</i>
17 <i>Reithrodontomys</i>	49 "	82 <i>Peromyscus maniculatus</i>
18 <i>Microtus ochro.</i>	50 "	83 uneffected
19 uneffected	51 "	84 "
20 "	52 <i>Peromyscus manic</i>	85 "
21 "	53 uneffected	86 "
22 "	54 "	87 "
23 sprung	55 "	88 "
24 uneffected	56 "	89 "
25 <i>Microtus ochro</i>	57 "	90 <i>Peromyscus maniculatus</i>
26 sprung	58 "	91 uneffected
27 uneffected	59 "	92 "
28 "	60 <i>Sigmodon hisp.</i>	93 <i>Microtus ochrogaster</i>
29 <i>Microtus ochro.</i>	61 sprung	94 uneffected
30 uneffected	62 uneffected	95 "
31 sprung	63 "	96 "
32 uneffected	64 "	97 "
33 "	65 "	98 "
	66 <i>Peromyscus manic</i>	99 "
		100 "

From traps 101 to 105 from permanent marsh:

101 uneffected	102 <i>Pero. maniculatus</i>	103 sprung
104 <i>Microtus ochro.</i>	105 sprung	

621231-106 ♂ possum (skull only)

Prepared the following mammals from trap-line inspected this A.M. (field numbers also represent trap number).

621231-3	<i>Sigmodon hispidus</i>	202-80-28-15-52gms
621231-5	<i>Peromyscus maniculatus</i>	138-51-18-13-18 gms ♂ testis 9mm
621231-8	<i>Reithrodontomys megalotis</i>	120-56-16-13-8 gms ♀ ut. normal
621231-17	" "	149-71-18-12-12 gms ♂ testis 5mm
621231-18	<i>Microtus ochrogaster</i>	153-39-20-12-35gms ♀ ut. normal
621231-25	" "	126-26-20-12-25gms
621231-29	" "	150-30-19-12-42gms ♀ 1x2 plac used
621231-47	<i>Synaptomys cooperi</i>	131-23-20-10-40 gms, 3x0 emb 43mm
621231-52	<i>Peromyscus maniculatus</i>	146-55-18-15-23gms ♀ (dest.)
621231-60	<i>Sigmodon hispidus</i>	222-92-30-17-74gms
621231-66	<i>Peromyscus maniculatus</i>	124-45-17-13-13 gms ♀ ut. normal
621231-67	<i>Synaptomys cooperi</i>	141-23-21.5-10-47gms, ^{side glands} testis 6mm
621231-80	<i>Peromyscus maniculatus</i>	128-47-18-14-10gms ♀ (dest)
621231-81	<i>Reithrodontomys megalotis</i>	122-55-17-12-8gms ♀ ut. normal
621231-82	<i>Peromyscus maniculatus</i>	150-55-19-13-21 gms ♂ testis 8mm
621231-90	" "	139-51-18-13-17gms ♂ testis 7mm
621231-93	<i>Microtus ochrogaster</i>	151-31-21-12-43gms
621231-102	<i>Peromyscus maniculatus</i>	125-48-19-14-12 gms ♂ ^(SK. only) testis 6mm (dest.)
621231-104	<i>Microtus ochrogaster</i>	129-30-19-12-28gms
621231-106	<i>Didelphis virginianus</i>	602-170-60-50-2 ³ / ₄ lbs ♀

The 621231-47 *Synaptomys* had three embryos in the right uterus. They measured:

