

JOURNAL 1974

JAMES W. BEE

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Lawrence, Douglas Co., Kansas

Jan 2, 1974

Photographed snow scene from 402 Yorkshire Dr. and numbered 740102-1. Evening sunset 740102-2, to west from home. and 740102-2a same place.

Lawrence, Douglas Co., Kansas

Jan 19, 1974

Photo 740119-1 of Kaw River from Massachusetts bridge with pigeons and gears in foreground. The last 2 days the water has eroded some ice but most ice still in place below the dam. This ice is the thickest I have observed in 25 years.

On a trip to Kansas City noted 2 redtails sitting on the wires of telephone poles. Ordinarily they select a broader based perch.

Lawrence, Douglas Co., Kansas

Jan 21, 1974

Photos 740121-1 and 740121-2 of ice below Massachusetts bridge dam.

Lawrence, Douglas Co., Kansas

Jan 27, 1974

Census of birds and mammals between Lawrence and Lake View via Santa Fe railroad tracks, starting at ⁿ end of Tennessee St. Route varied in that route followed edge of river to K.P.L. and thence on R.R. rightofway. Left 1:45 P.M., cloudy, wind from NW. and cold. Will keep list of all birds and mammals. Cardinal, Cardinal, 18 slate-colored juncos, titmouse, 2 cardinals, 2 bluejays, 2 blackcapped chickadees, 2 cardinals, 8 starling, 20 Eng. sparrows. Kaw River free of ice except at places on the banks. Cardinal, 2 bluejays. 2:14 bridge at park area. 2:20 well in middle of field. 2:30 turnpike bridge, downy. 2:45 now directly east of Colary plant R.R. siding but at edge of Kaw River riparian growth. Horsetail plants extensive at edge and used by cottontail rabbits this winter. 2 b.c. chickadees, cardinal, 12 slate-colored juncos. 3:33 first cottontail and fox squirrel. Considerable evidence of digging by both the squirrel & cottontail. 3:35 first dromage

The banks of the Kaw River are cold, steep and formidable with dirty embedded blocks of ice in and on soft deposits of mud. It would make a very unpleasant ascent if one's canoe were to capsize. As formidable as it may appear, there are tracks of the raccoon and beaver there. This period of shifting ice and ice erosion of the bank must be a critical period for beaver.

In the Kaw in 100 feet linear distance and width of river there are on the average 2 blocks of ^{floating} ice averaging 3 square feet. One block of ice measured 10 x 8 feet. In the drainage above the water flow was approx 1 cfs per 20 seconds. River ice blocks to within 10' of outlet. 6 bobwhite here. 3:45 redtail at point where utility line cross river. 3:53 Kansas Power & Light have dredged canal to intake. This is the first time so extensive a dredging has been performed at this point and may be associated with the increased sand shift from Corp of Eng.'s water control. 4:05 first major drainage w KPL. 50 tree sparrows and 2 cardinals flow in creek approx. 15 gal per second. 4:22 county road, thence N to river where ice thrusts deposited ice blocks as high as 10' high on upper flood plain at edge of river. no gulls. 4:35 Lake View iced in. 18 Eng sparrows, 3 starling, red-bellied woodpecker. 4:45 car at Lake View station stop. In passing by the lake noted that the outlet canal was open whereas the lake was frozen. This condition has been reversed at an earlier period in the season. It is interesting to compare the census of this trip with the one of December 22, 1973. Since that time there has been severe low temperatures.

Summary:

Cardinal 1-1-2-2-1-1-
 slate-colored juncos 18-12-
 titmouse 1
 bluejays 2-2-
 black-capped chickadees 2-2-
 starling 8-3-
 Eng. sparrows 20-18
 downy woodpecker 1
 cottontail-1
 fox squirrel 1
 bobwhite 6
 redtail 1
 tree sparrow 50
 red bellied woodpecker 1


The cold, windy, dull day, ~~same~~ ^{different} route and interval of long subfreezing temperatures may have contributed to the difference between the Dec 22 and this census.

402 Yorkshire Dr., Lawrence, Douglas Co., Kansas
~~in Lawrence, Douglas Co., Kansas~~

Feb. 7, 1974

a mockingbird investigated a kitchen window^{at} a neighbors home (ward). For approx 45 minutes it repeatedly flew to the upper most part of the upper panel and fluttered a second or two and then returned to a small tree about 20' away. The contact was gently and on a slightly upward sweep. In the 45 minutes period this performance continued at regular 15 second intervals. Three times it left the area for 3 or 4 minutes and then returned to continue its investigation of the window. I had never seen this kind of behavior before. A mockingbird has visited the feeder and had eaten berries from bushes outside the house.

Feb. 19, 1974

Took photo 740219-1 of the satellite, moon and street lamps just after daybreak. The satellite has been in sky in same area for approx. a month. It gains slightly in E.W. orbit every day. With 60 power scope is:
 This date may be off one day. Best observed just after daybreak to approx. 8:10 A.M.  satellite reflection of sun.

Feb. 23, 1974

Just before sunrise observed a flock of approx. 3000 birds which I judged to be starling. They were flying SW just (2/19) east of house. The flock organization was linear, fast moving, regular direction and birds evenly distributed in the flock. Clear in A.M. Snow this evening and temps down to 10°F. Noted the P.M. a redtail flying and soaring against a north wind. 2 crows flew by flying against this wind.

Lawrence, Douglas Co., Kansas
~~in Lawrence, Douglas Co., Kansas~~

Feb. 23, 1974

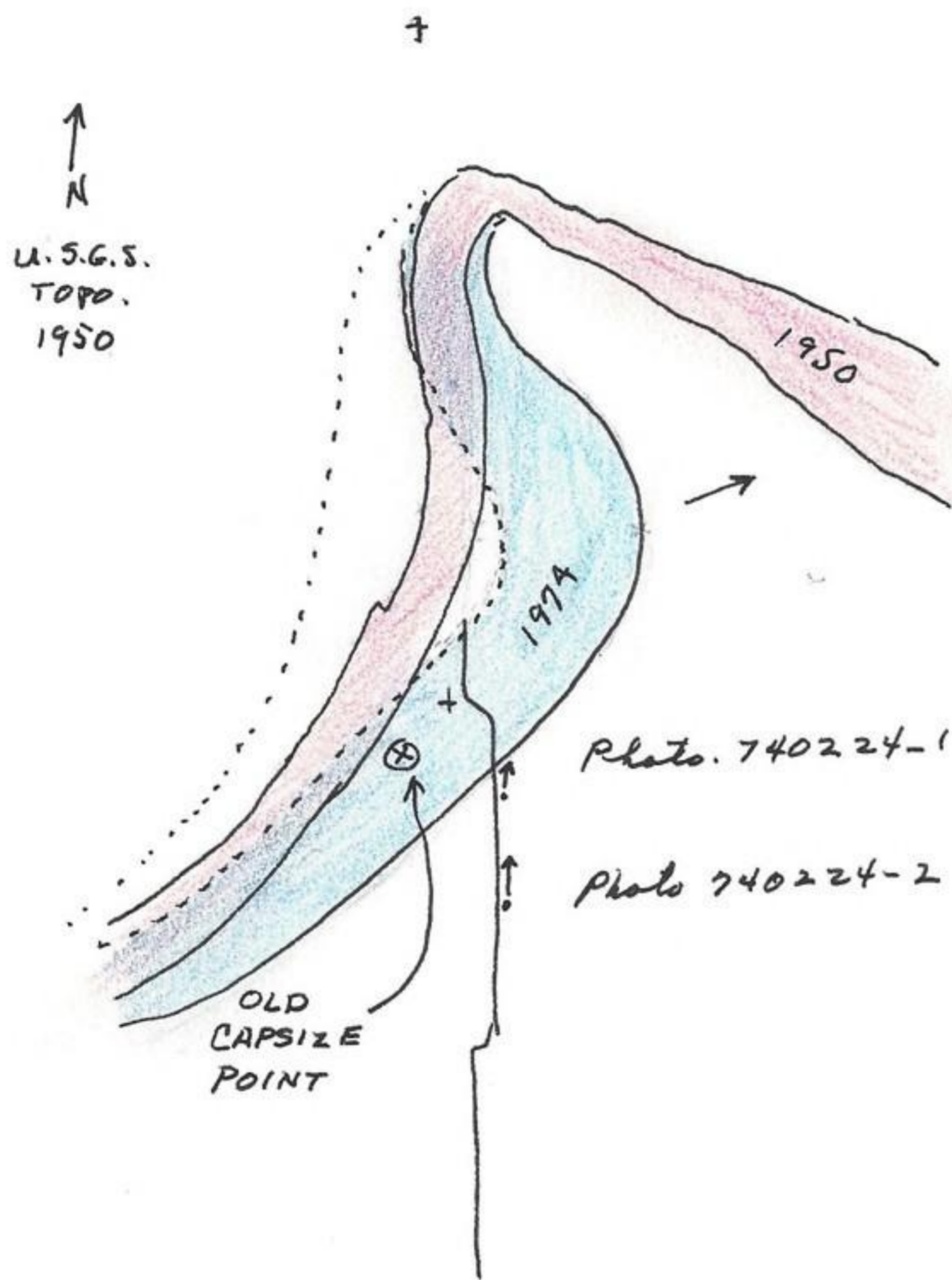
Mr. Richard Gauld, a speleologist reports Eptesicus flying in and out of a cave at Crocker, Poloski Co., in south Missouri. This place is about 10 (?) miles N of Ft. Leonardwood. They were camping at entrance of cave. This bat was observed as individual bats on walls and ceiling of cave and although there was considerable bat guano there were no colonies present.

Kaw River, Douglas Co., Kansas
Feb. 24, 1974

Mary Pauline and I inspected Kaw River at first curve east of Lawrence for degree of bank erosion. Degree of erosion since 1950

indicated on map:

- + The sand bar on west side of present river is in area of ^{E side} property prior to 1950. The extension of erosion is being checked by riparian forest but there show some eastward bank erosion. The fate of this erosion will be the elimination of curve and a break-three to Kaw. There is undeniable evidence of former surface break-three on the present bank profile. Noted 8 ring-billed gulls on and flying up and down river. No other birds observed. Temp. 14° F, W wind, day clear. This stretch of



the river receives the direct influence of northern winds which are the damaging winds and they, along with the present Corp. of Engineers continuous currents may be a factor in the erosion of this bank. Capsize Point was named by me some years ago when the canoe (Annette C and I) capsized here. This old stretch of the river was always the most difficult part of the Kaw to navigate when winds were strong out of the north. Bank swallows traditionally used this curve of the bend for nesting. In the last few years entire colonies of nesting holes have been eliminated from the eroding banks. With increase erosion of these banks the swallows will be placed in jeopardy.

Perry Reservoir, Jefferson Co., Kansas
 march 1, 1974

740301-5

Prepared for week-end trip with museum class. Items to bring are: traps, drying cabinet, oatmeal, cornmeal, skinning trays, extra scissors, grasshopper stove, butane, flashlight, maps, plastic bags, sleep bag, binoculars, camera, 35mm, film, bird book, tent, poles, stakes, rope, stove, stove pipe, ground cloth, hatchet, milk, cereal, coffee, loaves, coffee rals, apples, oranges, cake, elastic bands, recorder, Higgins ink, field journal, pen, water jug, bread, towel, glasses, money, trailer license. Left Lawrence at mileage 81149. Enroute to Paradise Point noted 4 redstarts and 2 sparrow hawks. Day clear, temp 64°F and in afternoon waters

on lake steel and reflective. Set 100 traps in grass field on S side of peninsula just east of deciduous tract of trees. Considerable impaction of grasses and area gradually growing to shrubs, Sertol, bluejay, titmouse, black capped chickadee dominant birds. American merganser generally in pairs and isolated. Noted one cottontail rabbit. One black 40 snow goose passed N. Ducks uncommon, no east. mil 81180
 Paradise Point, Perry Lake, Jefferson Co., Kansas
 march 2, 1974

min temp 36, max 68°F (set evening last night. Day clear and incredible as it may seem for march 2, no wind since we arrived yesterday. Log drift wood extensive among trees and on open fields from high waters this fall. Should be left in position and not cleared as it adds diversity to area and is spectacular in appearance. 38 Canada geese flew N

at 8:00 A.M. no fish activity. 6 ring-billed gulls in area. most Am. mergansers flying up lake, and would estimate there being 50 in this area. Downy woodpecker here, also meadowlark and redbellied woodpecker. at about 8:10 there was an increase in numbers of Am. mergansers. Two flocks of approx. 20 each flying directly N. The smaller group of 1-6 fly up the southern of the lake. 22 Canada geese to N. From trapline caught 12 *Synaptornis* & 8 *Microtus ochrogaster*

SKID	Species	Measurements
740302-1	<i>Synaptornis cooperi</i>	123-17-19-9-33gms ♂ (found on surface) testis 5mm
740302-2	"	123-18-19-11-36gms ♂ testis 6mm
740302-3	"	130-20-20-12-42gms ♀ 3x0-12mm
740302-4	"	133-20-20-12-41gms ♂ testis 6mm
740302-5	"	131-21-20-11-37gms ♂ testis 6mm
740302-6	"	121-18-19-11-33gms ♀ ut normal
740302-7	"	136-20-20-12-49gms ♂ testis 7mm
740302-8	"	136-19-20-13-40gms ♂ testis 8mm
740302-9	"	131-18-20-12-40gms ♂ testis 6mm
740302-10	"	124-20-19-10-35gms ♀ uteri enlarged, clear.
740302-11	"	126-18-20-11-34gms ♂ testis 5mm
740302-11a	"	126-18-20-11-34gms ♂ testis 5mm
740302-12	<i>Microtus ochrogaster</i>	141-32-19-12-38gms ♂ testis 12mm
740302-13	"	145-34-19-12-36gms ♂ testis 6mm
740302-14	"	145-33-19-12-40gms ♂ testis 7mm
740302-15	"	150-32-20-12-42gms ♀ 1x1 emb 18mm
740302-16	"	148-33-19-11-43gms ♂ testis 13mm
740302-17	"	126-31-19-11-34gms ♂
740302-18	"	152-33-20-13-50gms ♂ testis 13mm
740302-19	"	

SKU	<u>740302-22</u>	<i>Synaptomys</i>	♂	skull only	no measurements
SKU	<u>740302-23</u>	<i>micratus ochrogaster</i>	♂	"	"
SKU	<u>740302-24</u>	"	"	♂	"
SKU	<u>740302-25</u>	"	"	♂	"
SKU	<u>740302-26</u>	"	"	♀	"

1974-6

740302-20 *Microtus ochrogaster*
740302-21 " "

740302-6
144-32-19-11-44 gms. ♂ testes 13 mm
153-31-19-11-48 gms ♀

← all mammals were taken from runways completely covered overhead with matlike grasses. Sunning holes frequently observed. This area is gradually being taken over by deciduous shrubs and small trees. In the interest of the area I would suggest two things; one, if open areas are desired, cut grass down to 1 foot high ~~and~~ each autumn, ^{or} secondly allow forest to reinvade if open areas are not desired. When grasses are cut to short it eliminates overhead protection and makes the field unsuitable for nearly all kinds of small mammals. Some areas should be left to develop prairie which would require natural grazing or other management. The logs created by high water should remain among trees because vegetation will not obliterate this unusual aggregation of timber. On open grassy slopes the vegetation will soon cover logs and their scenic value will be concealed. They will, however, produce an interesting additional ecological niche.

From a pond near camp collected a *Thamnophis* from edge of water. It was sluggish. Its measure (body) 214 mm. The tail was stubbed. On return to Lawrence, noted 3 redtails and 2 sparrow hawks. One large flock of male redwings near Lawrence.

Lawrence, Douglas Co., Kansas
March 3, 1974

Considerable evidence of singing by Cardinals. Flicker hammered in dead tree.

This evening after dark heard 2 flocks of geese (snows & blues) flying N. English Sparrows sparing for nesting sites in martin house at home.

March 7, 1974

First excessively hot day this season (in 70's).

March 8, 1974

At 6:00 P.M. a flock of snows & blues flew NW over Deerfield area in Lawrence, ^(NW) high wind caused considerable adjustment in flight pattern. Grasses in Lawrence lawns are definitely green and trees show a slight yellowish green cast. English sparrows and starlings ^{were each} noted copulating.

17 1/10 mi. N and 18 1/10 mi. W Lawrence (P.O.), Douglas Co., Kansas

March 13, 1974

Set 100 traps on two contour levels in field (full length NS) at 20' intervals at 10:00 A.M. Day overcast and temp. 50°F. At 6:00 P.M. checked trapline as follows:

740313-1	<i>Microtus ochrogaster</i>	147-30-18-12-48 gms ♀	1x2 emb 8 mm
740313-2	" "	140-28-19-12-40 gms ♂	testes 12 mm
740313-3	" "	148-35-19-12-43 gms ♂	testes 14 mm
740313-4	" "	143-28-19-12-40 gms ♀	1x2 emb. 10 mm
740313-5	" "	143-31-19-12-38 gms ♂	testes 13 mm
740313-6	" "	146-31-18-12-35 gms ♂	testes 14 mm

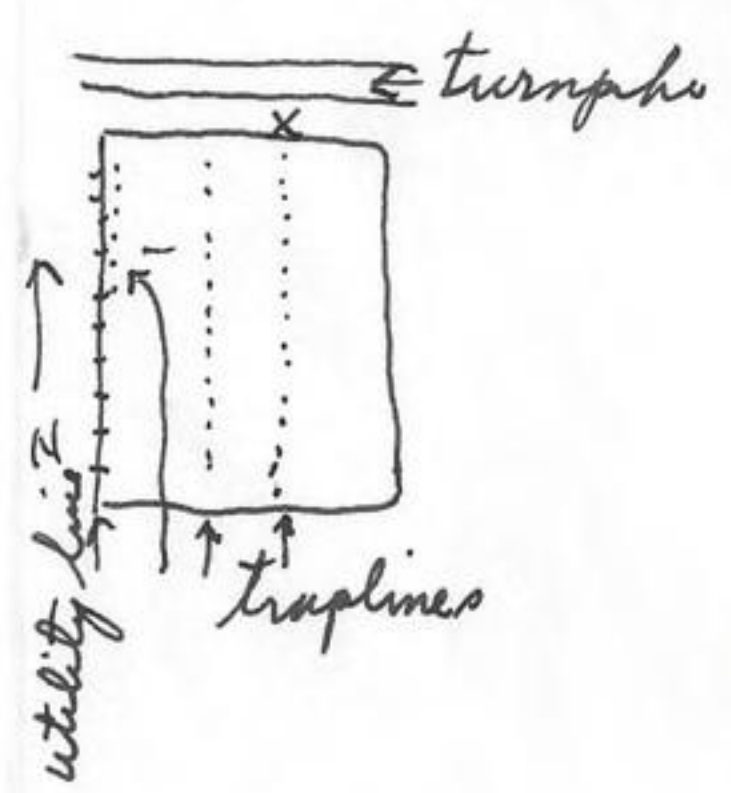
1974-7

740313-7	<i>Microtus ochrogaster</i>	133-33-18-12-29 gms	♀	ut. normal
740313-8	"	127-31-18-11-24 gms	♀	ut. normal
740313-9	"	123-29-18-11-21 gms	♀	ut. normal
740313-10	"	121-26-18-10-24 gms	♂	testes 7 mm
740313-11	"	100-21-17-9-13 gms	♂	testes 5 mm
740313-12	"	87-19-15-8-8 gms	♀	ut normal
740313-13	<i>Sigmodon hispidus</i>	199-71-28-16-58 gms	♂	testes 13 mm
740313-14	"	[153][20]-29-17-63 gms	♂	testes 14 mm

We'll leave these traps set in same position tonight and will collect traps & mammals tomorrow morning. noted a Microtus pinetorum under an old shed door. there were trails and two nests under this door. at approximately 7:00 P.M. 8 Harris Sparrows were settling in a rose bush 3 feet high and 4 feet wide and thickly constructed. meadowlark were heard but we not feeding in the field. 4 small sparrows were flushed from the grasses. This field has been allowed to grow into grasses. One cottontail left short grasses and ran to wooded fence line. 2 redtails in area. There was some evidence of nests being excavated by predators but nothing compared to the predation at Paradise Park on the Perry Reservoir (see notes of last week). In regards to shed doors on the ground, I have been checking these doors for 10 years and this is the first year of noticeable deterioration, in fact one door fell apart when attempting removal. This may be associated with excessive rains this last year.

March 14, 1974

at 8:00 A.M collected the following mammals from trapline.



all traps in runway among base grasses and last years growth of a 2-3' yellowish-red grass with curly basal blades on the ground level. 10 of the 100 traps were along fence row along utility lines where all *Sigmodon* were caught and where in previous years there was a high population of *Synaptomys*. Only one *Microtus ochrogaster* from the fence line. The trails here followed the base of the fence line and was well developed and relatively under-protected overhead. The elevated ridge adjacent

(3 feet away, ~~and~~). still supports good grasses. The only *Synaptomys* caught was at fence line marked x and was entering the trapping field from the Turnpike right-of-way. most of the trails were associated with ridges or elevated elevations in the field. These could be identified by green grass patches. mammals caught at these places indicated the animal leaving the ~~ground~~ mound. This population is characterized by many young of several ages indicating considerable winter breeding. The homogeneity of the population would indicate an immigration and expansion of a population in a relatively new plant community.

SK.ON.	<u>740314-1</u>	<i>Synaptomys cooperi</i>	125-18-19-11-33 gms ♂ testis 5 mm
SK.ON.	<u>740314-2</u>	<i>microtus ochrogaster</i>	158-31-20-11-59 gms ♀ 1x2 emb. 12 mm
SK.ON.	<u>740314-3</u>	"	144-29-18-11-37 gms ♀ ut. enlarged
"	<u>740314-4</u>	"	150-31-20-12-44 gms ♂ ut. enlarged
SK.ON.	<u>740314-5</u>	"	154-37-20-12-42 gms ♂ testis 14 mm
SK.ON.	<u>740314-6</u>	"	[132]-[20]-19-11-42 gms ♂ testis 15 mm
SK.ON.	<u>740314-7</u>	"	159-34-19-12-49 gms ♀ 2x2 emb. 17 mm
"	<u>740314-8</u>	"	142-31-18-10-30 gms ♀ 2x1 emb. 6 mm
SK.ON.	<u>740314-9</u>	"	147-33-20-11-35 gms ♀ ut. enlarged
M.M.	<u>740314-10</u>	"	143-36-19-11-36 gms ♀ 2x2 emb. 8 mm
SK.ON.	<u>740314-11</u>	"	158-34-21.5-12-50 gms ♀ post part.
"	<u>740314-12</u>	"	151-31-20-11-43 gms ♂ testis 13 mm
SK.ON.	<u>740314-13</u>	"	143-30-18-11-36 gms ♂ testis 13 mm
"	<u>740314-14</u>	"	142-29-19-11-35 gms ♀ ut. enlarged
"	<u>740314-15</u>	"	141-34-19-11-36 gms ♀ 2x2 emb. 10 mm
	<u>740314-16</u>	"	139-31-19-11-33 gms ♂ testis 12 mm
SK.ON.	<u>740314-17</u>	"	144-33-19-11-35 gms ♂ testis 12 mm.
"	<u>740314-18</u>	"	140-31-20-11-32 gms ♂ testis 9 mm
SK.ON.	<u>740314-19</u>	"	140-29-19-11-35 gms ♂ testis 11 mm
"	<u>740314-20</u>	"	136-36-18-10-30 gms ♀ 2x1 emb. 13 mm
M.M.	<u>740314-21</u>	"	128-28-18-10-24 gms ♀ ut normal
	<u>740314-22</u>	"	108-21-17.5-8-15 gms ♀ ut. normal.
M.M.	<u>740314-23</u>	"	100-19-17-8-14 gms ♂ testis 5 mm
M.M.	<u>740314-24</u>	"	105-21-17-8-14 gms ♀ ut normal
M.M.	<u>740314-25</u>	"	117-28-20-11-18 gms ♀ ut normal
M.M.	<u>740314-26</u>	"	110-28-18-9-15 gms ♀ ut normal
M.M.	<u>740314-27</u>	"	118-27-19-10-18 gms ♂ testis 7 mm
M.M.	<u>740314-28</u>	"	117-27-19-10-16 gms ♀ ut normal
	<u>740314-29</u>	<i>Reithradontomys</i>	121-56-18-12-10 gms ♂ testis 7 mm
M.M.	<u>740314-30</u>	"	134-58-17-11-10 gms ♂ testis 7 mm
M.M.	<u>740314-31</u>	"	132-58-17-11-12 gms ♀ preg. suckling
M.M.	<u>740314-32</u>	"	130-64-17-11-9 gm ♂ testis 7 mm
	<u>740314-33</u>	"	[88]-[14]-17-11-11 gms ♀ post. part.
	<u>740314-34</u>	<i>microtus ochrogaster</i>	109-28-18.9-15 gms ♀ ut. normal
	<u>740314-36</u>	"	99-18-17-8-13 gms ♀ ut. normal
	<u>740314-37</u>	"	101-19-17-8-14 gms ♀ ut normal
M.M.	<u>740314-38</u>	<i>Sigmodon hispidus</i>	319-86-29-17-62 gms ♂ testis 12 mm
	<u>740314-39</u>	"	331-95-31-17-73 gms ♂
M.M.	<u>740314-40</u>	"	304-76-28-16-56 gms ♂ testis 11 mm
M.M.	<u>740314-41</u>	"	302-77-28-16-55 gms ♀ ut. normal
	<u>740314-42</u>	<i>Reithradontomys</i>	120-55-18-12-10 gms ♂ testis 7 mm

Atchison Co., Kansas (several localities)

March 15, 1974

Mr. Raymond L. Lewman, ^(Topeka Natural Soc.) a student in my museum Science course) reported the following. My interest in coyotes grew out of an observation of the continued clearing of land for agriculture purposes, and how this might affect the coyote population in Atchison Co. The information was gathered on March 2 and 3 of 1974 from interviews of the following people.

Mr. Robert E. Lewman; Route 1, Cummings, Kansas: Robert Lewman, my brother, farms approximately one mile east and one mile south of Cummings. He reported two coyotes in an open pasture bordering on the farm lane. "I was surprised by the openness of the coyote slowly moving across the pasture in broad daylight."

Mr. Leroy Ingberman, Route 1, Cummings: Mr. Ingberman lives in Cummings and works in Atchison, hunts coyotes in Atchison County on the week-ends. Mr. Ingberman reported coyotes appeared plentiful in Atchison County in spite of intensive hunting. Mr. Ingberman sold approximately ten to twenty hides during the fall and winter of 1973-1974. He sold the hides in Valley Falls, and speculated that the buyer in Valley Falls purchased approximately 9,000 hides in Northeast Kansas.

Mrs. Lawrence Harman, Route 1, Atchison, Kansas: Mrs. Harman, an employee of the Kansas State Receiving Home in Atchison, observed six coyotes from the window of her office in northeast Atchison near the city limits. Mrs. Harman reported the conditions of the coyotes' coats were poor. "They had rather mangy looking coats" she observed.

Mr. Russell Voelker, Valley Falls: Mr. Voelker, the hide buyer in Valley Falls supplied the following information concerning coyotes. Mr. Voelker purchased hides from October 15, 1973 to February 10, 1974. 1500 hides were purchased from hunters encompassing an area approximately north of I-70 highway in Kansas and the contiguous counties of the states bordering Kansas on the north, east, and west likewise north of I-70. Of special interest, of the total number of hides, approximately 200 hides were purchased from Atchison and Doniphan Counties in Northeast Kansas. The characteristics of the coyotes were 1) average weight 25-30 pounds 2) average age 2 to 3 years old. 3) 8 out of 10 hides had surface or subsurface lice 4) western Kansas coyotes were free of lice. The hides are graded from 1-4; one is excellent, and four is bad. The breakdown of hides handled by Mr. Voelker was: 70%--- grade 1, 2; 30%--- grade 3, 4. Mr. Voelker felt the reason for the number of sightings could be traced to lack of hunting at the present time.

The final disposition of the hides were to hat manufactures in Canada and Finland.

Summary: The common agreement among the people interviewed is that in spite of rather intensive hunting the coyote population remains relatively stable. Most of the hunting taking place is purely for hides and punitive action by farmers. The hunters are governed by the buying seasons of the buyers. The number of sightings tends to verify the assumption of the stable population.

In 1971-1972, Mr. Voelker worked with Army veterinarians from Fort Riley on the possibility of the transmission of heart worm from coyotes to dogs. The reports were negative with only 2 out of 20 coyotes having heart worms. The game Commission biologist at Valley Falls was not aware of any present projects dealing with coyotes, and he was at a loss to explain the lice problem.



1974-2-11

740316-11

Paradise Point, Perry Reservoir, Jefferson Co, Kansas

March 16, 1974.

To Perry Lake for trapping *Synaptomys* and *Microtus*. Left at 12:00 P.M. at mileage 81450. Overcast and rain last few days. At 12:00 P.M. 50% sky in low cumulus and blue sky between. Temp. ^{wind} 33°F. Birds enroute. starling, grackle, sparrow hawk, striped skunk road kill, redtail, white hornlark. 67.9 redtail. 68.5 Big Slough Creek bridge, 2 gulls, crow. 71.9 redtail. 72.9 2 sparrow hawks. 74.4 Little Slough Cr. bridge. 75.2 main road intersection. 76.3 junco 78.8 Entering Paradise Point boundary. 481.0 ^{S side} Camp. at 1:15 P.M. Flock of 9 blue and 14 snow geese flew north directly over camp. Birds in area. Titmouse, robin, redtail, meadowlark, bluebird, redwing, bluejay, crow, slate colored junco. Set 100 traps in field (same one as March 2, 1974 but in different part of field but in comparable community composition (see map following listing of mammals). Traps set between 3-5 P.M. Collected the following between 6:30-7:00 P.M. *Synaptomys* and *m. ochragaster* from same line and sharing same community. All traps in runway obscured by grasses.

From trap line (checked 6:30-7:00; sundown about 7:35) caught the following:

	<u>740316-1</u>	<i>Synaptomys cooperi</i>	122-17-19-9-36gms	♀	2x2 emb. 6mm
	<u>740316-2</u>	"	130-24-19-11-40gms	♀	2x2 emb 20mm
	<u>740316-3</u>	"	129-22-20-11-40gms	♂	testis 6mm
	<u>740316-4</u>	"	126-17-19-10-37gms	♂	testis 5mm
	<u>740316-5</u>	"	132-19-19-11-39gms	♂	testis 7mm
	<u>740316-6</u>	"	133-20-20-11-45gms	♂	testis 7mm
	<u>740316-7</u>	"	127-17-19-11-36gms	♂	testis 6mm
	<u>740316-8</u>	"	118-18-18.5-10-32gms	♀	ut normal
SK.	<u>740316-9</u>	"	108-17-19-10-20gms	♀	ut. normal
SK.ON.	<u>740316-10</u>	<i>Microtus ochragaster</i>	148-32-20-12-40gms	♀	2x2 emb. 2mm
"	<u>740316-11</u>	"	148-36-20-11-40gms	♂	testis 10mm
"	<u>740316-12</u>	"	155-35-19-11-53gms	♀	2x1 emb 30mm
SK.ON.	<u>740316-13</u>	"	138-31-19-9-33gms	♂	testis 12mm
"	<u>740316-14</u>	"	154-38-21-12-40gms	♀	1x2 emb 6mm
M.ON.	<u>740316-15</u>	"	149-36-19-12-42gms	♂	testis 12mm
SK.ON.	<u>740316-16</u>	"	141-31-20-11-39gms	♂	testis 14mm
SK.ON.	<u>740316-17</u>	"	149-32-20-11-42gms	♂	testis 11mm
M.ON.	<u>740316-18</u>	"	144-31-19-11-38gms	♂	testis 12mm
SK.ON.	<u>740316-19</u>	"	151-34-19-10-46gms	♂	testis 12mm
M.ON.	<u>740316-20</u>	"	138-32-19-11-32gms	♂	testis 12mm
M.ON.	<u>740316-21</u>	"	112-26-18.5-10-17gms	♀	ut. normal
M.ON.	<u>740316-22</u>	"	116-30-19-10-18gms	♀	ut. normal
SK.ON.	<u>740316-23</u>	<i>Sigmodon hispidus</i>	223-88-30-18-71gms	♀	ut. normal

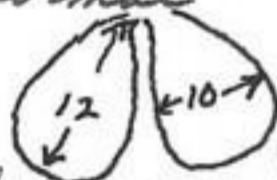
No 740317-11 had trepanned trephine in anterior part of right parietal with hair base close to bone and secured.

March 17, 1974

min temp last night 27°F, max yesterday afternoon 49°F. Sky partially cloudy. Present temp at 8:00 A.M. = 32°F. From trapline set yesterday captured the following (8:00 A.M.).

<u>740317-1</u>	<i>Synaptomys cooperi</i>	135-20-19.5-11-50 gms ♀	2x2 emb 13 mm
<u>740317-2</u>	"	133-21-19-11-42 gms ♂	testes 7 mm
<u>740317-3</u>	"	140-23-30-11-39 gms ♂	testes 6 mm
<u>740317-4</u>	"	131-20-19-11-45 gms ♀	2x2 emb. (26, 22, 22, 20 mm)
<u>740317-5</u>	"	125-19-19-11-42 gms ♀	2x2 emb 8 mm
<u>740317-6</u>	"	136-20-20-11-44 gms ♂	testes 7 mm
<u>740317-7</u>	"	138-20-21-11-50 gms ♂	testes 6 mm
<u>740317-8</u>	"	133-21-20.5-12-41 gms ♀	(1x1 emb 13 mm)
<u>740317-9</u>	"	126-19-19-11-37 gms ♀	2x1 emb 6 mm
<u>740317-10</u>	"	135-23-19-11-40 gms ♀	2x3 emb 10 mm
<u>740317-11</u>	"	132-21-19-11-42 gms ♂	testes 6 mm
<u>740317-12</u>	"	122-18-19-11-33 gms ♀	(1x1 plac. scars)
<u>740317-13</u>	"	108-18-19-10-21 gms ♀	ut. normal
<u>740317-14</u>	"	110-18-19-10-25 gms ♀	ut normal
m. only, <u>740317-15</u>	<i>Microtus ochrogaster</i>	140-34-19-11-40 gms ♂	testes 12 mm.
m. only, <u>740317-16</u>	"	123-28-19-9-24 gms ♂	testes 5 mm
m. only, <u>740317-17</u>	"	119-31-19-9-20 gms ♀	ut. normal

reddish yellow glands anterior penis under skin of specimen no 740317-2



It is of interest to note that more *Synaptomys* were taken during the night than were *M. ochrogaster*. *M. ochrogaster* in turn were more frequently taken during the day on the same line of traps (see mammals captured March 16 from same trapline). *Synaptomys* & *M. ochrogaster* are both active during the day but *Synaptomys* is less so.

On trapline noted the 2 ♂ + ♀ bluebirds observed in same area. (100 ft apart from yesterday observation) They were in grass field on new locust shrubs and approx. 150' from usual tree nesting sites. 2 mallards (♂ + ♀) left pond. 2 crows and a bluejay were in trees where the gizzard of a goose? was noted yesterday. It was gone this morning. 2 song sparrows in weeds at edge of pond. 2 juncos in area. The robin is the first bird to sing in the early morning and continued most of morning. One flock of approx 200 blue & snow geese flew from east to west over camp. Their wing beat was considerably faster than the snow geese flying N. On the body of water between Ozark bridge and Paradise Point noted 2 ring-billed gulls, one group 13 American mergansers (flying NW), 1 lesser scaup, and one group of approx. 30 ducks (probably clump). For this

1974-10-13
 time of year this population of birds seems small. Some of the community preference of small mammals are as follows:



Synaptomys



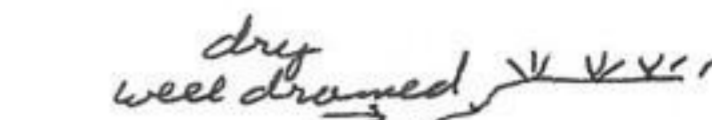
Synap.
 damp swales but not major drainages where considerable water flows at some periods



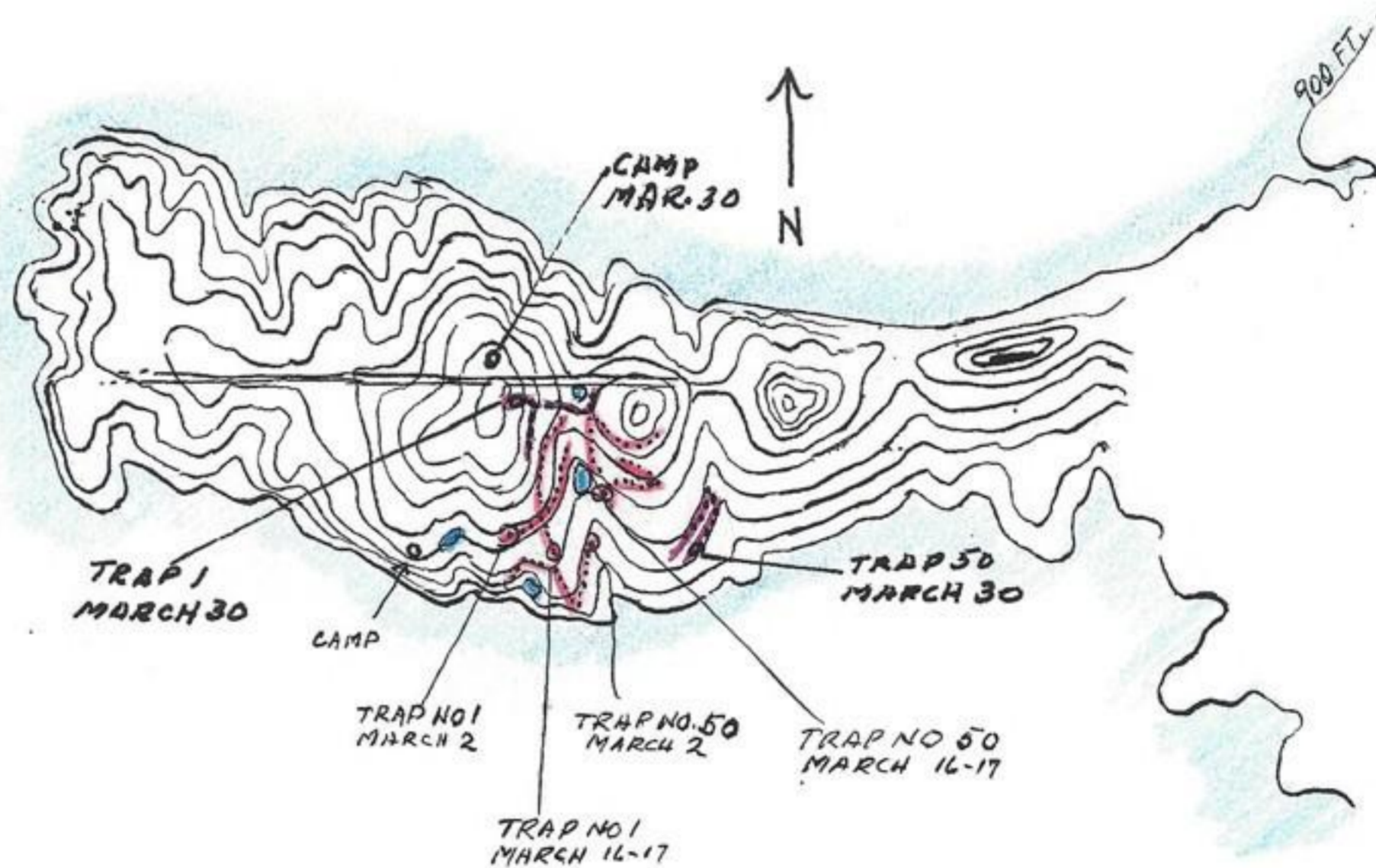
Synaptomys in high isolated patches of grasses.



Both Synaptomys + M. ochrogaster concentrated at edge.



dry well drained
 Sigmodon + M. ochrogaster



TRAP LINES ON PARADISE POINT
 (MARCH 2 AND MARCH 16-17)

Left camp at 12:00 for Lawrence. At the marina at head of small bay just off the swimming beach noted 2 ring-billed gulls and 1 herring gull harass a golden eye duck by pirating food brought to the surface by the golden eye. The only duck n of dam along its entire length was 1 coot. Two redtails and 2 sparrow hawks in area. Between Leecompton & Lawrence on county road paralleling the turnpike noted 7 redtails and 2 sparrow hawks. One pond had 8 lesser scaups.

1974-77-78
 Lawrence, Douglas Co., Kansas

March 23, 1974

Snowed 3 inches last night with temp. down to 12°F. Cold and north wind yesterday. This early season Feb. + March have been mild and warm and not windy. At 402 Yorkshaw Dr. 8 grackles visited feeding station for 20 min. then left area, consuming in that period 80% of the food. Migrating birds are a factor in consuming food of the resident populations of birds. Both farmers and native population have to make adjustments. The grackles were in good physical condition and very active. One cow bird came in with the grackles. A slate-colored juncos and a downy were also at the feeder. Starling displace the downy at the feeder which is not true with the flicker or red-bellied woodpecker.

[March 24, 1974 - see back this page].

March 29, 1974

Strong winds blew sands from field adjacent to Kaw River mainly W of K.P.L. and in area of major bend to W just E of Lawrence. In the Lakeview area (N of lake toward river) sands so thick that visibility was reduced to 30-40 feet.

Perry Reservoir, Jefferson Co., Kansas

will March 30, 1974

Annette and I spent today and tomorrow at Paradise Point on Perry Reservoir. Left home at 1:40 P.M. at 81724.0 mileage. Day clear sky, no wind and temp approx. 70°F. Will follow LeCompton road that parallels the turnpike thence N thru LeCompton to Perry Reservoir. 29.1 sparrow hawk, mockingbird. Starling, grackles, meadow larks along road. 29.5 at pond along S side of road observed 12 lesser scaup and 6 shovellers. 30.0 opossum road kill. Bob-white, cardinal, Eng sparrows. 35.0 LeCompton Bridge over Kaw River. Sand bars in river and lowest I have seen this winter or spring. 37.2 Perry. 40.3 (2:12 P.M.) at entrance to Perry Res. 49.1 main road to Ozarkia. Continuing N. 49.8 2 killed deer in road in same general area as observed on a previous trip. 51.1 Paradise Point turnoff. This road from mile 49.1 is difficult to navigate when wet. 52.7 Entrance to Paradise Point area. at 2:37 P.M. The trip from home is approx. 1 hr leisure time travel. At the entrance can see green field down to high water mark of lake and brown below water mark. The vegetation below the water is definitely effected by the ^{prevailing} high water. ~~area~~ Short cut grass on certain exposures show some green lakeward from water mark. Trees below & above water line some stage of development. Drove around peninsula and camp at highest point on peninsula at mileage 81773.1

Kansas Avenue Bridge, 500yds off Turnpike, Kansas
march 24, 1974

Belinda Perry (a student at K.U.) reported an adult
redtail hawk feeding young in a nest.

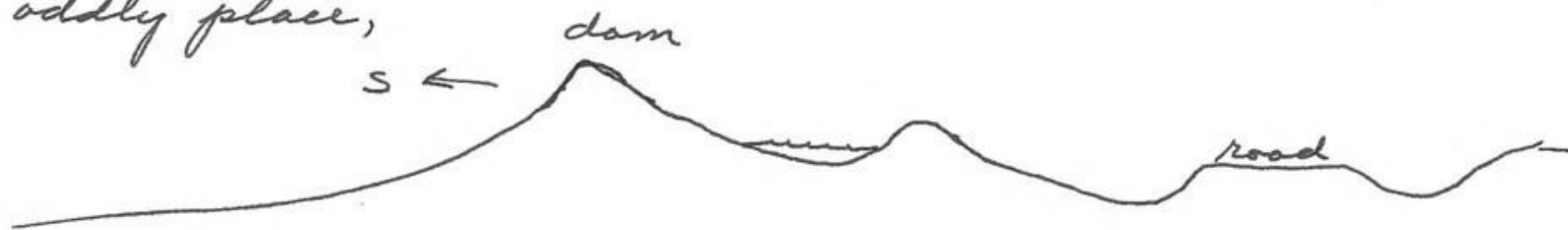
Paradise Point, Perry Reservoir, Jefferson Co., Kansas

March 30, 1974

Collected the following mammals from trap line set between 4 and 6 P.M. and inspected at 7:30 P.M.

	740330-1	<i>Synaptomys cooperi</i>	144-25-20-11-54gms	♀	5x1 emb. 8mm.
	740330-2	" "	121-20-20-11-32gms	♂	testis 5mm.
	740330-3	" "	132-19-19-11-45gms	♀	4x0 emb. 14mm
SK.ON.	740330-4	<i>Microtus ochrogaster</i>	164-36-19-12-59gms	♀	0x4 emb. 18mm
SK.ON.	740330-5	" "	160-39-20-13-45gms	♂	testis 14mm
	740330-6	" "	159-37-22-13-47gms	♂	testis 12mm
SK.U	740330-7	" "	154-33-20-13-45gms	♂	testis 13mm
SK.U	740330-8	" "	154-40-20-12-43gms	♂	testis 14mm
	740330-9	" "	135-31-19-11-33gms	♂	testis 15mm
	740330-10	<i>Sigmodon hispidus</i>	224-89-29-17-81gms	♀	ut. enlarged.

The above traps (50) were set at head of drainage below (to S) pond that is adjacent road. The area below the dam, which is odd place,

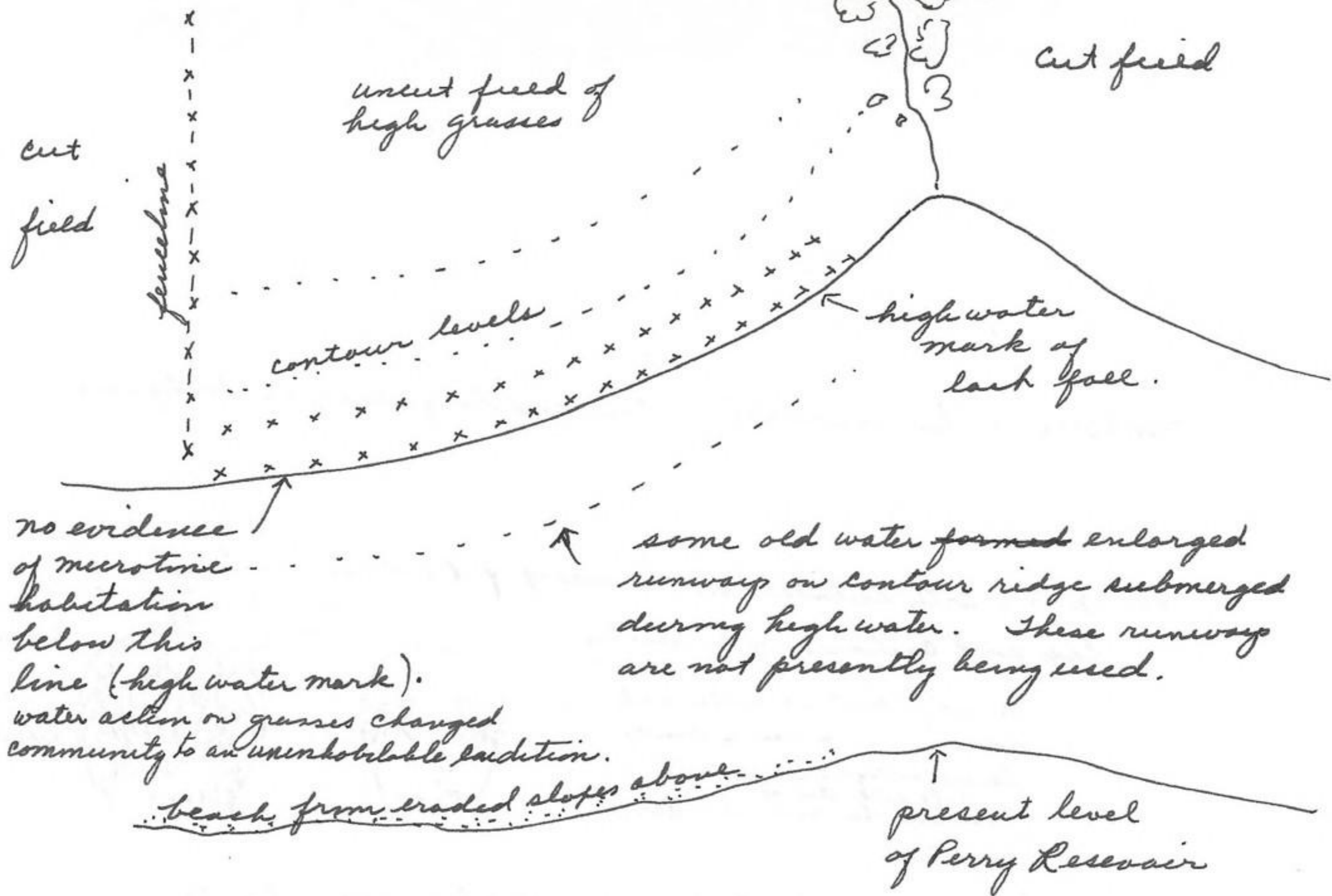


supports springs and damp areas. The drainage systems are shallow and broad and do not carry flood waters as is true farther down the drainage. There is standing water in spring areas. Grasses are matted and winter compacted to approx. 8 inches. Some green grass just pushing up thru old mat grass. Some isolated stocked grass and higher. Practically all runways secluded under mat grass except those along damp and water surfaces. This area is associated with a ^{non} habitation since removed and fields return to natural conditions. This area could be an area of refugia for *Synaptomys*. These traps were set between 4+5 P.M. and checked at 7:30 P.M.