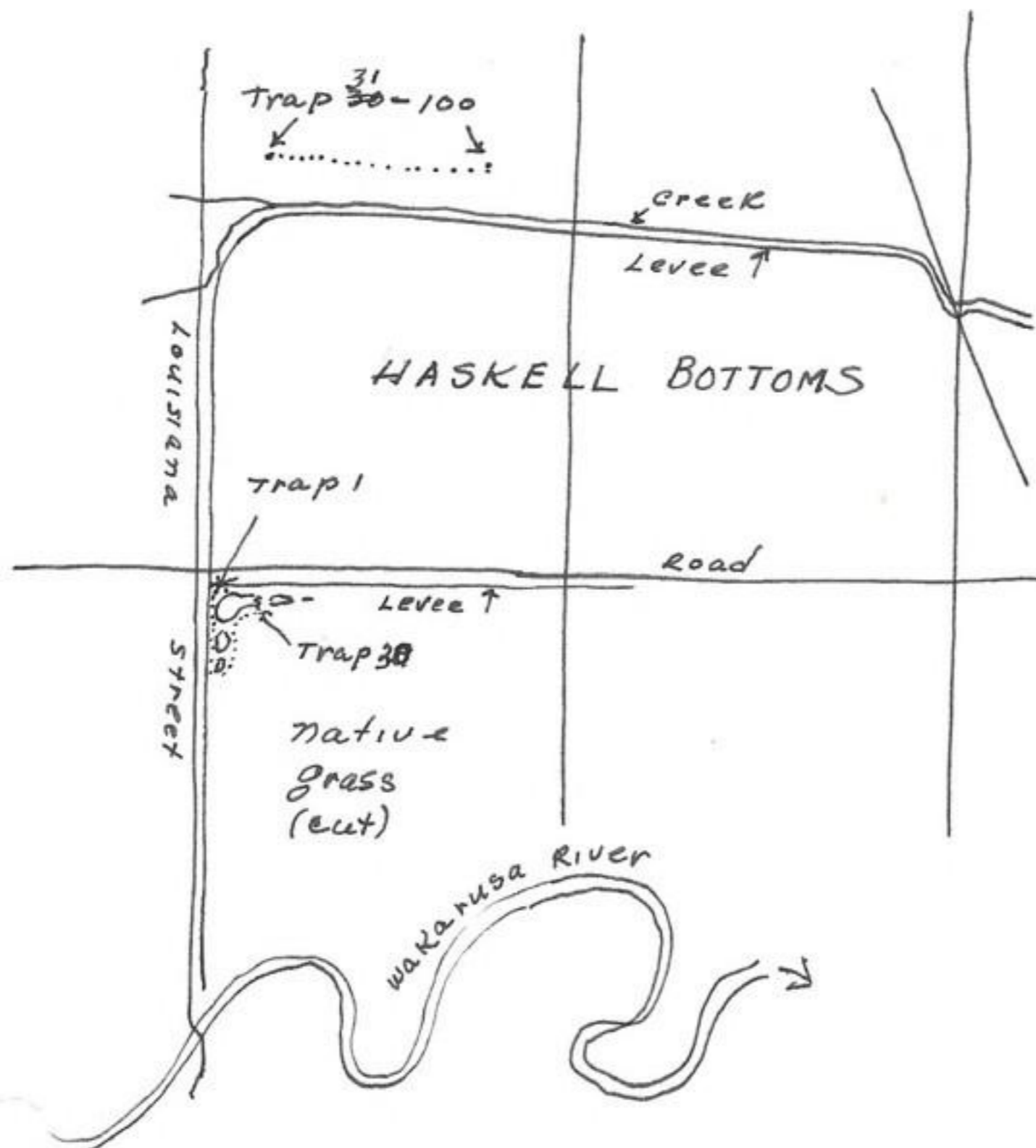
Crown rump	24 mm	25 mm	26 mm
Total length	40 mm	42 mm	43 mm (standard length-nose-tiptail)
Weight	2.3 gms	2.3 gms	2.4 gms

The male *Synaptomys* 621231-67, had large side glands, as observed on inside of skin.

The two specimens of *Synaptomys* were separated by 400 linear feet on dike. I was somewhat surprised at the small number of mammals taken from this trapline as I had considered the area to be excellent for small mammals, and particularly good for *Synaptomys* because of the permanent water. One explanation would be the heavy predation of snakes, especially copperheads, that inhabit the cliffs at the top of the slope. This area, although limited in extent has never been changed in the 15 years that I have checked the area. The levee at base of slope east of this area holds promise for good trapping and if the snow does not come I will give it a try.