The second set of 50 traps were placed along the contact of the flooded-non flood grasses at base of next drainage system to E. The line of traps were 20' apart on the non-flooded grasses between 1 and 5 feet from ^{old} high water mark. A parallel line (25 traps) 20' inland was set in some unflooded grasses. The ^{old} water line was marked by logs and foot thick debris of old grasses and wood fragments and was distinct. In a 1/2 mile search below old water line did not see evidence of recent habitation by microtines. These traps were not checked until the following morning.

1974-75

740330-16



In recapitulating activities of ring-billed gulls in area the observations are as follows: On arrival at camp there were approx 800 gulls on a submerged sandbar on inside of curve of lake NE of peninsula. Boats moved up & down lake in deeper water of south of birds and the boats did not disturb the gulls. During the afternoon to approx. sundown the gulls increased in number from gulls arriving from down lake, from east and west as well as from the south. Their approach to the main flock was varied. Some groups of 10-30 would approach from an elevation of about 200 in a low angle, ^{slow} descent and with a gliding movement (no wing beats) They would continue with this direct pattern of flight to the very edge of the resting flock and then settled quietly among the other birds. Another behaviorism was for higher flying birds and generally fewer in number (1-6) to forcefully dive in a crazy pattern to the flock below. A third pattern was large group to ^{sail or} fly slowly just above the water toward the flock and alight softly. In all three kinds of behaviorism the attempt appeared to be to approach the resting flock unnoticed or in the case of the diving birds - quickly. By 7:20 P.M. approx 3,500 birds had collected in a compact group ^{and were stabilized}. At 7:45 P.M. this group of birds left and flew S beyond Ozawikie. at this time they were counted as they flew over peninsula. Took 8 minutes to pass over. Cause of departure unknown.

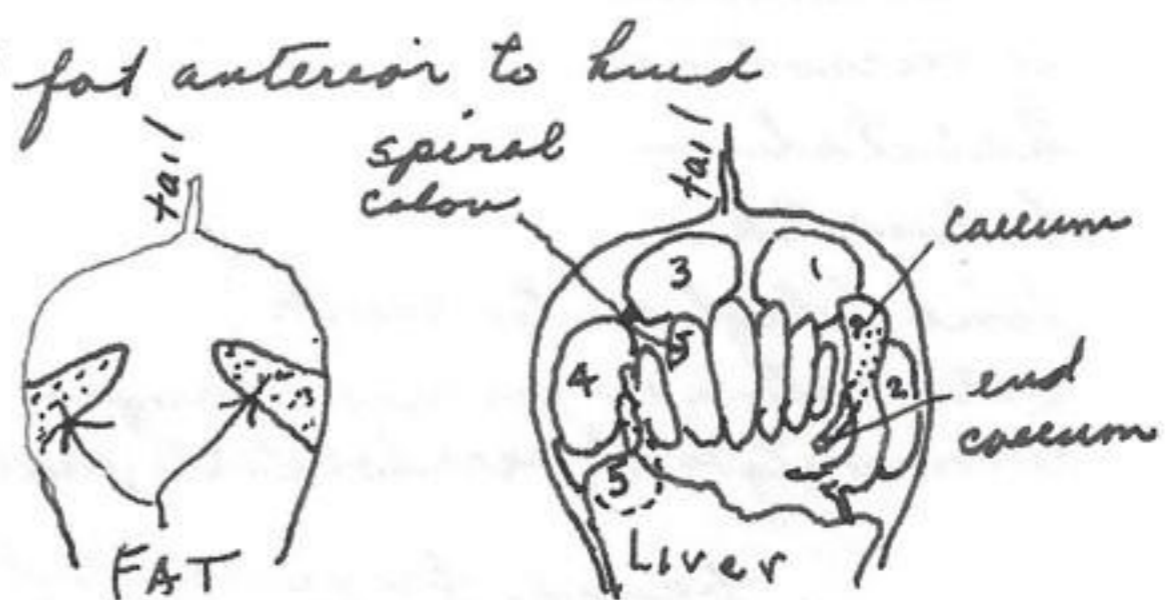


about 5 min before sundown

740331-2 ♀ has reabsorption coil and large caecum, both green.

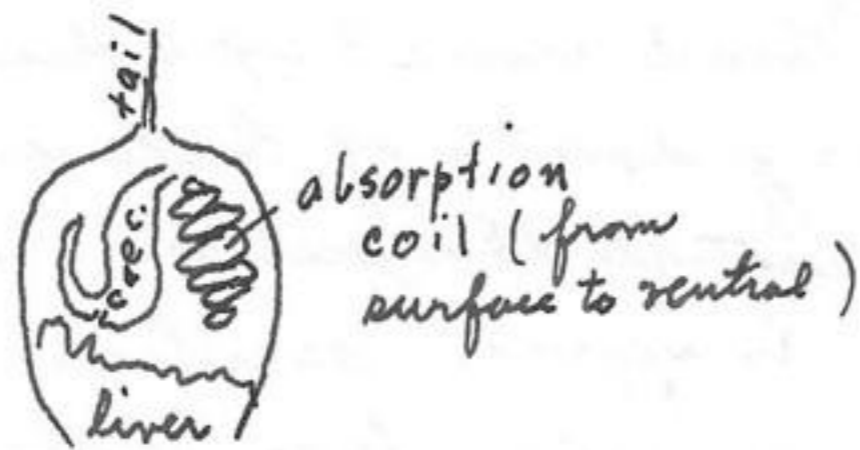
740331-3 ♀ with substantial masses of fat anterior to head
leg and continuing laterally

Small intestine yellowish
brown. Caecum and
large intestine green.
(small intestine)
Former dorsal, latter
ventral.



I am impressed with the thinness of skin, especially the
ventral part of body of these Synoptomys. This is also true of
Lemmus. The ♀ also has hip gland as is true in case of Lemmus.

740331-6 ♂



740331-12 has trephine of trematod? in anterior left parietal.
mat of hair protruded through ^{open} hole of skin with wavy
collagen fibers below. Also skin contact with
muscle on right side at level of last rib.



The claw pad and claws (medial ventral) ^{of all Synoptomys} are a conspicuous
reddish pink color 

Paradise Point, Perry Reservoir, Jefferson Co., Kansas

March 31, 1974

min temp last night 50°F. Sky clear overhead and windy (from S). Temp last night at 9:30 = 57°F.
From trapline set yesterday (see mammals taken from same line in evening of yesterday) collected the following mammals:

	<u>740331-1</u>	<i>Synaptomys cooperi</i>	131-18-21-11-45 gms ♂ testes 7 mm.
	<u>740331-2</u>	"	148-19-19-11-56 gms ♀ 3x2 emb. 9 mm
	<u>740331-3</u>	"	135-19-19-11-56 gms ♀ 2x3 emb 18 mm
	<u>740331-4</u>	"	134-20-20-11-45 gms ♀ 2x3 emb 8 mm
	<u>740331-5</u>	"	132-20-19-11-42 gms ♀ 2x2 emb. 5 mm.
	<u>740331-6</u>	"	137-19-19-11-44 gms ♂ testes 6 mm
m. only.	<u>740331-7</u>	"	134-19-20-11-47 gms ♂ testes 7 mm
SK.ON.	<u>740331-8</u>	"	135-19-20-12-47 gms ♂ testes 7 mm
"	<u>740331-9</u>	"	140-21-20-11-45 gms ♂ <u>left hind leg swollen</u> testes 6 mm
	<u>740331-10</u>	"	[124]-[11]-20-11-44 gms ♂ testes 6 mm
	<u>740331-11</u>	"	123-18-19-11-46 gms ♀ ut. normal
	<u>740331-12</u>	"	136-17-20-11-42 gms ♂ testes 7 mm
	<u>740331-13</u>	"	138-20-20-12-49 gms ♂ testes 8 mm
	<u>740331-14</u>	"	141-19-20-11-56 gms ♀ 3x2 plac. scars
	<u>740331-15</u>	"	115-17-19-9-27 gms ♀ ut normal
	<u>740331-16</u>	"	118-18-20-10-28 gms ♂ testes 4 mm
m. only.	<u>740331-17</u>	"	93-17-18-10-12 gms ♀ ut. normal
	<u>740331-18</u>	"	132-18-21-11-46 gms ♂ testes 7 mm
	<u>740331-19</u>	"	134-19-20-11-48 gms ♂ testes 7 mm
	<u>740331-20</u>	"	137-19-19-11-45 gms ♀ 2x2 emb 6 mm
	<u>740331-21</u>	"	136-19-20-12-48 gms ♂ testes 7 mm
	<u>740331-22</u>	"	145-19-19-11-54 gms ♀ 3x2 emb 12 mm
	<u>740331-23</u>	"	116-17-19-9-27 gms ♀ ut. normal
	<u>740331-24</u>	"	92-18-19-10-27 gms ♀ ut normal
	<u>740331-25</u>	"	119-18-20-10-27 gms ♀ ut normal
	<u>740331-26</u>	"	133-19-20-11-47 gms ♂ testes 6 mm
SK.ON.	<u>740331-27</u>	<i>Microtus schroogaster</i>	140-29-18-11-41 gms ♂ testes 12 mm
SK.ON.	<u>740331-28</u>	<i>Reithrodontomys megalotis</i>	138-65-18-12-11 gms ♂ testes 5 mm
SK.ON.	<u>740331-29</u>	<i>Synaptomys cooperi</i>	115-16-19-10-26 gms ♂ testes 3 mm

The above 50 traps from which these specimens were taken were in an area supporting ^{sprinkles and} damp soils (^{south} below dam of pond). Grass adjacent mat to 8-10 inches and completely covering ground. many runway windows. Taller grass throughout grass cover. This damp area may be for retreating in hot periods of summer. It is believed that these are areas of refugia and from them the lemming dispersed under the more favorable periods. With the control of Perry area these mammals should become widespread and common wherever proper grass stands are maintained. Such habitats should be developed and maintained for *Synaptomys*. Cut field support microtus only at sites of hummocks of soils and along strips of grass missed by the grass cutter.

1974-75

From ⁵⁰ traps along high water mark (within ^{1 to 20} feet of uppermost water line.) 740331-18 see map

SK. ON.	<u>740331-30</u>	<i>Synaptomys cooperi</i>	130-22-19-12-46 gms ♂ testes 6 mm
SKU	<u>740331-31</u>	<i>micratus ochragaster</i>	159-34-20-13-53 gms ♀ 4x1 emb. 8 mm
SK. ON.	<u>740331-32</u>	"	154-34-20-11-46 gms ♀ 2x2 emb. 14 mm
SK. ON.	<u>740331-33</u>	"	160-39-21-12-49 gms ♂ testes 14 mm
SK. ON.	<u>740331-34</u>	"	150-34-20-12-42 gms ♀ 0x3 emb. 18 mm
	<u>740331-35</u>	"	148-38-20-12-41 gms ♀ 1x3 emb. 11 mm
SK. ON.	<u>740331-36</u>	"	160-46-21-14-40 gms ♀ 2x2 emb. 2 mm
"	<u>740331-37</u>	"	148-36-21-13-39 gms ♂ testes 15 mm
	<u>740331-38</u>	"	141-36-20-12-31 gms ♀ 2x2 plac scars
	<u>740331-39</u>	"	145-35-20-12-35 gms ♀ 2x1 emb. 10 mm ^{resorption}
	<u>740331-40</u>	"	144-31-19-12-36 gms ♂ testes 12 mm
	<u>740331-41</u>	"	142-30-20-12-37 gms ♀ ut. enlarged
SK. ON.	<u>740331-42</u>	"	[118]-[13]-20-12-42 gms ♂ testes 11 mm
	<u>740331-43</u>	"	147-38-19-12-38 gms ♂ testes 15 mm
	<u>740331-44</u>	"	118-28-20-11-19 gms ♀ ut normal
	<u>740331-45</u>	"	102-26-17-9-10 gms ♂ testes 5 mm
	<u>740331-46</u>	"	131-23-19-12-45 gms ♂ testes 6 mm
	<u>740331-47</u>	"	160-35-20-13-52 gms ♀ 2x1 emb 4 mm
	<u>740331-48</u>	"	149-37-20-12-42 gms ♀ 1x3 emb 10 mm
	<u>740331-49</u>	"	140-37-20-12-30 gms ♀ ut. enlarged
	<u>740331-50</u>	"	103-25-17-9-9 gms ♂ testes 5 mm
	<u>740331-51</u>	"	145-36-20-12-34 gms ♀ 2x1 emb 8 mm
	<u>740331-52</u>	"	130-24-19-12-44 gms ♂ testes 6 mm

The above mammals were generally distributed along trapline and in equal numbers in the two rows of traps. It is incredible that these microtines have not passed beyond the old high water line barrier. Runways and voles were taken within inches of the line but no vole had extended its runway into the area formerly occupied by water. The *Synaptomys* was taken in trap nearest the drainage system. I had predicted that there would be more *Synaptomys* in this field but perhaps they are too far from their areas of refugia. In lake to 5 there were fewer ducks than yesterday afternoon. The loat were in compact groups rather than dispersed as of yesterday evening. In contrast to yesterday afternoon there were in lake 5 of pensular 800 scaup yesterday & 200 this morning; 200 loat to 50; 130 american mergansers to 24; 300 mallards to no mallards. This morning on trapline noted the male redwings to be on territories below pond of first trapping area whereas yesterday

1974-18
 afternoon they were not. 8 male and female Sawbirds were in some area of trapping area 1 as yesterday evening.

Between day break and sunrise approx 300 ducks in small flocks of 6-20 flew north across peninsula at about 500 feet or more. The ring-billed gulls flew N across peninsula at about 300 feet or more high and in widely dispersed group. Gull mainly individuals. They alighted in same area as was occupied yesterday by the 3500 individuals. The main flight of both ducks and gulls ended at sunrise. By this time the roft of ducks was about 1/4 the number of birds in area (roft) yesterday. Motor boats and wind displaced these birds about 9:00 A.M. and they did not collect in area again at least not by 11:30 A.M. I would not be surprised that the gulls were disturbed by boats last night evening and caused them to leave although the 8 minute duration of the departure time would indicate a more wilful departure on the part of the gull. My impression was that they were collecting here yesterday afternoon to spend the night. Refugia areas are certainly needed for birds such as certain bays or parts of the lake made inviolate to human trespass. An island would make an attractive place for gulls to nest. Yesterday evening approx 1000 mallards tried to alight in lake N of peninsula but fishing boats moved them N. In the late afternoon of yesterday a series of clouds were so stratified that the sun shown intermittently. When such sun rays were on the ring-billed gulls the birds were brilliant white whereas between openings in the clouds the gulls became inconspicuous and at times could not be differentiated from their background.

Birds at camp include:

male & female bluebird; 18 juncos fed in some area 2 hours;
 2 song sparrows; 1 tree sparrow (not associated with a flock);
 1 downy; 1 hairy passed thru; 1 flicker; 2 bluejays; 8 grackles,
 12 robins fed in field after daybreak; 2 meadowlarks; 1 mourning
 dove calling; 1 titmouse passed thru; 4 Cardinals; redtail.

Left camp for Lawrence. This is the first weekend of heavy use of campers. Before this date the peninsula is relatively free of visitors. After this date the use of this area will be overwhelming. At 58.2 leaving Paradise Point entrance. 59.2 2 crows and redtail. 60.9 crow. 61.9 main road to Ozaukee. 62.6 Little Slough Creek. Deciduous trees still as in winter but with slight indication of yellowish green. 70.7 leaving Perry Reservoir area. From Paradise Point to here observed approx. 20 meadowlarks. Many ponds are bare but have a greenish-yellow algae at intake point. Lawrence at 87.1 at 12:45

Lawrence, Douglas Co., Kansas

April 2, 1974

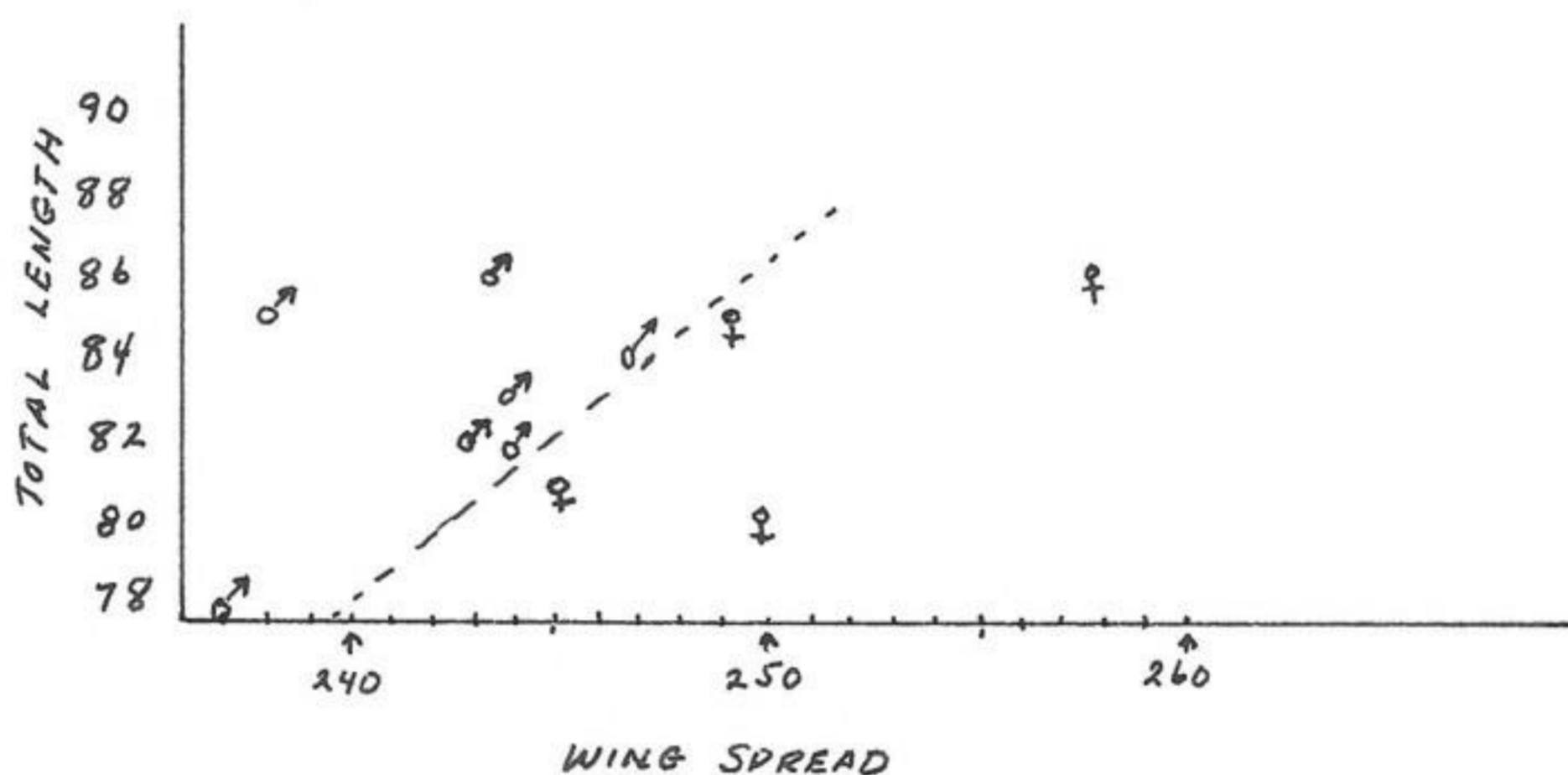
noted 6 purple martin at 402 Yorkshire Dr. (6:00 P.M.), previous day of high winds. This P.M. turbulent skies and promise of rain.

Salt Peter Cave, 6 mi. N Doolittle (Co. road no. C), Phelps Co., Missouri

April 8, 1974

The following mammals were collected and presented by Mr. Rick Gould. Collected live on April 7.