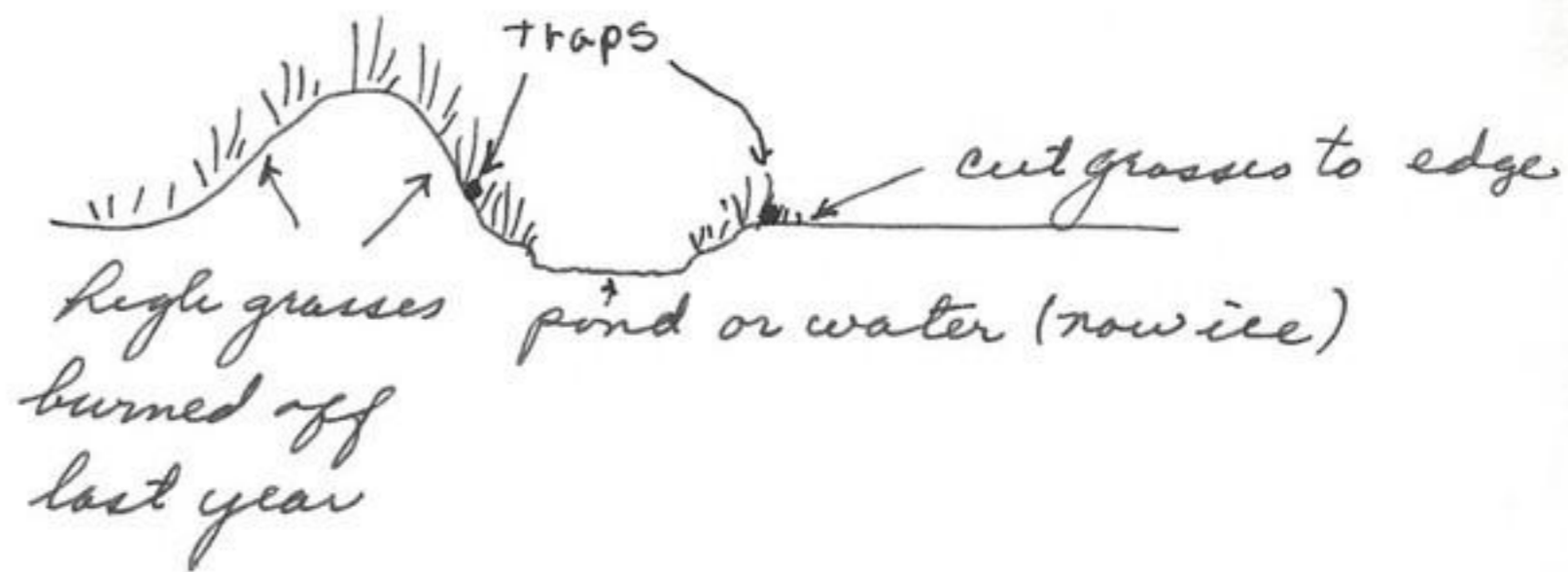
3 9/10 mi. S and 7/20 mi. W Lawrence (P.O.), Douglas County,
Kansas.

Dec 31, 1962



Set 30 traps around small permanent pond (sometimes it dries) and 2 segmented ponds to south but joining. Traps set 20 feet apart on slope of dike and at edge of pond bordering the field of native grass which has been cut and baled. The trap line continues the line set Dec 30, 1962 and consists of high grasses and weeds with very little mat grass beneath.

The ground was mainly free of snow but some remained in protected places. At another place to the north beyond the levee



at exactly 2 19/20 mi. S and 3/10 mi. W Lawrence (P.O.). set traps 31 to 100 in a line directly to the east at 20 foot intervals. This field is homogeneous and of grasses which have not been disturbed for a year or so. There is considerable activity and trail making beneath the dense matted grasses but trails were exposed only when the grasses were removed overhead. Realizing this activity I placed all traps on top of matted grass and in situations not associated directly with a trail, although trails were directly beneath in some cases. The lack of microtus (only one) and *Sigmodon* and the predominance of *Reithrodontomys* and *Peromyscus maniculatus* indicate reluctance of microtus to leave their runway & foraging areas.