740408-1	<i>Eptesicus fuscus</i>	118-47-9-19-18gms, 345 wing spread. ♀ ut. normal
740408-2	<i>Pipistrellus subflorus</i>	82-38-9-13- 4.2 gm, 243 wsp, ♂ testis 3mm
740408-3	" " "	78-37-9-13- 4.7 gm, 237 wsp ♂ testis 3mm
740408-4	" " "	81-37-9-12- 4.0gms, 245 wsp ♀ ut. normal
740408-5	" " "	82-42-9-13- 4.7gms, 244 wsp ♂ testis 3mm
740408-6	" " "	85-41-9-13- 5.8gms, 249 wsp ♀ ut. normal
740408-7	" " "	80-38-9-14- 4.2gms, 250 wsp ♀ ut. normal
740408-8	" " "	86-42-9-13- 4.6gms, 244 wsp. ♂ testis 3mm
740408-9	" " "	85-37-9-13- 4.1gms, 238 wsp ♂ testis 3mm
740408-10	" " "	86-42-9-13-4.7 gms, 258 wsp ♀ ut. normal
740408-11	" " "	83-40-9-13- 4.6gms, 248 wsp ♂ testis 3mm
740408-12	" " "	84-41-9-13-4.6 gms 247 wsp ♂ testis 3mm



Peterson Pond, Lawrence, Douglas Co., Kansas

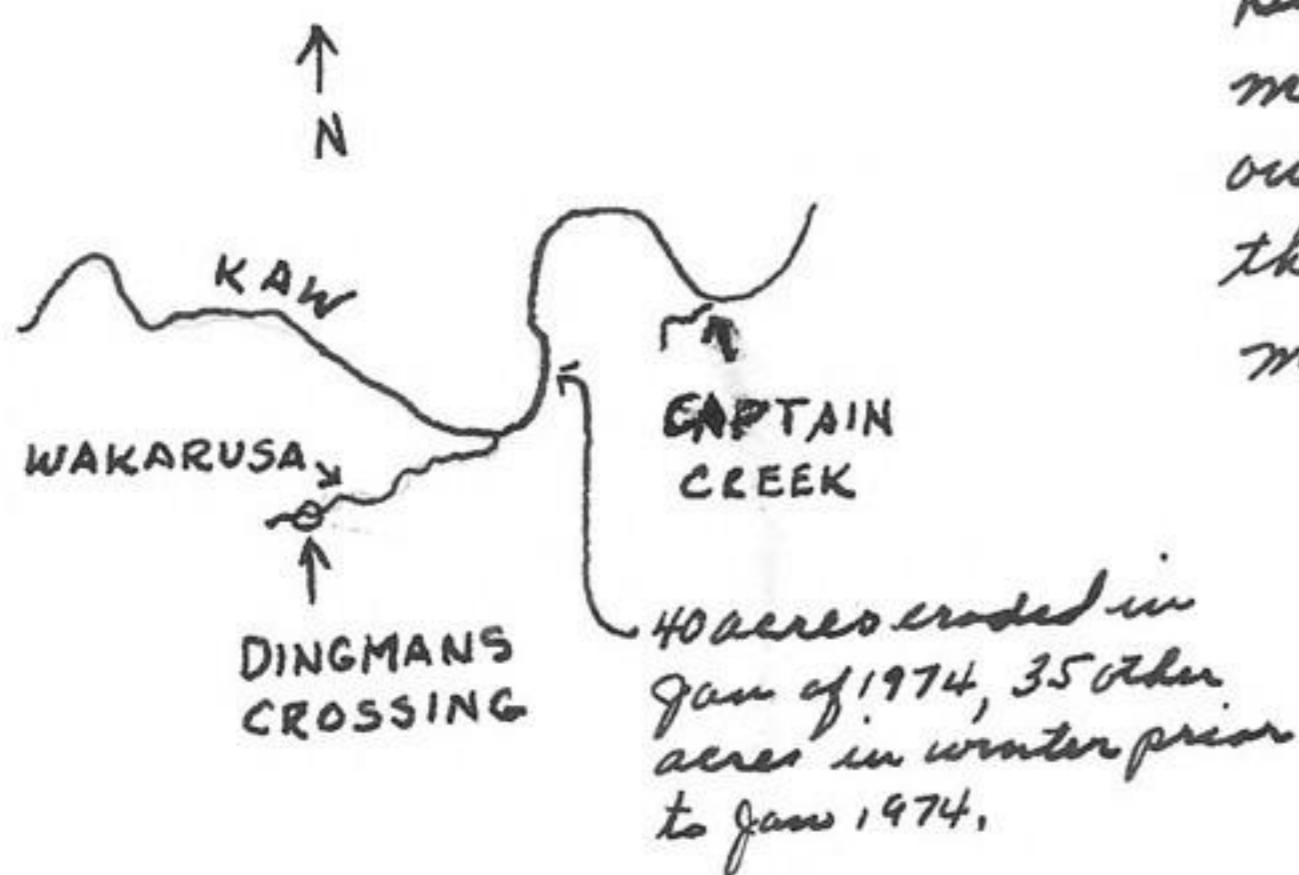
April 17, 1974

Noted 51 blue wing teal (15 ♀ 36 ♂), ♂ ♀ woodduck, 1 killdeer, 4 male redwing blackbirds. Caught 10 small bluegills for aquarium. Time 6:10 P.M. Ducks seemed to be resting but some were feeding. The two woodducks moved into the vegetation bordering the upper (W) end of lake on my arrival.

Wakarusa and Kaw rivers, Douglas Co., Kansas

April 20, 1974

made canoe trip down Wakarusa from Dingmans Crossing to mouth of Wakarusa, thence down Kaw to Soldier Creek. Larry Modrein, Donna Smithley, Stephen Swartz, Mark Whitaker, Annette P. Bee and myself made trip (mus. Tech Course 185). Left 9:30 A.M. Takes approx 1 1/2 hrs to travel to put-in and to shuttle cars. Take-out at 2:20 P.M. or 4 hrs and 20 min enroute. Made the following general observations: Day cool, wind increasing and rain in later part of trip. Wind severe.



Between Dingmans Crossing and mouth of Wakarusa noted 3 great horned owls. One contested by 4 bluejays and the other two uncontested. Between mouth of Wakarusa and Captain Creek noted 2 great horned owls. All single birds.

Beaver evidence all along way either tracks in mud, peeled bark or bank trails. Evidence

in Wakarusa less than in Kaw. Best evidence in Wakarusa is in lower region of drainage. Beaver were most prevalent on right hand side of Kaw from beginning of forested banks to mouth of Captain Creek. Evidence continuous with some cut trees. This area receives protection from the public and in addition has substantial tree and limb debris on banks.

Three pairs wooducks on Wakarusa, 2 pairs on Kaw.

American coot at mouth of beaver hole, ^{on Kaw} (bark-entrance at water level) and remained there while we passed by rat over 12 feet away. 10 other coot were swimming in river and were confiding to our presence.

18 blue wing teal near Captain Creek.

Three green heron, as isolated individuals, on Wakarusa, most near mouth of drainage.

The blue jays were more common in upper region of Wakarusa and were traveling in groups of 2-5.

Other birds include mourning doves, cardinals, red-bellied woodpeckers, chickadees, house wren, spotted sandpipers (3), and a considerable number of migrating warblers.

Wind blew sands from sand bars, white-caps formed and with confrontation

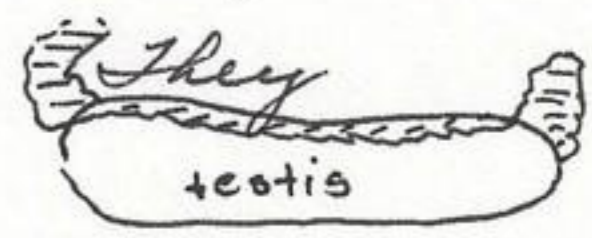
1974-75

740420-22

with currents made an extremely hazardous condition for canoeing. Although the current was fast, the countereffect of the wind made it impossible to navigate and we were forced to portage across some open sandflats. The lee side of river was navigable. One who is not acquainted with high winds on the Kaw should not canoe there,

Lawrence, Douglas Co., Kansas
April 24, 1974

Stan Roth presented the museum 2 live porcupines collected at 8 mi. N, 2 mi. E Elkhart, Morton Co., Kansas on Jan 20, 1974 and kept live until April 24, 1974 at Lawrence. They measured



♂ *Erethizon dorsatum* 625-175-90-32-3600 gms, testes 31 mm.
♀ " " 573-145-78-32-2950 gms, 1x0 emb 138 mm

The embryo measured (conventional):

248-70-43-18-309 gms. ♀

Embryo possessed ^{upper & lower} incisors, ^{hair (black)} and spines on back. Precocial.

Lawrence, Douglas Co., Kansas
April 25, 1974

Good reference on techniques and methods of excavating historical sites:

1969 Hume, Ivor Noel.
Historical Archeology. Pub by Alfred A Knopf, New York. (Borjoi Books). \$10.00.

1974-23

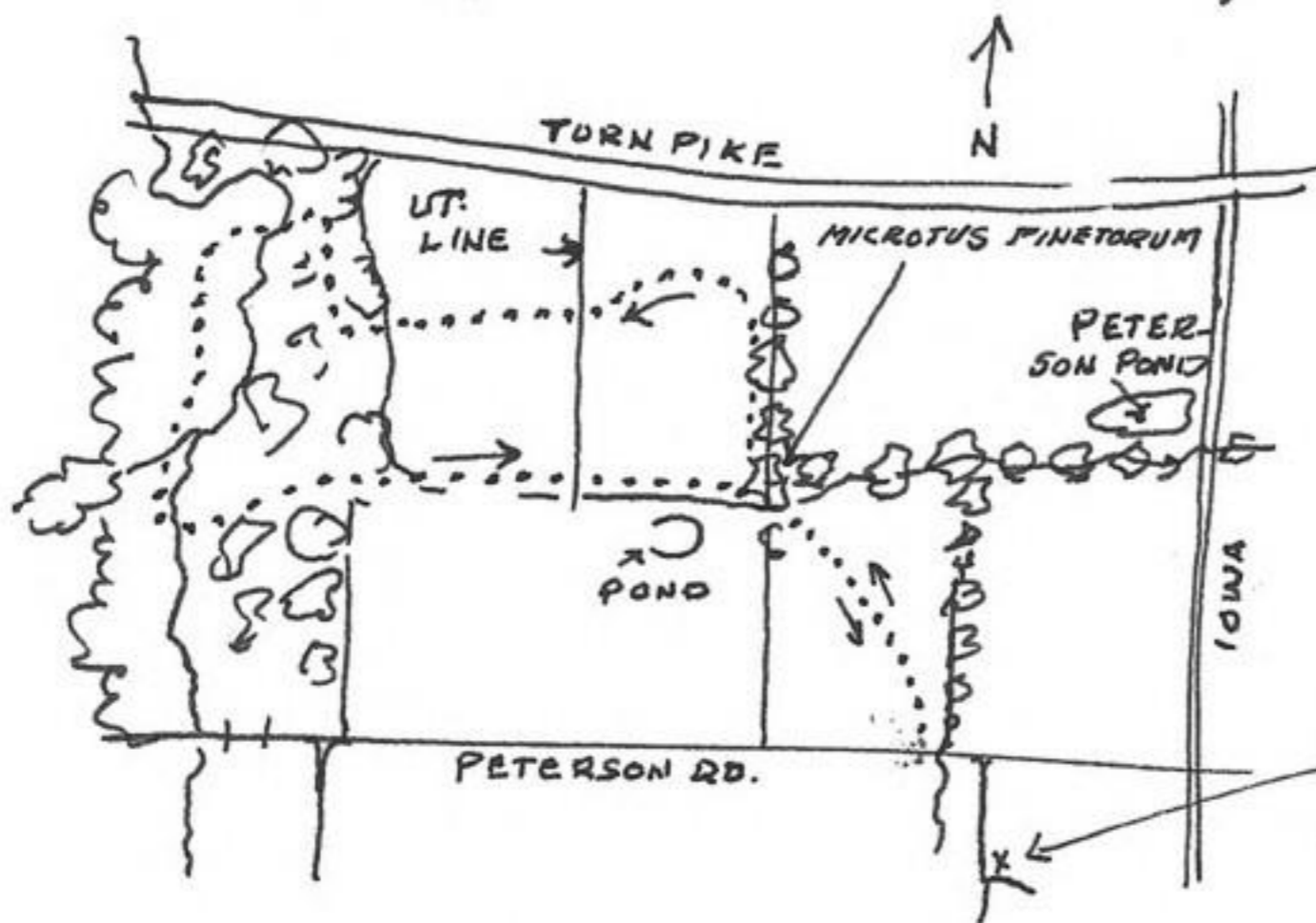
12 1/10 mi N and 18 1/10 mi. W Lawrence (P.O), Douglas Co., Kansas

May 9, 1974

made census of birds from above locality, east to Peterson Pond on Dows Street and return. Followed riparian community along drainage (Country Club North): Wilson warbler, Myrtle warbler, Tennessee warbler, rose-breasted grosbeak (♂ & ♀) call starts like robin but ends more musical, indigo bunting, meadowlark, catbird, robin, pilot black snake, bobwhite (single), redwing, lesser yellowlegs, 6 bluewing teal (2 pairs ♂ ♀ and 1 pr ♂♂), 2 killdeers, spotted sandpiper, meadowlark. A large deer (track 70 mm) left bedding grounds and ran W on N side of riparian vegetation about 20' from trees in recently plowed field. It entered trees at trail entrance. 2 other bedding spots on dry leaves held back by recent high waters. Color dark brown in contrast to lighter colors of winter.

May 10, 1974

made census of above area at 1:30 P.M. Locality from time when old post-office was used as a point of reference (check this out). Day



clear to cloudy, temp approx 75°F, wind on open exposures in fields, negligible in forested areas. From under a piece of metal roofing approx. 3 x 8 feet collected a Microtus pinetorum. in a nest. Runway left the area to other wooden doors also on ground. These doors and pieces of metal have always produced this species as well as Microtus ochrogaster,

Segmodon hispidus and Peromyscus. On May 9 there was a pilot black snake under the same piece of metal roofing that held the Microtus pinetorum today. This mammal measured:

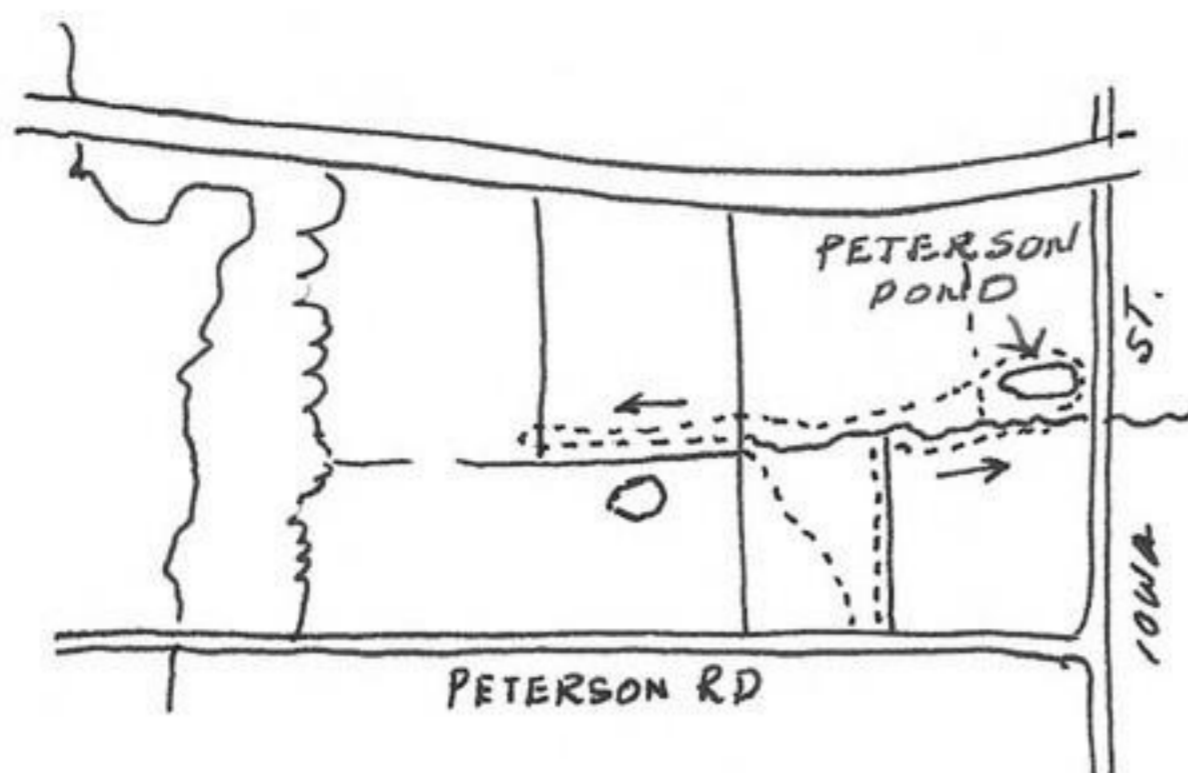
740510-1 Microtus pinetorum 122-21-17-9-30gms. ♂ testis 6mm

Birds in area are: catbirds singing, cardinals singing, meadowlark, barn swallows flying lower over open fields, Wilson warbler, Tennessee warbler, indigo bunting, gray-cheeked thrush, black-capped chickadee, great crested flycatcher, purple martin, robin, house wren, red-headed woodpecker, song sparrow (2), crow, field sparrow, cowbirds in forests, bluejay, titmouse, 2 loggerhead shrike, starling, grackles, no mosquitoes, no chiggers, understory (ground) lush with vegetation mainly bedstraw. I have never seen so thick a covering. 2 of the large oaks have been downed (leaves of last year still on trees) at least partially effected.

12 1/10 mi. N and 18 1/10 mi. W Lawrence (P.O), Douglas Co., Kansas

May 12, 1974

made census of birds between Petersons Pond and ridge to west. between 10:00 AM & 12:00. Day clear, cool, temp approx. , slight wind.



noted the following kinds of birds:
 robin, grackle, redheaded woodpecker,
 house wren, catbird, mourning dove
 (carrying nest material), goldfinch,
 cowbird, yellowthroat, wood pewee,
 eastern kingbird, sora rail, redwing,
 barn swallow, killdeer, robin,
 meadowlark, crow, Bell's vireo,
 grey-checked thrush, yellow-shafted
 flicker, yellow-billed cuckoo,
 blackpoll warbler, black-capped

chickadee, yellow warbler, purple martin, loggerhead shrike.
 Fresh raccoon tracks along water course. A white-tailed deer
 had eroded an (1 1/2") elm tree by antler rubbing. Bark removed
 and wood fragmented. Trunk separated. A tree of this season.
 nest of 6 eggs of the loggerhead shrike (Lanius l. ludovicianus)
 no. 740512-1 in isolated elm tree 15' high. Nest 6' above ground
 and made of dried sticks and stems. In general appearance it
 suggested a robin's nest with irregular extension of material below.
 Both birds at nest and they left at approx 10 feet. Eggs fresh.
 These same birds left this tree two days ago and flew 100' and
 both alighted in a dead tree.

Peterson Pond, Peterson Rd & Iowa, Douglas Co., Kansas
 May 19, 1974

Made census along drainage at Peterson Rd & Yorkshire to Peterson Pond.
 Different kinds of birds observed are: barn swallow, cardinal, M. dove,
 robin, bob-white, killdeer, redwing, green heron (2), meadowlark.
 ♀ deer left some area at head of pond as have observed on three other
 occasions. could have a fawn. It ran N along fence row for 1/10 mi,
 thence W ^{across field} to another fence row. Noted a log with 2 bones of 30-30"
 shells along a fence line at beginning of trip, which (the shells) disappear
 ed on return trip. This size shell could mean only one thing that
 there was ~~pottery~~ potting in operation at the time I made my trip.
 Deer are being forced to these smaller areas because of takeover of
 large wooded drainage by motocyclist - the worst offenders of
 cyclist have so completely taken over all riparian communities
 associated with drainage systems. The mulberry has fruit
 that is from white to green to some red but not any black as yet.
 Deer track in deep mud 80mm in length.

Lawrence to Colliery Chemical Plant via railroad tracks, Douglas
Co., Kansas

May 20, 1974

Made trip on railroad tracks from N end of Tennessee Street to W end
 of Colliery Chemical Plant. Left 10:50 A.M. Will keep list of all birds

1974-5-23

740520-25

and mammals enroute.

Day warm, windy, + sunshine

water cress and duckweed completely covering water on E side track

- Cardinal 11-1-1
- grackle 11-1-1-1
- robin 1-1
- house wren 1
- redwing 1-1

- starling 1-1
- ~~meadowlark~~
- mourning dove 1
- yellow warbler.

11:07 railroad crossing at water plant. Following thru park area.

- Eng. sparrow 1
- grackle 1-1
- robin 1
- great crested flycatcher 1-1-1
- eastern wood pewee 1
- titmouse 1-1

- house wren 1
- chimney swift 6
- fox squirrel 1
- mourning dove 2
- bluejay 1
- gray-checked thrush 1

- Cowbird 1-1
- Baltimore Oriole 1

11:33 railroad bridge across drainage n of park area.

- mourning dove 2-2-1
- Baltimore Oriole 1
- Indigo bunting 1-1-1
- Killdeer 2

- barn swallow 13
- bobwhite 1
- Cowbird 2

11:55 under turnpike

- Baltimore Oriole ♂♀, 2, 2-1
- bobwhite 1
- pilot black snake 4' long
- yellow warbler 1
- robin 1-1-1

- starling 2
- cowbird 1
- redwing ♂♀-♂♀-♂♀.
- dickcissel 1-1
- yellow throat 1

12:25 r.r. switch to Callery, no w.

- w. Kingbird 1
- redwing 3
- dickcissel 1-1-1-1-1
- bobwhite 1
- Mockingbird 1
- meadowlark 1-1-1-1-1.
- robin 1-1-1

- redwing 1
- Bullock Oriole 2
- redheaded woodpecker 1-1
- bluejay 1
- fox squirrel 1
- starling 2-1-1
- grackle 6-1
- yellow warbler 1
- g.c. flycatcher 1

1:00 Iowa and railroad crossing into Callery and end of census.

Summary:

- Cardinal 5
- grackle 17
- robin 9
- house wren 2
- redwing 11
- starling 8
- mourning dove 8
- yellow warbler 3
- Eng. sparrow 1
- great crested flycatcher +
- l. wood pewee 1
- titmouse 2

- Chimney swift 6
- fox squirrel 2
- bluejay 2
- gray-checked thrush 1
- Baltimore Oriole 11
- Indigo bunting 3
- Killdeer 2
- barn swallow 13
- Cowbird 5
- bobwhite 3
- pilot black snake 1
- dickcissel 7
- yellowthroat 1

- western Kingbird 1
- Mockingbird 1
- meadowlark 5
- red-headed woodpecker 2

total 137

1974-23

Countryside (via county rds) between 402 yorkshire dr in Lawrence to Leecompton via valley road and return by uplands, Douglas Co., Kansas

May 21, 1974

10:15 A.M.

Complete census by sections of area. Left at 82811.1 sky cloudy, windy and humid. Temp in 80°F. grackle, 3 eastern bluebirds, 2 starling, indigo bunting, dickcissel, 4 grackles, meadowlark, dickcissel.

812.7 Kasold Road. Dickcissel, meadowlark, 2 grackles, dickcissel, dickcissel, dickcissel, dickcissel, 2 starling, dickcissel, dickcissel, barn swallow, 2 mourning doves, meadowlark, dickcissel. 13.6 Leecompt- on road now to W. redwing, dickcissel, redwing, starling, 2 redwing, barn swallow, 14.1 now N. Cowbird, meadowlark, dickcissel, 2 robin, 2 dickcissel, opassum rd. kill, dickcissel, robin, robin, grackle, 2 Baltimore oriole, eastern kingbird, grackle, robin. 15.1 Lakeview bridge. redwing, 2 redwings, cowbird, 2 barn swallows, dickcissel, brown thrasher, starling, redwing, 15.5 R.R. tracks, 2 Crows, 2 E. kingbird, 6 grackles, 3 redwing, 2 dickcissels, shrike, meadowlark, redwing, dickcissel, dickcissel, 2 mourning doves. indigo bunting, 35 redwings at oblow marsh (first marked and cuttails in many years now on remnants of old corn field stubble), Baltimore oriole, redwing, redwing, redwing, redwing, 4 grackles, 2 meadowlarks, 2 starling, 2 grackles. 16.7 leaving oblow area, 2 grackles, dickcissel, dickcissel, sand blown over road in rifts from W; dickcissel, dickcissel, meadowlark, redwing, dickcissel, dickcissel, redwing, dickcissel, dickcissel, dickcissel, redheaded woodpecker, mourning dove, dickcissel.

18.5 tracks and beginning of hillside road. mourning dove, 7 turkey vultures in tops of deciduous trees on hillside, 2 left then the rest, a titmouse called in concern of these birds. Baltimore oriole, rain starts, bluejay, 2 bluejays, brown thrasher, cardinal, 5 cowbirds (one group), titmouse, great crested flycatcher, cardinal, indigo bunting, redtail on pole, great crested flycatcher, Baltimore oriole, summer tanager, redheaded woodpecker, 20.2 bridge over creek. 2 cardinals, indigo bunting, redwing, blue grasshopper, dickcissel, cowbird, indigo bunting. 21.2 W of Mopwell, cowbird (trailers going in on opposite side of road, cowbird, grackle chasing a fox squirrel 25' up on telephone pole,

21.6 Leecompton road, now to S (left). Dickcissel, 2 cowbirds, dickcissel.

21.8 to left leaving Leecompton road and will return via uplands and swales. meadowlark, bobwhite, crow, 2 meadowlarks, crow, red-headed woodpecker 200' from trees, meadowlark, dickcissel, indigo bunting, indigo bunting, red-eyed vireo. 23.5 bridge over creek. cardinal. robin, 2 cowbirds, Baltimore oriole. 23.6 bridge over the main stream (reconstructed log salm to NE of bridge). house wren, indigo bunting,

1974-5

titmouset, redheaded woodpecker, lark sparrow flew down road in front of car for 200'; brown thrasher, mockingbird, redwing, robin, meadowlark, meadowlark, bluejay, indigo bunting, robin, dickcissel, B. oriole, 2 dickcissels, cowbird, dickcissel, yellow-shafted flicker, 2 bluejays, 2 cowbirds, great crested flycatcher, dickcissel, meadowlark, 25.2 convergence of roads will take last road instead of 5 road, titmouse, 2 cowbirds, 25.6 now to N. Cowbird, Chipping sparrow, bobwhite, dickcissel, Chipping sparrow, cardinal, cardinal, 2 cardinals, fox squirrel, 2 crows, barn swallow, titmouse, dickcissel, dickcissel, indigo bunting, 26.7 L.H. James property, peewee, g. crested flycatcher, titmouse 27.3 bottom of hill at railroad tracks now to E. mourning dove, shrike, indigo bunting. 27.9 now to S to road up gully beyond tracks. 28.2 crossing railroad tracks, dickcissel, yellow bellied cuckoo, ^{for squirrel, grey squirrel} Summer tanager, hairy woodpecker, green heron, grey-checked thrust, blue grassbeak, indigo bunting, cardinal. 28.6 at old school house and now going S. 3 Chimneys swift, dickcissel, meadowlark, grackle, mourning dove, grackle, redheaded woodpecker, lark sparrow, cowbird, dickcissel, cardinal, meadowlark, cowbird, 2 eastern flycatchers, crow, 30.1 road (Leocompton) now to E. 2 barn swallows flying into culvert, 2 crows, meadowlark, dickcissel, mourning dove, dickcissel, dickcissel, redwing, dickcissel, dickcissel, 31.1 major road cut. 2 mourning doves, 2 cowbirds, crow, dickcissel, dickcissel, robin, robin, 5 barn swallows, meadowlark, dickcissel, dickcissel, dickcissel, dickcissel, 2 cowbirds, 2 barn swallows, redwing, dickcissel, meadowlark, house wren. 32.6 Kasald-Leocompton road. now to ~~N.~~ S brown thrasher, redwing, lark sparrow, redwing, 32.9 ^{over turnpike,} redwing, dickcissel, dickcissel, redwing, 33.5 now E on Peterson road, meadowlark, dickcissel, dickcissel, dickcissel, house wren, grackle, grackle, meadowlark, dickcissel, 34.3 Yorkshire road. purple martin. 34.4 home at 402 Yorkshire at noon. mileage 82834.4 or 23.3 miles census.

One trip noted 6 cottontails, all seemed juvenile. Redheads on posts or dead trees, Summer tanagers in deciduous forests, dickcissel associated with open grassy fields, grackles single to small groups. redwings in ♂♀ combinations, 1/3 indigo bunting were females, nearly all dickcissels were males and mostly observed on telephone wire. open fallow field of unplanted field not conducive to bird life. Cowbirds from singles to groups of 4 or 5.

1974-24

Peterson Pond ^{west} south 1/2 mile, Lawrence, Douglas Co., Kansas 740524-29

May 24, 1974

Hiked from home to Peterson Pond, thence W 1/2 mile to Deerfield drainage at Arrow Avenue and then return, all in deciduous trees or open fields. Phone - 6:30 P.M. Made the following observations.

1. deer not in usual area.
2. Red-bellied woodpecker followed a green heron and alighted in same tree and called.
3. mosquitoes common for first time and their appearance is correlated with the change of color from green to black in the berry of the mulberry.

Clinton Reservoir Area, Douglas Co., Kansas

May 26, 1974

Left home (402 Yorkshire) at mileage 83023 at 3:30 P.M. Will keep list of kinds of birds from here W on 40 to Peterson road and the S to school house on Peterson road. Robin, martin, Eng sparrow, barn swallow, starling, dickcissel, indigo bunting, grackle, meadowlark, mockingbird, bluejay, redwing, eastern kingbird, Cowbird, crow, redheaded woodpecker, mourning dove, shrike, starting at 3:50. at 32.1 mileage at old school house on NE Peterson property and travelling W made complete census of fauna in proposed Clinton Res Area. Barn swallow, indigo bunting, yellow warbler, crested flycatcher (sky 50% in clouds), 3 cowbird.

32.6 Bay Scout drainage, blue jay, blue jay, cardinal, indigo bunting, bluejay, chipping sparrow, indigo bunting, western kingbird, Baltimore oriole, dickcissel, dickcissel, redwing, 33.6 Coon Creek. Now S ~~redheaded~~ ^{bellied} woodpecker, redwing, dickcissel, 3 cowbirds, meadowlark, redwing, dickcissel, 34.5 Wakarusa bridge. 34.6 stop and will walk W and then S to riffle at old union site and then return. Starting at 4:10, 2 cottontail (adult & juvenile) bluejay, eastern pewee, great crested flycatcher, redbellied woodpecker, white-tail deer (65 mm length and 50 mm length) and coyote in mud in road, titmouse, great crested flycatcher, titmouse, killdeer, g.c. flycatcher, acadian flycatcher, yellow-billed cuckoo, cardinal (yellow-billed cuckoo flip straight and without undulations), cardinal, g.c. flycatcher, crow, titmouse. 4:25 at bend & now to S in good deciduous forest. Red-bellied woodpecker, myrtle warbler, turkey vulture, acadian flycatcher, yellow billed cuckoo, g.c. flycatcher, bluejay, red-eyed vireo, summer tanager, cardinal, fox squirrel, summer tanager, summer tanager, cardinal, yellow-billed cuckoo, adult & juvenile cottontail, g.c. flycatcher, 2 carolina wrens, Crow, 4:48 at small cement bridge at now return to car. Will keep list of ^{birds} birds not observed on original trip thru these forests. Mosquitoes annoying among trees. Wakarusa unusually muddy in appearance. Tree frog calling.

1974-2

redheaded woodpecker, 5 or 6 sets deer tracks in trail associated with coyote tracks, house wren singing. 5:05 at turn (to E) in road. Redbellied woodpecker left hole in tree. Back to car at 5:18 P.M. Continued on road to Clinton, enroute noted indigo bunting, mourning dove, 2 redwings, 3 cowbirds, 9 grackles, mourning dove, 35.1 now to S, redwing, grackle, 353. base of hill, cottontail, indigo bunting, meadowlark, meadowlark, robin, grackle, g.c. flycatcher, large box turtle, bobwhite, Boettwieser oriole, 2 mourning doves, grackle, loggerhead shrike, grackle, robin. 36.1 middle of Clinton, now to E. robin, 2 great blue heron about 400' high and travelling N., robin, (not listing Eng. sparrow) 6.5 out-shirts of E Clinton, robin, 2 barn swallows, 2 lark sparrows, robin, 37.2 Corp of Engineer road block at point where road turns to S. This gate is at top of grade and above ^{proposed} reservoir level. Will leave car here and walk E to Rock Creek bridge. Small cottontail, meadowlark, woodkill mole, redwing, dickcissel, cowbird, lark sparrow. at point where Waparusa comes close to road made sidetrip to bottom of creek. The banks here are as high as I know of along this river. Below dark soil are clays which are unstratified. In upper level of clay is a nodular layer of round nodules averaging 1 inch in diameter. In the clays below this zone the nodules are confluent and the sets average about 3 inches in length. There is a graded ^{wagon} gulch toward the Waparusa and may be the old trail that crossed or forded the river at this point. The erosion of these clays produce fantastic surface designs, and remind me of the deserts of Utah. Raccoon track along edge of Waparusa. no Indian evidence along creek. a dead Blarina along wash on clay. Returned to road. dickcissel, redwing, mourning dove, 2 meadowlarks, dickcissel, 2 bank swallow, some M. achryzaster in meadows, dickcissel, 2 redwings, 2 redwings, dickcissel, mourning dove, 38 cowbirds in one flock, dickcissel, 2 redwings, great blue heron flying S between here & dam and out 200' high, redwing, dickcissel 6:35 beginning of clay elevated area for dam. upper 3-5 feet of black soil removed and clay exposed to undetermined depth. Black soil with rock fragments (common), ~~was~~ clay beneath without artifacts. The line of separation between the two soils is abrupt. This exposure denuded area foreign to Kansas. No bird life between here and bridge over Rock Creek except 1 beedeeer. Coyote tracks in clay. 6:50 P.M. Rock Creek Bridge. 12 barn swallow nesting under bridge. Log jam created by damming river with only a small culvert for water. Perched on a dead limb of a tree pile from clearing of area by Corp of Engineers was a Swainson hawk. (white chin, white around and above bill, head, back of neck and chest same color, primaries black, slight streaking below dark neck band and extending to 1/2 distance

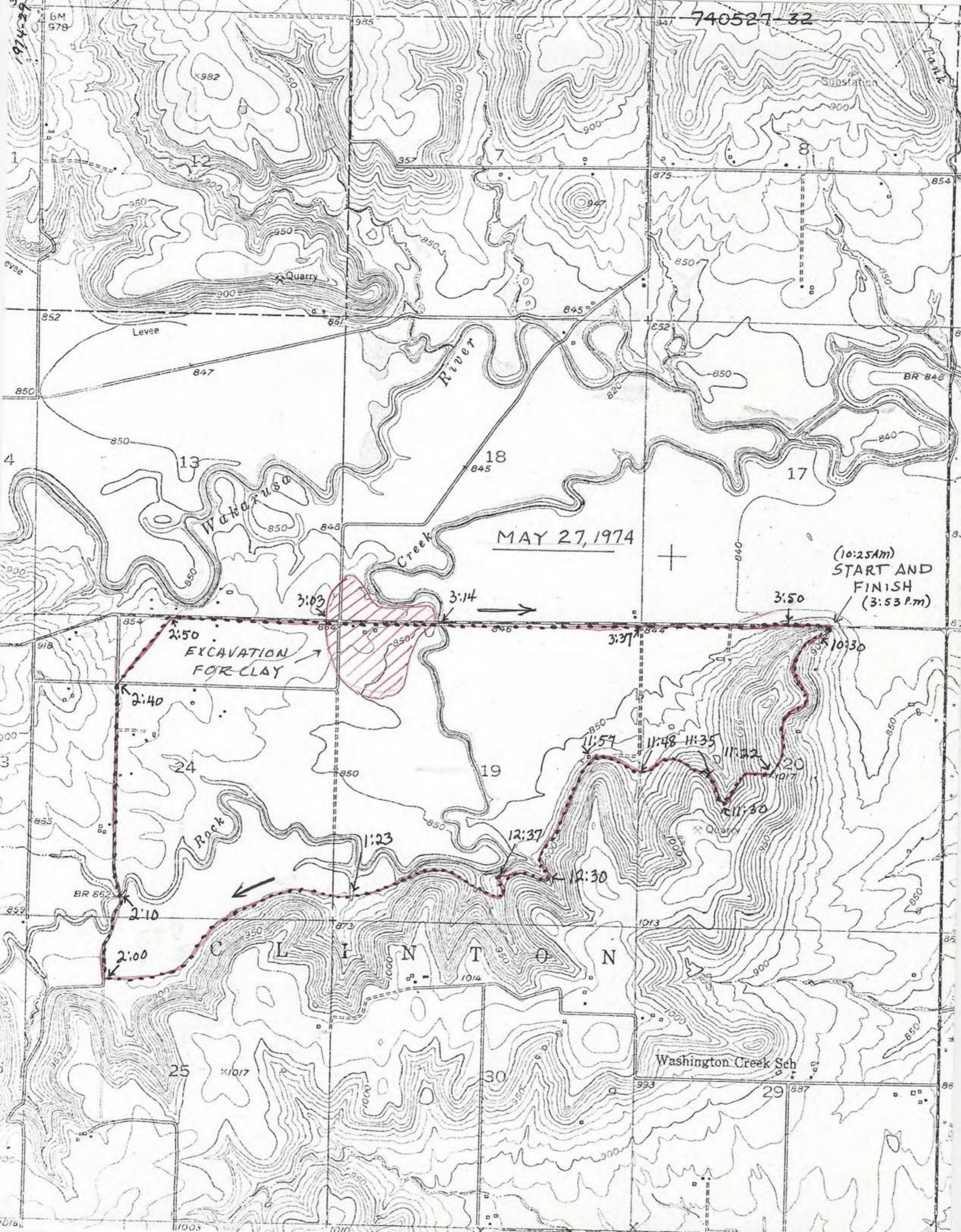
1974-28
 between chin and base of tail, tail could be banded but not red, a smaller hawk than the redtail. Another one was flying toward hillside to S and 200' from the bird pitching. ^{4 redwings} flashed this ^{Two} ~~redwings~~. Two redtails circling on ridge directly S. From here can see 8 turkey vultures in 150° angle above ridge and circling (1-2-2-3). 2 dickcissels, 2 mourning doves, nest of 2 young Cottontails at bridge. Now returning to car. Fox tracks in clay. 2 grasshopper sparrows one with insects in mouth for young. The grasshopper sparrow is characterized by unstreaked breast, extension posteriorly of whitish eye streak and 3-4 dark lines against light back near neck. The dog approached the sparrow and the sparrow flew into the grass 10' away. The dog flushed the sparrow which returned to original position, then left & flew around me to return to the same area, all the time carrying the insects in its mouth, no calls. At 1/2 hr before sunset birds more active in song. 8:25 back to car. Sundown 8:35 P.M. On hill where barrier is placed is a layer of conglomerates not found in valley proper. 38.7 middle of Clinton. 397 g. h. owl flying across open field. meadowlark, grackle, g.c. flycatcher most active but 40.3 Wabarusia bridge. 41.3 Coon Creek at 8:48. meadowlark, grackles, robin most active. Great crested flycatcher one of the last birds to call. 42.8 school house on Peterson road at 8:55 P.M. At 9:00 P.M. all birds inactive except 5 cowbirds and on g.c. flycatcher. Home at 51.4. at 9:15 P.M.

Clinton Reservoir (proposed), Douglas Co., Kansas

May 27, 1974

and Rock Creek valley

Surveyed S side of valley of the Wabarusia, from S end of dam to bridge ^{over Rock Creek} S of Clinton. Left base of NE ridge at 10:25^{A.M.} (W of Banning Corners). Day clear, hazy, wind from S., some clouds moving in from north on horizon. Day cool. Will make complete list of all birds and mammals. From marshlands to E can hear ⁴ redwing blackbirds, ² meadowlark and ² grackles. At base of hill NE extension can hear 2 chipping sparrow, ² cardinal, 2 redtails soaring at top of ridge. 10:30 Top of terminal NE ridge. red-eyed vireo, cardinal, Cardinal, Cardinal, house wren, field sparrow, eastern wood pewee, unusual amount of Sphagnum on N exposures.



1974-27

740527-32

MAY 27, 1974

EXCAVATION FOR CLAY

(10:25 AM)
START AND
FINISH
(3:53 P.M.)

C L I N T O N

Washington Creek Sch

BM 978

evae

Levee

River

Creek

Water

Rock

Substation

Tank

BR 846

BR 862

BR 887

019

11003

1010

122

1974-33

Several large swallowtails on ridge among trees. This is a good season for these butterflies. Bluejay, 10:40 top of ridge in juniper grove. 2 great horn owl in trees S of point, will fallow in tree just over brink of ridge. As far as I can see, there is no center core in dam and the contact on hillside is not at bedrock. ^{drilled} Holes filled with cement hillside contact. Ruby-throated hummingbird, cowbird, cardinal, 2 bluejays, ruby-throated hummingbird, redheaded woodpecker, field sparrow, Titmouse, cardinal, g.c. flycatcher, Carolina wren, white-breasted nuthatch, downy woodpecker, 2 brown thrashers, red-eyed vireo concerned about thrashers, 2 downy woodpeckers, titmouse, large butterflies common.

11:03 fence line ~~at end of open ridge~~ ^{in forest}. 2 great-crested flycatchers, 2 titmouse, 11:07 rack fence in forest. 11:10 now along rimrock, mourning dove, chipping sparrow, cowbird. Surprise a brown thrasher in low brush (2 feet). It left with a cry and defecated. Meadowlark, chipping sparrow, mourning dove. 2 turkey vultures, brown thrasher, 2 barn swallows, great blue heron going south at base of forest to east of this ridge. Clouds increasing from N. Another great blue heron crossing ridge to going west. Cleared top by 30 feet, Chipping sparrow, 2 field sparrows, barn swallow, g.c. flycatcher, 11:22 now at fence line at S end of open field on top of ridge. It is a ridge and forest (just having passed thru) that should be maintained as natural but the plans are to put road on top and thru length of forest on east side of ridge. Already they have put a telephone line (an open corridor) thru the beautiful forest on the east side of this ridge. This area and marsh to east would make an unusual combination native forest and wetlands. Instead, they will develop to open picnic sites and parking area. For migrating birds this ridge is unequalled with a tendency for birds to build up at the north end of the ridge. Will fallow in forest to above pond and then traverse cleared areas of the valley below the lower limits of trees (the future shoreline). Great crested flycatcher, white froth on vegetation (6" to 2' zone of grasses, herbs & shrubs), chimney swift, redheaded woodpecker, bluejay, mosquito in forested area 11:30 main drainage. bluejay only bird across drainage. redheaded woodpecker, 11:35 out of forest above pond.

pond broken thru dam and, sealed with ^{pond} vegetation in shallow water, frogs (cricket) called, blackbird (redwing) chased redtail, Killdeer inspected pond but did not land, good merotinic activity in grasses above pond. Surprised of how few birds are here in open grasslands. Chipping sparrow, mourning dove, house wren, 2 Cardinals, g.c. flycatcher, 2 indigo buntings, dickcissel, field sparrow, house wren, yellow-billed cuckoo, cowbird, field sparrow, redtail, yellowbilled cuckoo, 2 brown thrashers. 11:48 drainage from old rock quarry canyon. Field sparrow, deer tracks in creek bed, dickcissel, field sparrow, dickcissel, chipping sparrow, 2 turkey vultures. 11:57 sets of old house on knoll, chipping sparrow, dickcissel, field sparrow, indigo bunting, indigo bunting, 2 field sparrows, field sparrow, cardinal, 2 grackles, field sparrow, crow, field sparrow, indigo bunting, field sparrow, downy woodpecker, titmouse, dickcissel, some woodrat houses at edge of forest, cowbird, dickcissel, field sparrow, g.c. flycatcher, redtail in valley, field sparrow, Harris sparrow, g.c. flycatcher. 12:30 cross over drainage east of chimney (usual trail). Numerous deer tracks (6-7 sets) and fox tracks in trail. yellow-billed cuckoo, redbellied woodpecker, white breasted nuthatch. Sliding of deer on mud surface is a factor in measurement of track! 2 cowbird. Chimney at 12:37. will have lunch here. This historical landmark (before among forest, now forest cleared) has been left for some reason. All other geological features (meanders, deep entrance gullies, etc) have been graded to a gentle swale. The river has been dammed to west and a new channel formed to connect with river to NE. Left chimney at 12:55. Indigo bunting, dickcissel, titmouse, g.c. flycatcher, indigo bunting, bluejay at head of draw. Deer tracks, raccoon & fox at crossing. One spring to west of chimney highly stained with iron. where both creeks converge, noted that there was approx. equivalent amount of water from each creek and would estimate the total amount as 1 gal per 4 seconds. Deer track 76mms. Indigo bunting, indigo bunting, red bellied woodpecker, indigo bunting, dickcissel, red-eyed vireo, g.c. flycatcher, Coyote tracks common in trail that leads w about 200' N of edge of forest. Fox more common in forest, Coyote more common in open areas. The g.c. flycatcher, red-eyed vireo, titmouse and other forest birds are heard or seen from my position

1974-1975

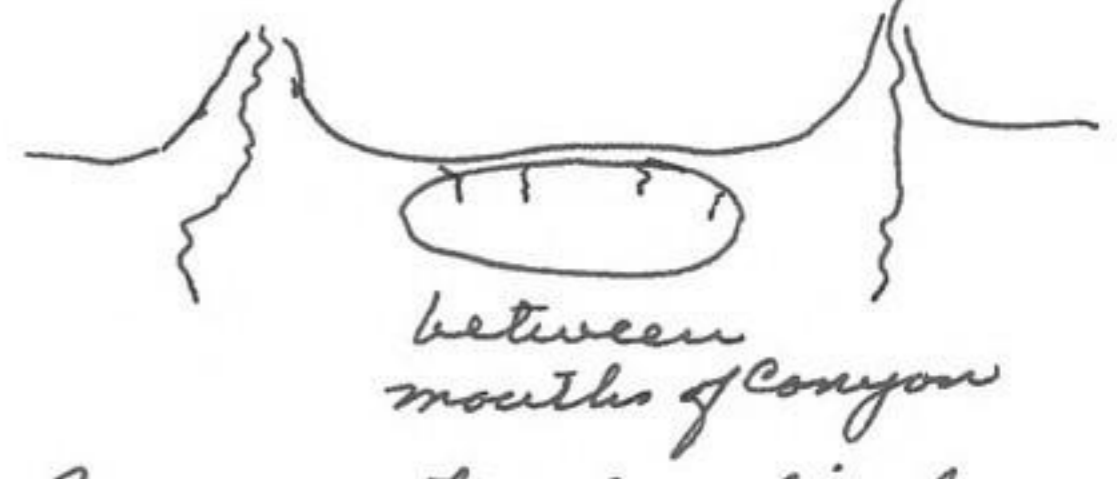
in the cleared areas below the tree (shoreline) zone. The indigo buntings and dickcissels, ^{and others} are in the open fields. House wren, crow to N, ^{MOLE} mole digging in open area. There are very few birds in cleared area. The Thistle is the highest plant and averages 4 feet ⁱⁿ height, other thistle grade down in height. Weeds and grass fill in other places. D.C. flycatcher, red-eyed vireo. Phoebe ^{on} top of limb in brushpile. These black soils that will be covered by the reservoir should be cropped and stockpiled. deer tracks in timber common (ecotone) elsewhere less common. Good microtine trail in areas that used to support timber and because of their deep pattern would suggest Microtus pinetorum. These trails are more commonly associated with wet soil in or adjacent boggy areas.

my shoes sink down about 2 inches into these damp to wet areas.



2 Lark sparrow. Bird rare.

1:23 crossing drainage from Canyon. 2 Turkey vultures, dickcissel. Some amount of water as was true at chimney area. Raccoon tracks, field sparrow, titmouse, old cultivated grassfield with good microtine (probably Microtus ochrogaster and Synaptomys cooper). Elm trees invading grass fields. Eastern Kingbird, mourning dove, g.c. flycatcher, red-eyed vireo, 2 mourning doves, barn swallow, red-eyed vireo, redbellied woodpecker, indigo bunting wedge bunting, robin, field sparrow, indigo bunting (most common bird in open fields). titmouse, field sparrow, 2 titmice, an occasional grasshopper, blue grosbeak, cowbird, mourning dove, titmouse, indigo bunting, redwing, cardinal, titmouse, grackle, raccoon tracks, east end of field road that leads to road at bridge. Considerable open water in field, 2 redwing. These area were probably expansive marshy areas in early days.



between mouths of Canyon

Titmouse, titmouse, g.c. flycatcher, redwing, titmouse, g.c. flycatcher, titmouse indigo bunting, field sparrow, microtine activity associated with sedge and marshy areas. Prolific population of Crayfish and raccoon tracks, keeldeer. Some Crayfish dead at entrance of burrows. 2:00 at county road at base of hill S of bridge. Three crows, cowbird. Chipping sparrow, 2 lark sparrows, dickcissel, cardinal, 2 grasshopper sparrows, indigo bunting. 2:10 bridge across Lock Creek.

1974-33
The area surveyed so far included both the ⁷⁴⁰⁵²⁷⁻³⁶ forested areas and the open cleared areas below the proposed shoreline of trees. Birds from the forested areas are generally those birds having loud calls or those that called and included the titmouse, great crested flycatcher, bluejay, red-eyed vireo etc. The birds of the open cleared areas were the indigo bunting (most common bird but also found at edge and among forest), the field sparrow, grasshopper sparrow, redwings and dickcissel. My impression is that the cleared areas are not productive in producing or maintaining bird populations. Microtine populations are those associated with former cultivated areas or the optimum conditions of damp soils and vegetation resulting and developing since the clearing. The abrupt edge between the cleared and forested area are not as productive as the natural ecotone between ~~the two~~ ^{natural} area. Cleared areas of cultivated fields & pastures are more productive than cleared areas of forests.

Continued N from bridge along county road (no ^{to motor vehicle} impassible) leaving at 2:20 P.M. at bridge were dickcissel, indigo bunting, blue grosbeak, 4 barn swallows, English sparrow. Beyond are cowbird, 2 dickcissels, indigo bunting, concerned lark sparrow, mourning dove, 2 dickcissel, mourning dove, killdeer, 5 pairs of mourning doves, meadowlark, dickcissel, 2 redwings, 2 redwing, bobwhite, redwing, dickcissel, redwing, dickcissel, mourning dove, mockingbird, mourning dove, dickcissel. This area of former farms produces more birds although houses removed. Dickcissel, indigo bunting, dickcissel, dickcissel, dickcissel, dickcissel, Coyote scat on road and all have microtine and other mammal bones & hair, 2 dickcissels, redwing, dickcissel, cowbird, dickcissel, dickcissel, cowbird, 2:40 cross roads, continuing N. at diagonal, good microtine runways, dickcissel, mourning dove, dickcissel dickcissel. Trails (microtine) in view every 3 steps, wild onions, dickcissel, 2 dickcissels. Road at 2:50, dickcissel, dickcissel, dickcissel, cowbird, horned lark, bull frog calling from side rd. dickcissel, meadowlark, redwing, cowbird, grasshopper sparrow, 2 crows to N. 2 mourning doves, killdeer, horned lark, 3:03 beginning of area of clay. 15 (dowitcher size) sandpiper flew N and showed interest in clay area 3:14 Look Creek bridge, 12 barn swallows, dickcissels, dickcissel, dickcissel, redwing, dickcissel, redwing, grasshopper sparrow, cowbird. Single deer track crossed road (62mm), 2 redwings, killdeer, dickcissel, dickcissel, 8 redwings, 4 grackles (near old homestead)

1974-3

740527-37

now raised, killdeer, Birds show tendency to maintain territories after man made structures have been eliminated such as the forementioned grackles, dickcissel, 3 redwings, 8 redwings dickcissel, dickcissel, 3 redwings, dickcissel, redwing ♂ chased a ♀ Cowbird, redwing, dickcissel 3:37 road that turns S to former house on knoll. Killdeer, redwing, redwing, dickcissel, 2 redwings, dickcissel, redwing, redwing, dickcissel, deer tracks in road, redwing, redwing, dickcissel, 3:45 cement bridge, 3:50 apis of dam, dam at about level of the old Clinton road. At this point ^{deep} hole are dug drilled and filled with cement. 3:53 bend of road at top of hill and end of census. One of the observations of today is the way land becomes waterlogged when drainage systems are altered and other areas are allowed to become stabilized from ^{lack of} farm use.

Summary: S. side dam to Rock Creek bridge; Rock Creek bridge to S side dam via county road

○ = totals

redwing	4-1-1-2-1-	2-2-1-1-1-1-1-2-8-1-8-3-1-1-1-1-1-	= (47)
meadowlark	1-1-	1-1-	= (4)
grackle	1-2-1-		= (9)
chipping sparrow	2-1-1-1-1-1-1-		= (9)
cardinal	2-1-1-1-1-2-1-1-1-		= (12)
redtail hawk	2-1-1-1-		= (5)
red-eyed vireo	1-1-1-1-1-		= (5)
house wren	1-1-1-1-		= (4)
field sparrow	1-1-2-1-1-1-1-1-2-1-1-1-1-1-1-1-1-		= (21)
eastern wood pewee	1		= (1)
bluejay	1-2-1-1-		= (5)
great horned owl	2		= (2)
ruby throated hummingbird	1-1-		= (2)
cowbird	1-1-1-1-2-1-1-	1-1-1-1-1-1-1-	= (15)
redheaded woodpecker	1-1-1-		= (3)
titmouse	1-1-2-1-1-1-1-1-2-1-1-1-1-1-		= (17)
great crested flycatcher	1-2-1-1-1-1-1-1-1-1-1-1-		= (14)
carolina wren	1		= (1)
white breasted nuthatch	1-1-		= (2)
downy woodpecker	1-2-1-		= (4)
brown thrasher	2-1-2-		= (5)
mourning dove	1-1-1-1-2-1-	1-1-10-1-1-1-2-	= (24)
turkey vulture	2-2-2-		= (6)
barn swallow	2-1-1-	4-12-	= (20)
great blue heron	1-1-		= (2)
chimney swift	1-		= (1)
killdeer	1-1-		= (1)
indigo bunting	2-1-1-1-1-1-1-1-1-1-1-1-	1-1-1-1-1-	= (7)
dickcissel	1-1-1-1-1-1-1-1-	1-1-1-1-	= (19)
		1-2-2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	= (52)
yellow-billed cuckoo	1-1-1-		= (3)

1974-33

Crow 1-1-3-
 Harris sparrow 1- ①
 red bellied woodpecker 1-1-1- = ③
 eastern phoebe 1- ①
 lark sparrow 2-2- = ④
 eastern kingbird 1- ①
 robin 1- ①
 blue grosbeak 1-
 grasshopper sparrow 2-
 Eng. sparrow
 bobwhite
 mockingbird
 horned lark
 downy woodpecker ?
 Total 45

2- ②
 ③
 1- ⑤
 1- ②
 1-1- ③
 not recorded by numbers
 1- ①
 1- ①
 1-1- ②
 15- ⑮
 Total 359

740527-38

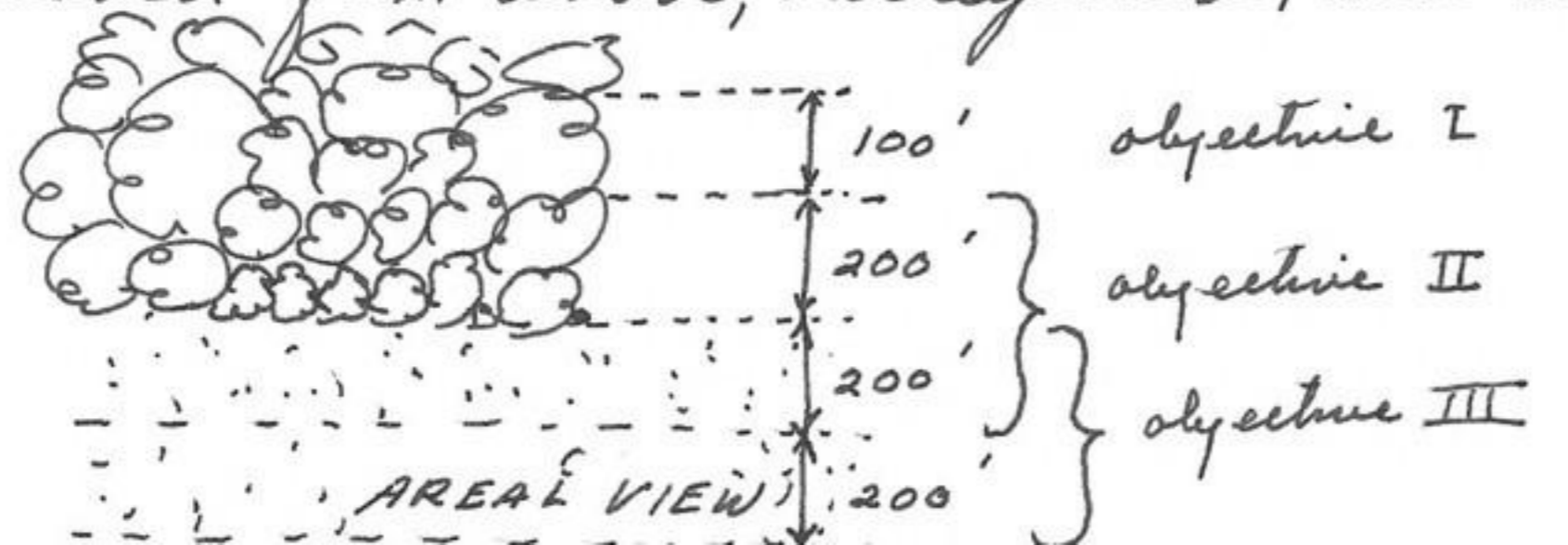
It is interesting to note that the field sparrow and Chipping sparrow were not observed along county road in valley but substantial numbers ^{were} observed in area associated with trees of the sidehill. Other birds show dependence on trees. Frequency of occurrence are:
 12 birds were found in both the valley and sidehill area
 25 birds were found exclusively associated with forests & bordering open areas.
 4 birds were found exclusively in open valley.
 Duckessels and redwings were predominantly valley forms.

402, Yorkshire Dr., Lawrence, Douglas Co., Kansas
 May 29, 1974

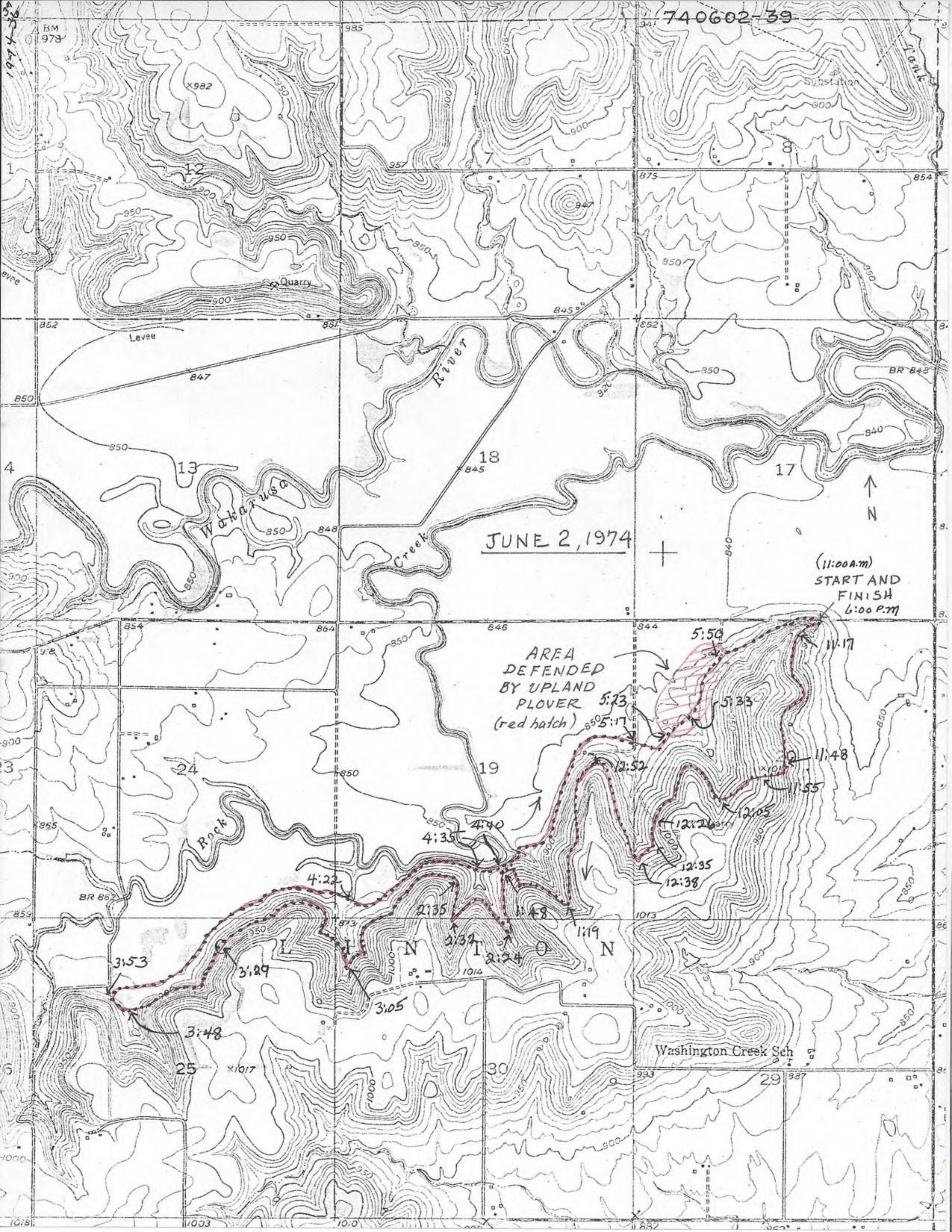
A painted bunting, *Passerina ciris*, ♂ was observed in the yard. This is the first time this species has been seen here. In the general area of Lawrence it is only occasionally observed.

Clinton Reservoir (proposed), Douglas Co., Kansas
 June 2, 1974

Plan to survey area SW of dam in the Wakarusa - Rock Creek area, especially the 5 valley sides. Three objectives are to be accomplished 1) make census in mature forests free of edge effect, 2) survey contact of what will be the upper shoreline of the new lake at the line between the undisturbed timber and the adjoining area recently cut and timber removed, 3) 200 removed from above, valleyward, and including 200 feet on either side or 400' valleyward from edge of cut forest. Position of birds will be indicated as to a particular zone.



objective I
 objective II
 objective III



JUNE 2, 1974

(11:00 a.m)
START AND
FINISH
6:00 p.m

AREA
DEFENDED
BY UPLAND
PLOVER
(red hatch)

Washington Creek Sch

N

1974-37

Left south end of Clinton Reservoir dam (just east at base of terminal ridge) at 11:00 A.M. Day clear, slight breeze, slightly hazy in distance, temperature approx. 80°F. Will follow thru deciduous forests in areas free of edge effect to the "Chimney"; See map. Transect will include approx. 150' width. Yellow-billed cuckoo, cardinal, 2 mourning doves, redheaded woodpecker, neotoma trail eroded Sphagnum mass to near roots, cardinal, mourning dove, black-capped chickadee, cardinal, great crested flycatcher, red-eyed vireo, downy woodpecker on territory, cardinal. 11:17 jumper knoll now S thru forest. Many swallowtail butterflies; Cardinal, lawbird, Carolina wren, titmouse, redbellied woodpecker, titmouse, cardinal, 11:25 new path up hill made by new utility lines, good place to check movement of birds and mammals, titmouse, bluejay, erosion has already started in road, yellow-warbler. 11:32 large woodrat ^{honey tree} 20 S of barbed wire fence (4' high with broad base), titmouse, 2 silver spot butterflies mating (in dense shade forest on vegetation 1 foot high), crossing a major gully with N S rock fence at 11:36. Cardinal, 11:48 fence line at end of open field. Will cross ridge to W then follow deciduous forests. The E side of this (S fence) ridge & top have been cut over in the past and are not heavy forests but no birds were observed here anyway. Cardinal, 11:55 top of last mentioned ridge. noted on top ridge a neotoma house in tree. The upper height of nest was 9'. Have observed 8 wood-rat house across this ridge. 12:05 crossing drainage. An old road (not grown over on E side of drainage). Titmouse, cardinal, 2 red-eyed vireos, ^{♂♀} titmouse. Forest is quiet, titmouse. titmouse 12:26 crossing quarry road just below the takes slope of rock from quarry pit. Will continue S on this same level following a trail, redheaded woodpecker, hermit thrush, red-bellied woodpecker. 12:35 crossing main drainage, cardinal, wood pewee, 12:38 second drainage in main canyon. Titmouse whitetailed deer using these trails. Some woodrat house, Turkey ^(continued) vulture flew by, redheaded woodpecker, bluejay, 12:52 at point above site of old house on knoll. 4 turkey vultures above point. Black-capped chickadee. The more sunshine in forest, the more grass. The understory has been plants averaging 1 foot high and sparsely placed bushes (Symphoricarpos etc) and in all areas easy to navigate. The forests beyond are slightly more open and have more oak and hickory. Cardinal, 2 yellow-billed cuckoo, one chasing the other. Hairy woodpecker. Large swallow-tails. Great-crested flycatcher, cardinal, titmouse, 1:19 major drainage

1974-38

740602-41

(east of Chimney area) titmouse, white-breasted nuthatch, 1:24 fence line. G.C. flycatcher, g.c. flycatcher, redbellied woodpecker. Crow flew over. 1:48 Chimney and will eat lunch here.

Summary of deciduous forest survey:

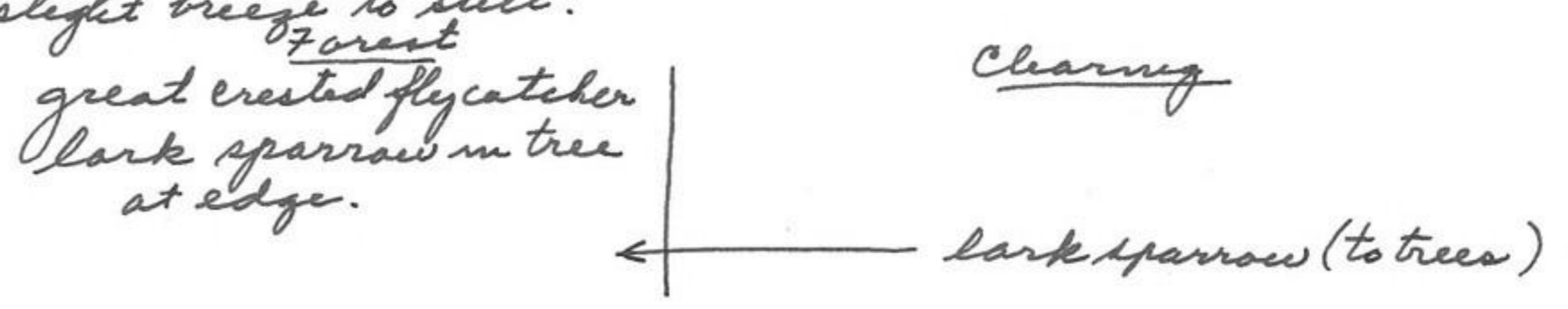
- yellow-billed cuckoo 1-~~2~~2 = (3)
- Cardinal 1-1-1-1-1-1-1-1-1-1-1 = (12)
- mourning dove 2-1 = (3)
- redheaded woodpecker 1-1-1 = (3)
- nestoma nests.
- black-capped chickadee 1-1 = (2)
- great-crested flycatcher 1-1-1-1 = (4)
- red-eyed vireo 1-2 = (3)
- downy woodpecker 1 = (1)
- cowbird 1 = (1)
- carolina wren 1 = (1)
- titmouse 1-1-1-1-1-1-1-1-1-1 = (11)
- red-bellied woodpecker 1-1-1 = (3)
- blue jay 1-1 = (2)
- yellow warbler 1 = (1)
- hermit thrush 1 = (1)
- eastern woodpecker 1 = (1)
- turkey vulture 1-4 = (5)
- hairy woodpecker 1 = (1)
- white-breasted nuthatch 1 = (1)
- crow 1 = (1)

Totals 20 species
60 individuals.

Birds in deciduous forests are uncommon and in some places rare.

while at Chimney made the follow observations: Redtail flew out from side hill about 3/10 mi. to W and was chased by 3 redwings at different places. a great blue heron flew S. over ridge about 2/10 mi. to W. a ♂ & ♀ indigo bunting left area of Wabarus and flew up over Chimney area (cleared) to forest. a robin flew E-W beyond trees. From Chimney can hear (from forested area), 3 great crested flycatchers, 2 house wrens, 1 red bellied woodpecker, crow, red-eyed vireo, cardinal. In open area have noted only the 2 indigo buntings and robin noted above.

Left 2:11 from Chimney and will follow the abrupt contact between the forested area and the cleared area. will record birds as to whether in forest or in clearing and in those cases where bird moves from one area to another will so indicate. Will follow this contact to road to W (see map). Temp. is about 80°F and slight breeze to still.



1414-39

Forest

740602-42
Clearing

yellow-billed cuckoo
red-eyed vireo
titmouse
carolina wren
e. wood pewee
red-eyed vireo
house wren
cardinal

2:24 first drainage (water
1 qt. per 15 sec.) by shale
cliff.

house wren
red-eyed vireo
cardinal
red-bellied woodpecker
titmouse

2:32 second drainage in
the chimney area. not 20

g. crested flycatcher
cowbird
g. crested flycatcher

2:35 W point of chimney
drainage

pewee
red-eyed vireo
indigo bunting
titmouse
indigo bunting
red-eyed vireo
mourning dove



eastern kingbird (at break pile)

cardinal
pewee
great horned owl
red-bellied woodpecker
red-eyed vireo
yellow-billed cuckoo
titmouse
yellow-billed cuckoo
g.c. flycatcher
titmouse

nighthawk (30' above tree level)

titmouse
cardinal

3:05 major drainage (a marker at edge at old
trail = NE cor 2'E, Sec 25, T135 R18E)

← Cowbird
→ (to low bush)

indigo bunting
(chased by ruby-throated
hummingbird - made 10 dives
at 10' high and then returned
to trees)
red-eyed vireo
indigo bunting
red-bellied woodpecker
cowbird

redwing
3 mourning doves

1414-4a

740602-43

forest

clearing

redtail hawk
indigo bunting
bluejay
bluejay.

← great crested flycatcher
→ flew 1/2 mi. n.

← indigo bunting

now at edge of forest trail that
connected with field road trending
west.

← house wren

← redwing blackbird

3:29 at point now trending SW.

blue grasshopper
Cardinal
titmouse
red bellied woodpecker
summer tanager

3:31 just beyond

bluebird
indigo bunting
crow

cowbird →

← 2 cowbirds

grackle →
2 bobwhites.

← indigo bunting

cardinal
2 bluejays
yellow bellied Cuckoo
red-eyed vireo
red-eyed vireo

4 crows →

great crested flycatcher

great crested flycatcher

goldfinch

goldfinch →

red-bellied woodpecker.

3:48 (drainage from pond area, 1st
in seven seconds)

yellow bellied Cuckoo

3:53 road at base of hill and end of
forest-clearing sensors).

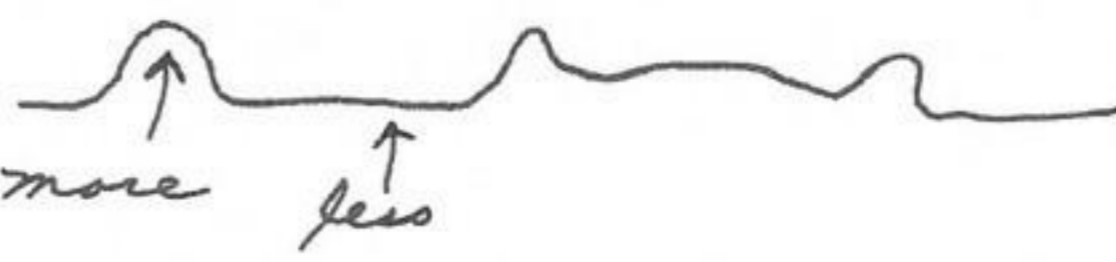
In forest 25 species of 71
individuals.

In clearing 9 species of 15
individuals.

9 birds left forest and flew
to clearing.

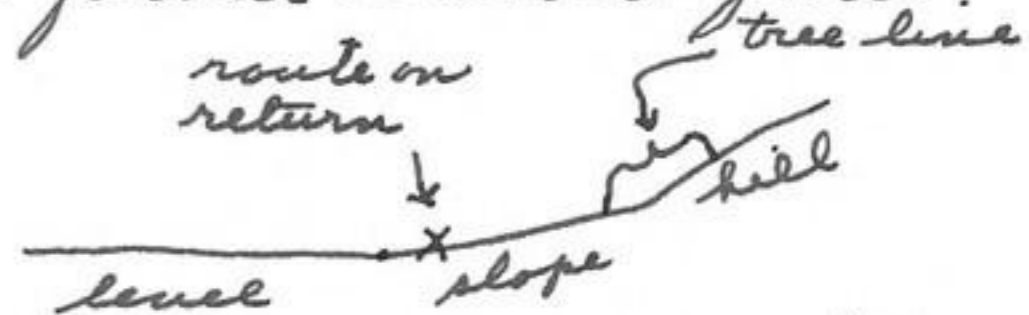
7 birds left clearing and flew
to forests

1974-44
Some observations along this contact are: Birds in forests are localized and are more common in side canyons than between canyons.



and are frequently in associated groups. I have not observed turkey vultures, (except earlier today) in areas where ^{7 to 10} they are commonly observed circling in valley or above the forest. This may be due to lack of proper wind currents. I am also impressed with the great diversity and numbers of swallowtail butterflies, especially kinds (large) that are different from the usual swallowtails observed. The most common one is a medium size (wing spread approx 70 mm) of dull white and light or faded black and at most any point one can count 4 or 5 ⁱⁿ the forest (edge) and an equal number in field of cleared timber adjacent to the forest. At one point count 10 in field in a 100 linear x 20 foot distance. The day has been exceptionally quiet and one can hear the buzzing and humming of flies and bees and other insects. Deer tracks are common along edge of forest as are coyote and fox tracks. Four ^{large} deer tracks measured 68, 72, 75 and 87 mm in length. In areas where timber has been removed, especially on slopes with damp to wet soils, are deeply entrenched trails of ? Microtus pinetorum and these trails most frequently associated with rotten wood of low stumps and roots. They seem to be more numerous than one finds these trails in forests. One beautiful swallowtail (large) with long narrow wings with center black stripe and bordered by yellow. Also dark black and purplish ones were observed. 2 fields of grass pasture still identified as such but gradually growing to elm forests, the largest about 6' high and may have been in existence in field prior to clearing of contiguous areas. The wet to damp soils are most frequently on slopes between drainage systems or at extreme lateral edge of alluvium deposits from major drainage systems. Minor interferences with configuration of slope or surface as accompany removal of forests is responsible for major areas of marshy and wet lands. Farmers keep these waters moving by establishing patterns of manmade drainage systems. The most numerous microtine runways are associated with wet to damp soils in contrast to dry or standing water.

1974-42
 On return to car from this county road will make survey of birds along a route approx. 200' valleyward from the clearing-forest contact and including 200' on each side of route. As one tracks down valley the tree shoreline becomes higher and the route followed become farther removed from the shoreline. Most of the route was at contact of the level valley and alluvial fan on slope from hillside. will indicate only birds flying to forest (x)

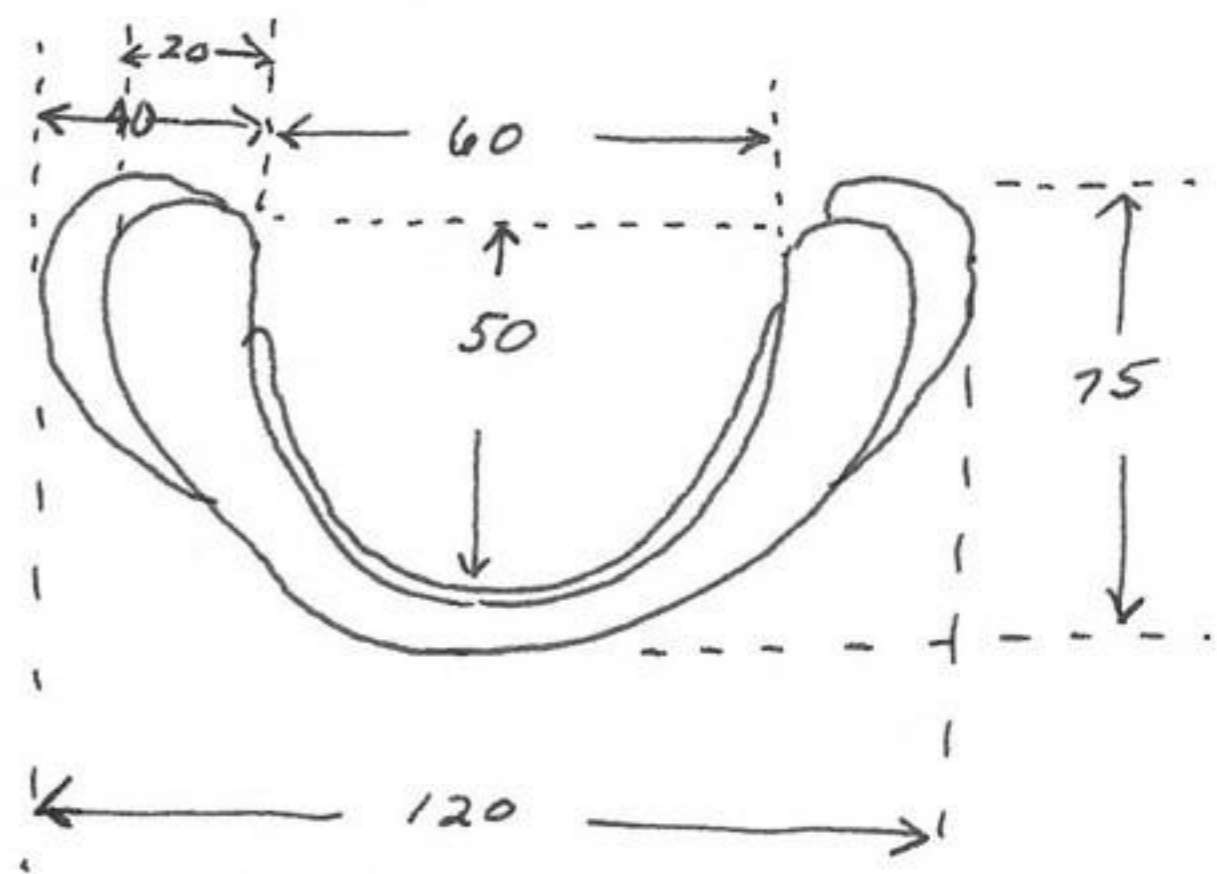


Killdeer, redwing, redwing, redwing. now at Old Prop. 792' S, Corn. stone of N? 1/4 corner. 4:03 redwing, lark sparrow, 6 cowbirds (x), 2 grackles (x), redwing, 9 redwings, redwing, redwing, redwing, redwing, redwing, indigo bunting, cowbird, 4:22 major drainage. 2 lark sparrows, dickcissel, indigo bunting, cardinal, yellowbilled cuckoo (x), lark sparrow with worms in mouth, 4:35 Convergence of 2 creeks in chimney drainage, a triple more water from W drainage and combined 1 qt per 5 seconds, raccoon & coyote tracks, 2 barnswallows. 4:40 at chimney. (left at 4:51) and crossed the major drainage to E at mouth of drainage into Rock Creek. This is a deep gulch. no water but in the past deer have walked on steep slope of gulch to evade flowing water. Deer, coyote & raccoon tracks in gulch. Dickcissel, dickcissel, dickcissel, dickcissel, dickcissel, dickcissel (these area is below tree removal area and previously had been cultivated in grass), On N side of site of farm house on knoll is good grass field and many microtine tracks. It was in this area that I caught Synaptornis cooperi some years ago when farm was in operation. As farms are deserted the undisturbed area become good areas for this mammal. Dickcissel, lark sparrow (x), 5:17 major drainage from old quarry. Dickcissel, 2 upland plovers, ^{5:23} approached from pond area and circled overhead then left. One returned and circled overhead (40'). wing beat rapid and limited in latitude of up & down. Called continuously. This pond is at end of a fence line (N.S), the first one in field E of drainage. 2 dickcissels, redwing, dickcissel, dickcissel, 5:28 upland plover returned for 3rd time and circled, then to within 2 feet of edge of pond, then circled again and left to N for at least 2/10 of a mile then

1974-46

740602-46

returned and circled 20' overhead. Have not seen the second bird since they were first observed. meadowlark, This area is in old grasslands between lowlands & tree line. 5:32 redwing. Upland plover still following & circling overhead. This activity is alternated by flying N & E beyond area and then returning. 5:33 crossing drainage from canyon & pond to S. On slope 30' from drainage flushed a ♀ dickcissel from nest 4' away. It flew 50' and alighted 10' from ♂. where they remained. I approach to within 10' of ♀ with nest in hand. It is the closest I have approached a bird of this species without it flying away. When it did leave it moved only 20'. The nest and 5 eggs 740502-1 were examined. Nest 1 foot from ground in stems of large clover. Grass and yellow mustard plants. Inner cup of fine rootlets. Body of woven dry flat blades of grass. Upper limits dry stems to cover woven part of nest and added last.



Body of nest with grasses woven perpendicular, top of nest with circular grass blades. Ten dry leaves (larger 50 mm in length) incorporated into weaving of grass blades. 5 eggs fresh.

5:38 upland plover circling overhead & calling. Flew to fence post and called there with occasionally elevating wings to fullest upright extent. An post neck is long and outstretched and body on long leg as if to present greatest mass of bird. Dickcissel, dickcissel, dickcissel, mockingbird, 5:50 site of old house. Upland plover still calling. meadowlark. Upland plover now leaving area and flying back to pond area. Arrived car 6:00 P.M.

Summary of birds in clearing.

- killdeer 1 = ①
- redwing 1-1-1-1-1-9-1-1-1-1-1 = ②①
- lark sparrow 1-2-1-1 (to forest) = ⑤
- cowbird 6 (to forest), 1 = ⑦
- grackles 2 (to forest) = ②
- indigo bunting 1-1 = ②
- dickcissel 1-1-1-1-1-1-1-1-1-2-1-1-2-1-1-1 = ①⑧
- Cardinal 1 = ①
- yellow bellied cuckoo (to forest) = ①
- barn swallow 2 = ②
- upland plover 2 = ②
- meadowlark 1-1 = ②
- mockingbird 1 = ①

13 species
64 individuals

For the entire survey:		
	forest	clearing
no. species	33	18
no. individuals	131	79

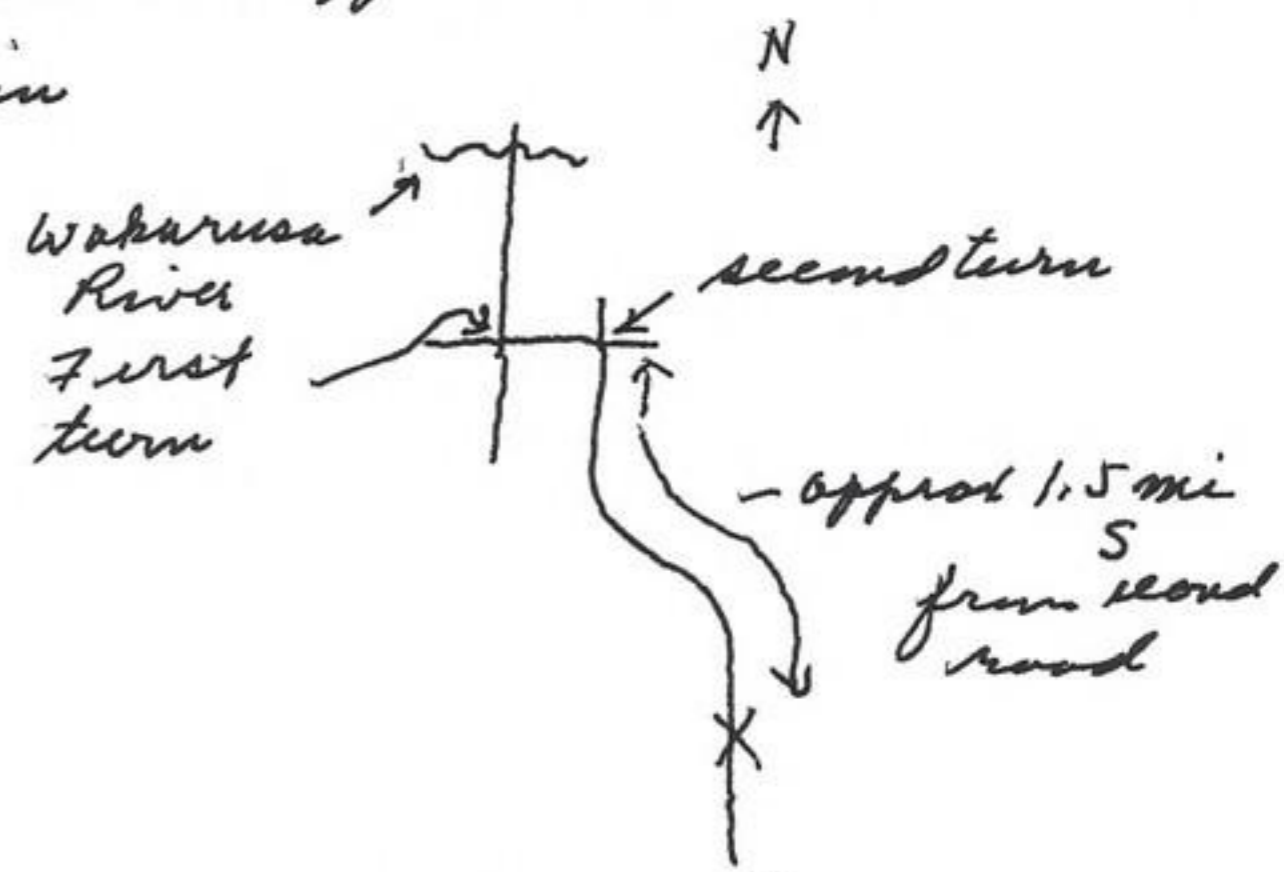
1974-47

of the total kinds and numbers of birds observed in clearing I would estimate that 2 or 3 indigo buntings were the only birds utilizing the areas where forests were recently removed and these birds in the 3-4 foot high young trees just starting to develop. Nearly all other birds were associated with the more stable lowlands beyond former forests or in areas of grasses or vegetation that was formerly under cultivation among trees or on open slopes or low lying fields.

Lawrence, Douglas Co., Kansas

June 12, 1974

Dr. Lins reports that the albino dickcissel is still on territory and in the afternoon when traveling to Vinyard, sees this male more often than not. It is located approx 1.5 mi toward Baldwin from second turn in main road. This bird has been observed in this area for the second year and in approximately the same area.



Museum Natural History, Lawrence, Douglas Co., Kansas

June 12, 1974

Noted 2 young jays in lower branches of a small white pine. They were able to move from one branch to another.

June 13, 1974

Some young jays in same position in tree. Adults feeding. One jay was measured as 138 mm in total length and when returned to the tree flew to ground and then in 2-3 foot flights moved down hill. It was captured and returned to tree with other young bird.

June 14, 1974

Only one young jay was noted in white pine in usual area. This evening did not see the young in usual area.

Kaw River, Santa Fe Railroad Station, Lawrence, Douglas Co., Kansas

June 15, 1974

On the Kaw River 1/2 mi. N of the Santa Fe Station at 413E, 9th Str. and at approx 20 minutes before sundown, noted an adult male purple martin in the water in about the center of the river. At the distance observed, it suggested a large fish surface with its

1974-4261

740602-48

head out of the water. As the bird moved down river with the current it also moved toward the south side of the river and in this period of time when first observed to the time it arrived at the edge of the river it had travelled approx 300' by current and approx. 100' by lateral movement on its own power. It moved on water by laboriously flapping its wings on the water surface and with body held above the water was able to swim to shore. When it approached the shore I made all attempts to divert its course back in to center of the river but without deviation it swam directly to the edge of the river where I was prepared to pick it up. It covered 2 feet of sand and then hid in some boulders and bases of black willow trees. When placed on sands of a slope, it moved upward in a small erosional gully and away from the river. It could not fly when bird was gently tossed into the air. We left it crowded against a rock on the upper reaches of the sand. When first observed two other purple martin were concerned and flew about 1 foot above the bird. They did not follow it to shore.

Lawrence, Douglas Co., Kansas

June 16, 1974

Noted 4 young wrens and two adults in lower bushes. The young were just capable of short branch to branch flight.

402 Yorkshire, Lawrence, Douglas Co., Kansas

June 16, 1974 (8 holes)

In purple martin nesting box are 2 English sparrow nests, 2 purple martin nests and one starling nest. At one moment there may be as many as 5 starling at the nesting box but not nesting. ^{as many as} Also 7 purple martin will occasionally visit the nesting box. Eng. sp & starling are feeding young in box.

Lone Star Lake, Douglas Co., Kansas.

June 16, 1974

Richard Kempf reports that the lake has been high ^{this year} and that the waters have been more muddy than usual.

Lone Star Lake, Douglas Co., Kansas

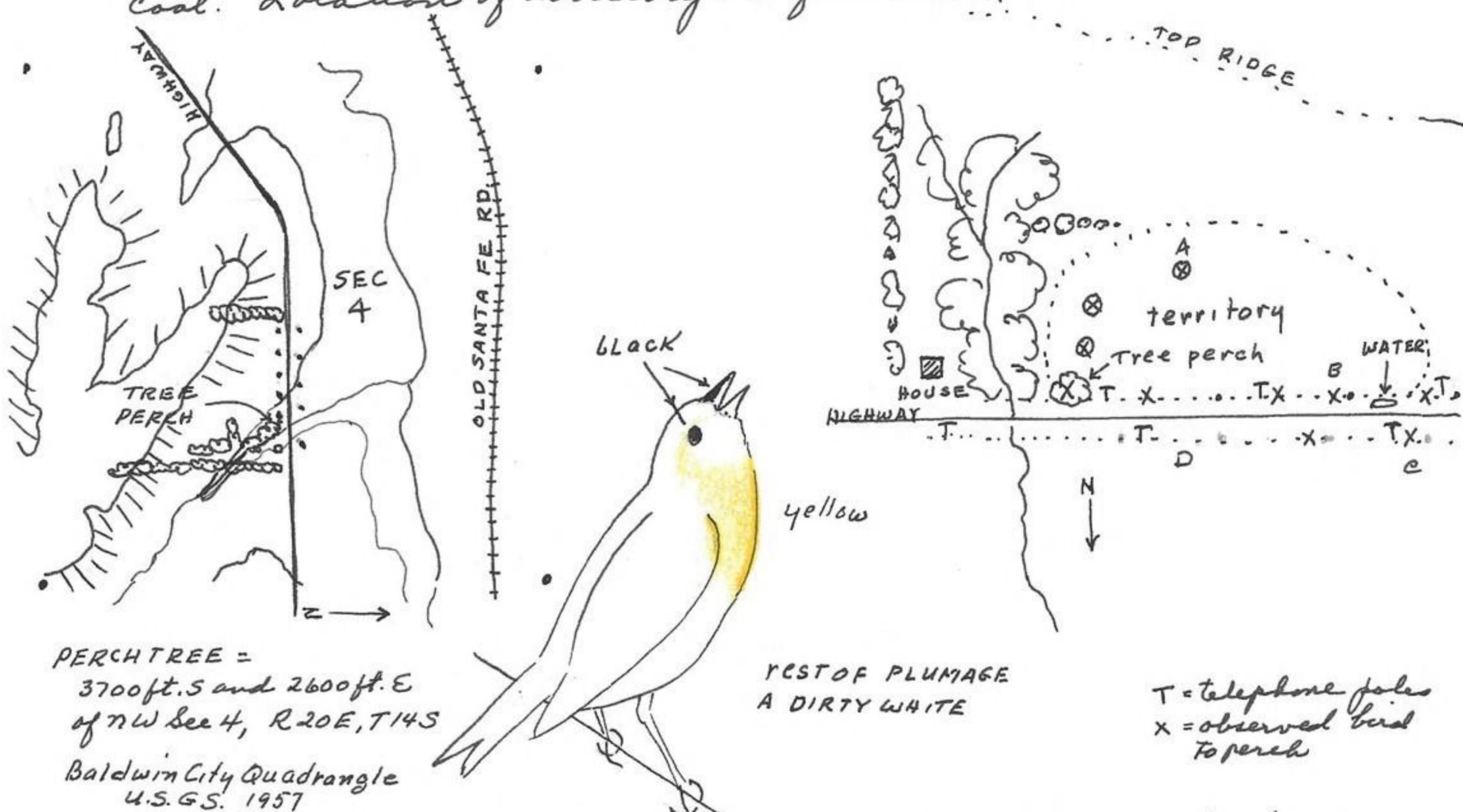
June 22, 1974

Circumnavigated lake in canoe with Annette P. ^{Small} young great blue heron along edge. Water seemed clearer than on June 16. Usual herd in area.

N.W. Vineyard, Douglas Co., Kansas

June 23, 1974

Checked albino dickcissel this A.M. at 8:00 A.M. Day clear and cool. Location of territory as follows:



Some observations of this bird are: First observed in top of tree as indicated in map. For first 20 minutes it remained in this area, perching on top of tree or on wire of telephone lines near the tree. At this time it chased 2 other male dickcissels that flew thru area. At one time it chased a bird with original intention ^{to defend territory} at point marked A some 200' from tree perch. At the time the bird was in this tree perch area it sang regularly and remained either on wire or in tree. After 20 min. it flew N to position B + then to C where it remained, in the general area, flying to ground from time to time to feed and singing as usual but less so than at tree area. After about 20 minutes it returned to tree area and continued to sing, thence to general area of B + C from time to time. Position A was as far as it left the general area and then to chase a male dickcissel. From my position at D could see ^{to W in open field to ridge} 6 dickcissels, 7 redwings, 3 barn swallows always cruising low over field, 1 crow, 1 bluejay, 2 eastern kingbirds, 3 meadowlarks, heard 1 bobwhite, phoebe and 8 barn swallows ^{dirty} at bridge.

The bird was mainly a slightly greyish ^{dirty} white except for light fusion of yellow on chest, under wing + front edge of wing. Bill lighter than other males and black ridge on top. Eyes black. Tail feather frayed. Song same as other birds in area. Cylist reported seeing this bird in identical same place on June 16, 1974 at some time of day (8:00 AM.) Field developing into good variegated grass, weeds + shrubs.

University of Kansas, Lawrence, Douglas Co., Kansas

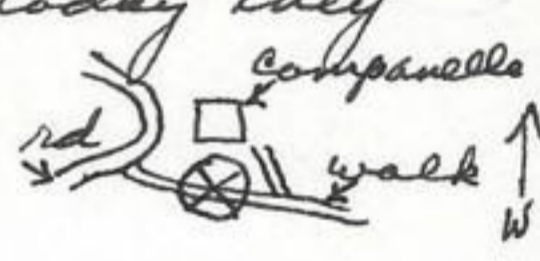
June 27, 1974

at 9:30 A.M. noted a *Spermophilus septentrionalis* on campus on grassy slope N of Carruth - O. Leary.

University of Kansas, Lawrence, Douglas Co., Kansas

June 28, 1974

From beneath a Scotch pine (*Pinus sylvestris*) collected all of the debris created by fox squirrels feeding on the cones. area 1/10 square meter. Biomass 119 grams consisting of 99.5% scales of the cones, the rest of dried needles & fragments of stems. The diameter of this tree is 4 meters and approx height 30'. Debris from walk beneath tree. Greatest number in center and fewer to outer edge. The squirrels⁽²⁾ had been feeding in this tree June 27 all day but at 8:00 A.M. today they were not in tree. This area is east of Campanella.



University of Kansas, Lawrence, Douglas Co., Kansas

June 29, 1974.

a 13 lined ground squirrel (*Spermophilus septentrionalis*) ran across road NE of Chi Omega fountain. One reported on lawn N of Murphy Hall.

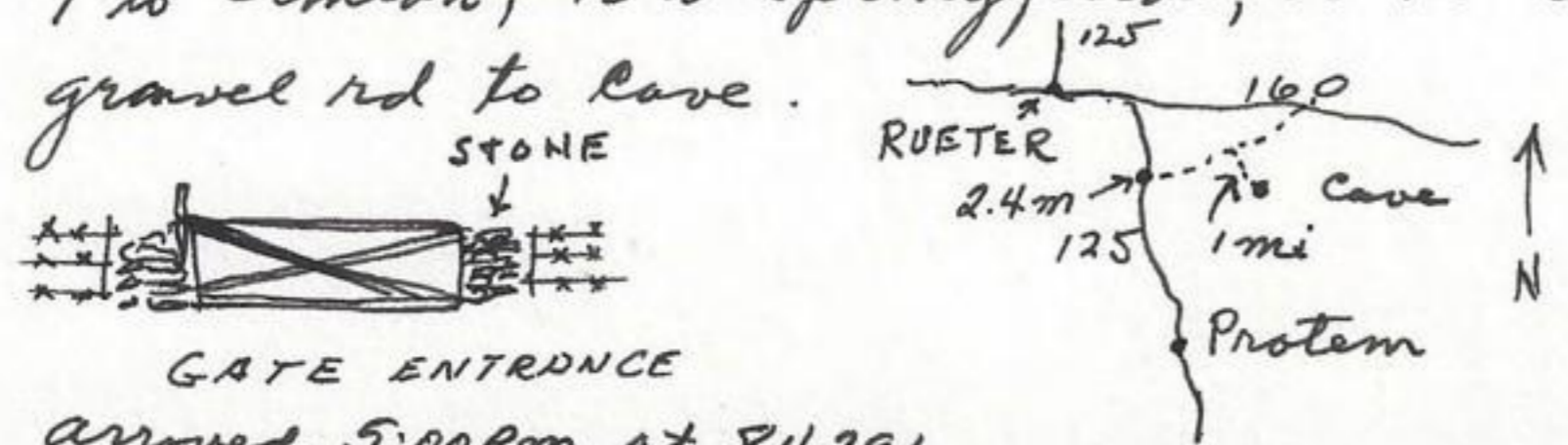
Museum Natural History, Univ. Kansas, Lawrence, Douglas Co., Kan.

June 29, 1974

Honor Biology I made trip to Ozarks Underground Laboratory including Ann Albrecht, Val Brown, William Chance, Barbara Hershey, Melissa Hett, Christopher Luecke, Carolyn Messer, Christine Petrell, David Wilson, James Bee and Annette Bee. Karen Harris and Catherine Heard not able to go.

Equip consisted of 3 tents, sleeping bags, meals (prepared individually) for 4 meals. Admission fee \$5.00 and students shared gas expense of 3 cars. my car & trailer

Left University at 9:25 A.M. at mileage 84014 (Other 2 cars left at 7:00 A.M. Temp 68°F and strong wind from S all the way. Last 4 days have been cool and windless. Arrived Clinton at 84136 at 12:55. Followed itinerary. 59 (Kansas), 68 (Kan), Harrisonville, 7 to Clinton, 13 to Springfield, 65 to 160, 125 to 2.4 mi. S thence on gravel rd to cave. At 2.4 S of 160-125 junction is a barn and home with empyrean tin roofs. Two drainage systems are crossed before reaching the 2.4 mi turnoff.



arrived 5:00 P.M. at 84296

and mammals
Birds in area of cave:

tattler called occasionally, 4 redbellied woodpeckers, white tailed deer, 5 field sparrows (one group), chipping sparrows, blue grosbeak, catbird, indigo bunting, crow, vulture, pileated woodpecker (1), whip-poor-will, chuck-wills-widow, great crested flycatcher, red-eyed vireo, gold finch, yellow-billed cuckoo, cardinal, chickadee. The chuck-wills-widow called all night to twilight. At close range the first click is heard followed by 2 notes with greater accent on first. The same bird at a distance ~~has~~ has only the last 2 notes that are audible. The whip-poor-will has 3 distinct notes with accents on first and last and the call is given much more rapidly and repeated at less of an interval than the chuck-wills-widow which ^{more deliberate} in song and interval. With many dead trees there is a ^{good} chance that the pileated woodpecker will increase in numbers.

The following are remarks made by Tom Aley in interpreting the cave area.

Temperature inside cave an average of 58°
There is 5 acres of floor space in two main passages. The trail is to protect the floor of the cave. Tracks made on surface will last for hundreds of years.

Millipeds occupy a micro-habitat and are restricted to a small fraction of the cave area.

Near entrance of cave are wall scribbles dating from 1887, some chert chips. Clovis late woodland → Dalton.

millipeds had adaptive characters that made it possible to inhabit caves as climate changed on the outside of cave.

Entrance is Pine wood.

Crickets have long legs & antennae.

Entrance passage way dug out with dynamite. The walkways are cement. Ceiling collapsing because of change of stress. 1000 ft of cobble used by National Geographic's film "Creatures in the Night".

Bobby Hester is listed in cave as of June 7, 1887.

Eight years ago sticks were placed in cave to see how they were utilized for food. Cave have limited food supply.

Grey bat (*Myotis grisescens*) weights from 1/3 to 1/5 oz and eats weight every night in consuming 1000 insect each night.

Guano is deposited in cave which is high in energy - 3 1/2 calories per gram of guano. Guano falls in creek etc and 90% is lost as potential food for cavecreaks.

Carbonic acid causes limestone to dissolve and water evaporation causes precipitation of calcium carbonate as

speleothems. Humidity 100% in cave.

Heat from surface sinks as far as 60 feet.

Water enters cave and loses CO_2 and forms carbonic acid. Formations are due to loss of CO_2 and precipitation of ^{calcium} carbonate.

Cave coral attached by bacteria (used in Europe as anesthetic) as is of the consistency of toothpaste.

Solomite is Ca Mg carbonate.

Drip ceiling. Many oxide deposits on rocks.

2 kinds of underground water: 1) ^{precip} Hamonite + calcium carbonate

Joints are like fault but do not move. Cracks let water in.

Lily pads of crystalline formations.

at 80' below surface dripping from ceiling & stalactites are measured. Calcite and aragonite formed.

Dripping from stalactites constant, but varies according to surface flow.

Land mass is not a good filter and is more like a Swiss cheese filter in which impurities filter thru.

Harst is cave terrain

Caves are not static features but record influence of surface & land features.

Stalactites are receding because of change of water content. Different surface climates determine different formations. Yellow-checked vole & Arctic lemming have been recorded in nearby caves. Spruce fir at one time, now hickory-oak.

Snail on manganese rock. & new genus. Total range smaller than a subdivision lot in an American town.

70 species of animals in cave and very abundant in terms of fauna. Their presence due to bat guano as source of food.

Collapsed rock from bedding plane on roof then erodes away on floor.

Weir. V shaped measures flow of water.

Bedrock floor of cave creating poollike structure in stream.

Fungi grows on guano and is white.

Fallen formation 170' below surface and is below a grassy area Springtails (Collembola) on platform led & feeding on bacteria

3" salamanders in water pools. Trails in pool can be seen.

White spiderlike creature on surface of water.

Amphipods on bottom of pools

The grey bat colony, move around cave from one area to another.

Guano remains in cave and indicates bats have been in cave for hundreds of years.

One salamander was curled in a concavity on side of wall. Larva salamanders have feathery red gills and lives in stream. Adults are genetically blind. 95% show no photo response. Larva have functional eyes. Approx 2000 in this cave and occurs only in the Ozarks. Very little is known about its ecology, food or reproduction. The eggs have never been found. It is on top of the food chain.

70% of millipeds are in one part of cave. many on top of guano.

Bones of bear, weccary, jaguar found in cave (Pleistocene forms)

Salamander stores food in tail.

Cave ice = calcium carbonate.

Old stream passage 60-70 feet above and is oldest part of cave.

As one goes up cave gets older.

Ceiling of soft material shows bat claw & foot imprints

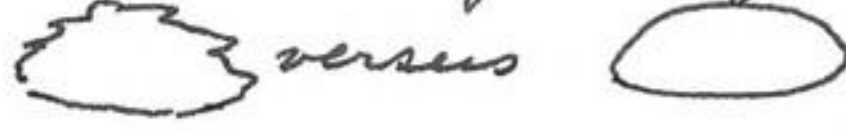
Raccoon tracks in pool of cave and presumably eats salamander.

This means that top of food chain is at surface of ground and shows interaction between surface & interior of cave.

Salamanders may be cannibalistic

Soda straw stalactites hollow on inside. water loses CO_2 on outside of drip & deposits calcium carbonate.

many cones in Missouri have red clay. It is not clay but silty clay loam with size particles like those found in river deposits. Aley does not believe in geomorphic cycles in cave development.

Collapsed chamber floor moving to ceiling. These are rooms of rough jagged rock surfaces in contrast to solutional passages which are have smooth curved walls. 

Flow stones on walls.

Web worm lives in cave and spends 8 1/2 - 9 months in web. Lives off gnats then changes to adult. Adult stage is few days then turns into fly.

2100 feet of cave in trails, rest kept in natural state.

Stromatolites are remains of Colonial blue-green algae of Devonian age 450 years old.

Chert nodules of round concentric concretions.

Surface area. June 30, 1974

Landscape always undergoing change and is dynamic and similarly caves are undergoing sympathetic changes.

Ozark uplift was flat on top and landscape not hills but dissected valleys and summits show concordance.

Valleys result from fracturing of joints where are due to regional uplift.

Developmental landscapes are related to rock, weather and vegetation.

Sink hole a depression in land surface that has internal drainage.

A 5' wide sinkhole disposes 50 gal per minute to stream 80' underground.

Discrete zone recharge occurs in localized areas that can be pinpointed and mapped and contains a lot of water in a little area. Enters in places like sinkholes, stream beds and forms water falls in caves.

Diffuse zone recharge is diffuse water moving down uniformly everywhere. It seeps thru the rocks and forms stalactites.

Underground water can be either water in storage as ground water or water in transit as a cave stream.

Well and spring water are different because of the two kinds of water listed above. They are chemically different.

Sink hole is discrete recharge and is a tributary of the cave stream system. It carries elevated dirt.

People dump trash in sink holes.

Club moss spores are 33μ and 10-15 times larger than bacteria. They are colored and placed in surface waters where they enter cave system and can be recovered at effluent part of cave exit. They are not filtered out and show rate of water movement. These spores are trapped in nylon nets and have been traced as far as 40 miles away.

Ground filters are not effective.

What is perceived wrongly causes wrong decisions and wrong effects.

Septic tanks if improperly placed can have discrete recharge without surface expressions.

The only thing that kills bacteria underground is time and oxidation.

Cave holes can become smaller rather than larger.

Colluvial soils are from hillside deposits and form in valley below. They are fine textured and hold more water. Supports more tree growth.

Some plants and animals are:

Junipers, winged elm, hickory, white oak, persimmons, mulberry, green briar, dogwood, ferns, sassafras, hackberry, pileated woodpecker, flea beetle, redwing blackbird, Queen Anne's lace, whip-poor-will, chickadee, junco, prairie pea, ironweed, wild rose.

South facing slopes dry, N face slopes wetter and cooler. This surface condition is reflected in cave system below.

Stromatolite as fossils on surface as well as cave speleothems. chert is silicon dioxide

60% soil content runs off by dissolving

40% soil remains due to insolubility of chert.

marsh pond from sidehill spring has sagittaria & cattails bordering and algae & mosses in center. Sphagnum common. nutrients from nitrates, leaves, Calcium carbonate. On side of pond are tracks of fauna and adult white-tailed deer and raccoon. Vultures flew by overhead. Many kinds of dragon flies.

Grassy area in bottom of valley and grazed.

Chert stream channel is a discrete recharge zone and water sinks into drainage system of cave. Water disappears rapidly after rains.

Tree burls due to insects

Christmas ferns among dolomites along N slopes.

Black gum leaves turn brilliant red. makes good furniture.

Few marmot holes

Wild hydrangia present.

Yellow-bellied sapsucker drills circular ^{series of} holes on cedar and a maple and only these two kinds of trees. The arrangement is the best method for ^{finding} tapping the sap of the tree.

Sugar maples only ^{found} trees in valley and have a blackish bark.

Viable viruses were introduced into surface streams and then allowed to filter into cave system. These viruses were traced for a mile in underground passages and were found to be still viable.

Information supplied by Aley should have greater scope and greater detail for college students. A surface tour should precede the cave tour. A colored slide program would enhance the value of the visit and models of the cave and cave development would be useful. Three days would be better than two 'half days'. Entrance fee could be higher say to at least \$10.00 per person. Camping facilities (ground surface) should be better. Left 1:40 P.M. (30th) at 84296! Arr. Lawrence 9:00 P.M. at 84575

2780 mile

13/10 mi. N, 13/20 mi. W R.R. crossing (highway) at Vinland, Douglas Co., Kansas

July 4, 1974

Checked albino dickcissel at 8:40 P.M. at 9:00 P.M. it was still singing but even with binoculars it was difficult to see details of bird because of fading light. On June 30 it was singing at 9:00 P.M.

402 Yorkshire Dr. Lawrence, Douglas Co., Kansas

July 6, 1974

Cat brought in a Microtus nemoralis this A.M.

740706-1 Microtus nemoralis 131-23-17.5-10-37gms. ♂ testes 11mm

NW Vinland, Douglas Co., Kansas

July 6, 1974

(See June 23 for locality). Visited area at 10:30 A.M. Day Clew & hat.

Photo 740706-2	albino dickcissel	On wire	hat.
" 740706-3	"	"	on tree
" 740706-4	"	"	on wood stem tree
" 740706-5	"	"	on tree ^{wire} showing yellow
" 740706-6	"	"	"

10 dickcissel in 2 mi area from above to that point.

Fewer from there to Lawrence area (Waharusa valley).

This evening at about 1/2 hr before sundown visited some area as above with Dennis, Judy Daily and Annette. The male albino was in top of singing tree where it was singing. Dennis photographed this bird. From the singing tree it flew E across road to highest tree (approx 40') where it remained for about 4 min. and then returned to general nesting area. Dennis followed and bird made two adjustments, the female entered flew S out of area. The male then returned to singing tree and when approached flew SE to open field where we left it. Continued to Douglas Co. Lake where we had watermelon and fished with a small fly. Returned to Lawrence. At 9:30 P.M. the albino dickcissel was not calling (light fading to late twilight when lights not strong enough for discerning shapes or color. Enroute visited tower vantage point. Whippoorwill called there. A great blue heron was observed flying W about 1/2 mi. N of Douglas Co. Lake. It is the experience of the writer that the albino bird is more conspicuous when on the level of the observer or on or near the ground in contrast to the position of the bird on a limb of tree overhead. This would be an excellent bird to observe for territory defense as it can be traced with facility.

402 yorkshire, Lawrence, Douglas Co., K.
July 12, 1974

740712-57

Prepared for summer vacation:

- ✓ clean grease and oil from car motor
- ✓ repair windshield
- ✓ check alignment and brakes of both car & trailer (after 4:30 P.M.)
- ✓ pack wheels of car and trailer.
- moisture funnel & fan in trailer
- ✓ toilet
- water gauge
- ✓ wires for lamp.
- ✓ specimen tags (paper)
- ✓ safari lamp case

Dang Chang: Home 2077 W 62 Ave Van Couv
263-8858 or (home),
228-6469 Room 366,

Chris' number

Reference Library - Univ. Wash.
1-206-543-2060. From 7:30 A.M.
to 6:00 P.M. Mon-Fri. except
noon for class

mamm, ornith, tree, flower ref.,
insurance card, cotton, rain hat,
coat & pants, boots, fish equip.,
fly poles, camera, meter, lens,
film, scope, binoculars, tripod,
dry case, skin equip, traps, bait,
jock, chain, radio, shower,
spectacles, fluorescent, life preservers,
journal, note books, driver's license,
registration car, shoes, recorder, cassettes, watch, alarm clock, bat nets,
money, teeth, flashlights, counters, tools, sleeping bags, dark glasses,
hat, pack, sun glasses, pan for under seat. Bug bomb, sleep bag, shoes

week end 21-22 Grasses
" " 27-28 sailing

Home address P.O. Box 5504
4817 37th E Seattle, Washington.
1-206-522-6019 ZIP 98105

Grace 7015E 4th
R-1 Box 35 Enterprise, Oreg 97828
telephone (Clara Davis) 426-3218.

David Bee, Maryann & Brian
19135 SW Johnson, Aloha, Oregon
phone 503-649-2311 97005

July 13, 1974

Left Lawrence, 4:50, mileage 84861, temp 100°F, sky with
few clouds.

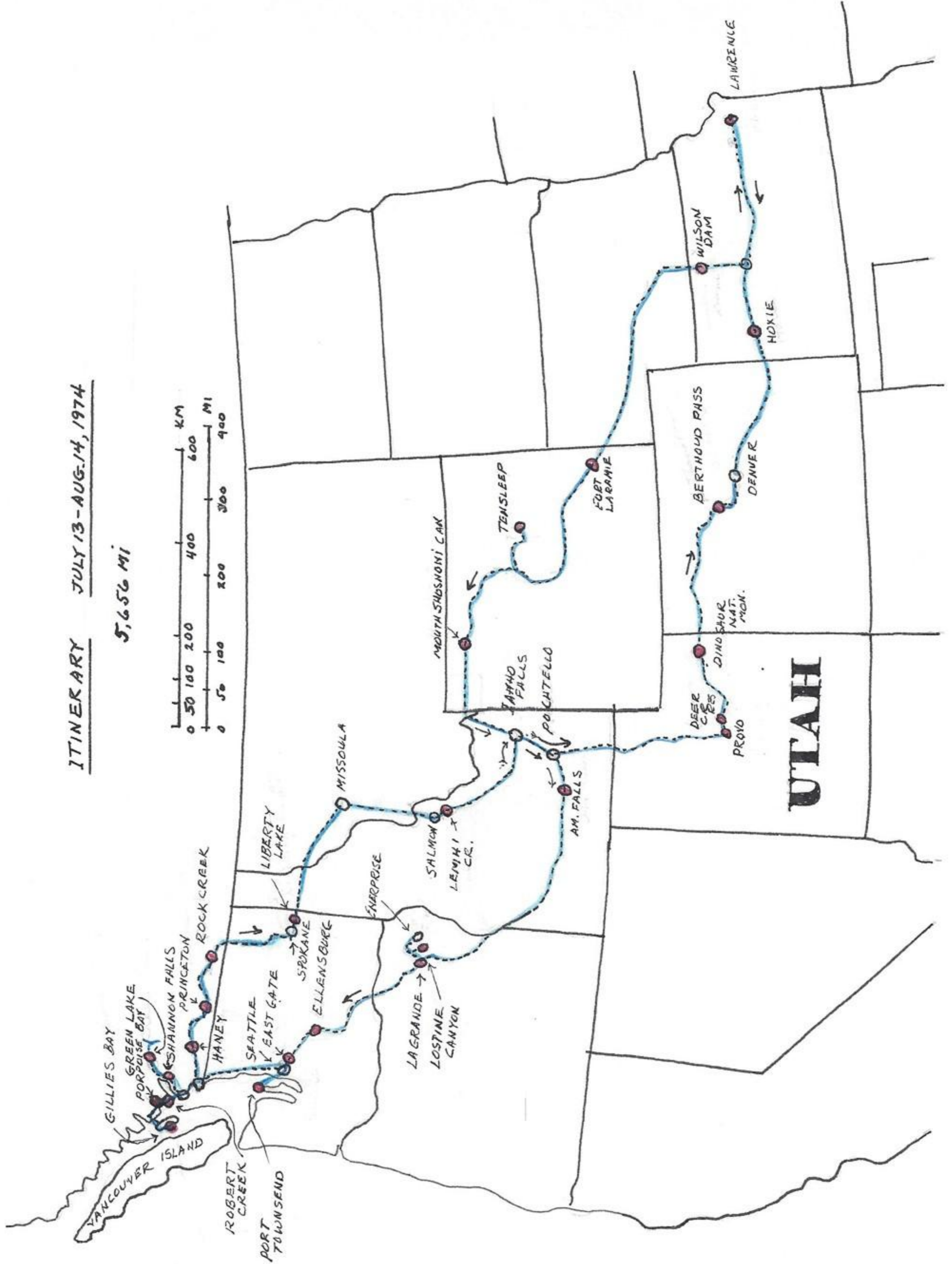
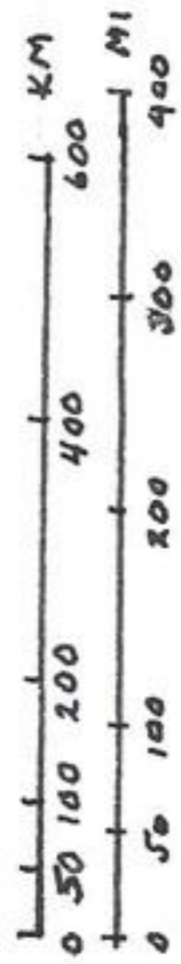
purple martin
english sparrow
grackle
cardinal
bank swallow
meadow lark
indigo bunting
yellow-billed cuckoo
red-head woodpecker
morning dove
eastern kingbird
hill deer

blue jay

between Lawrence & Topelva - Stall Rd.

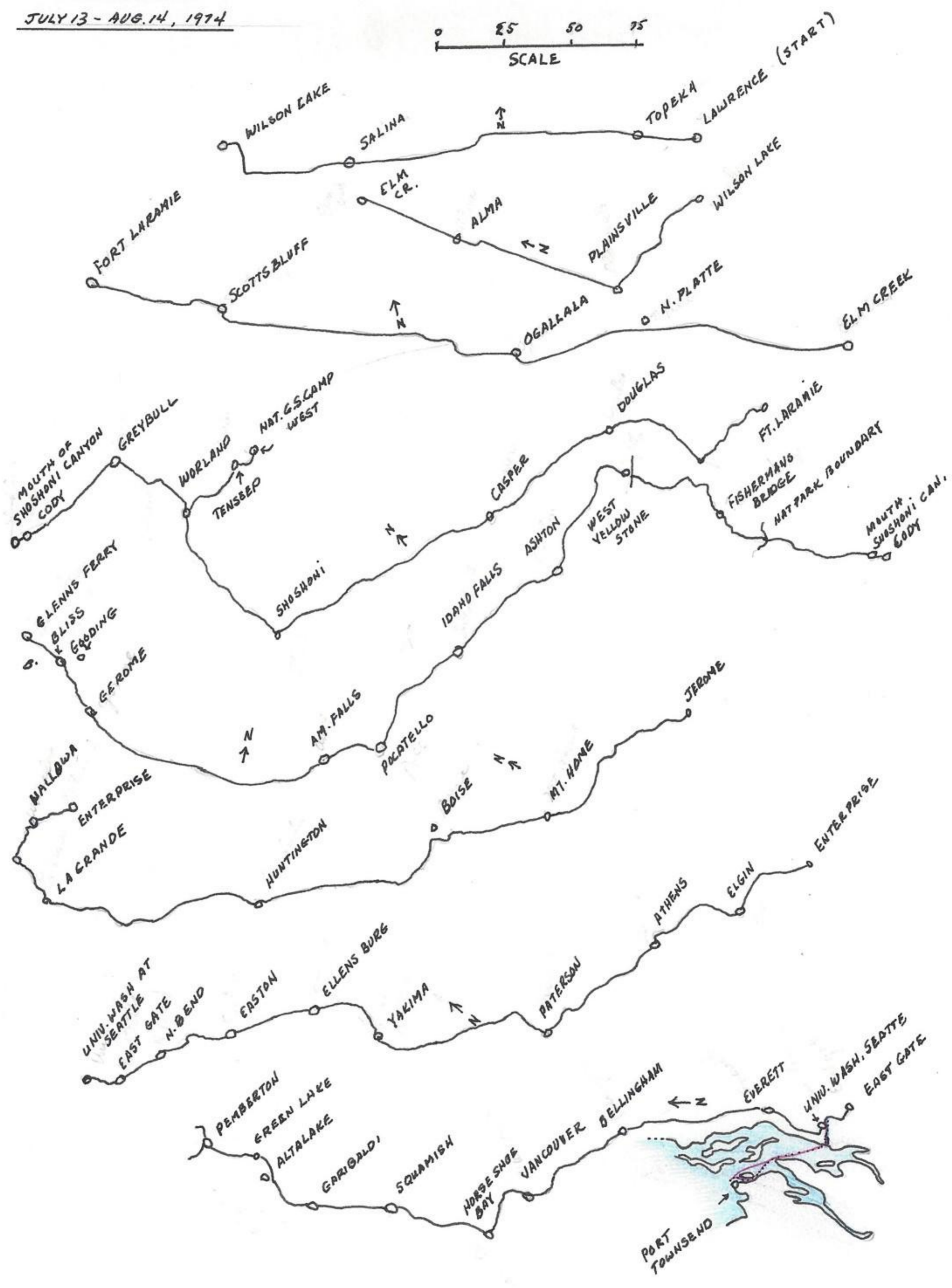
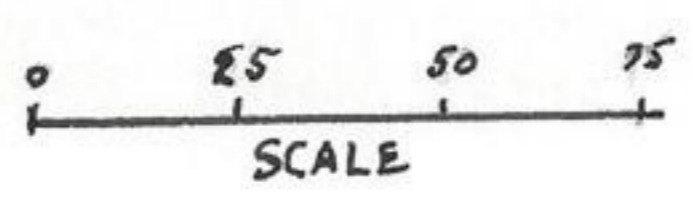
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5,656 MI



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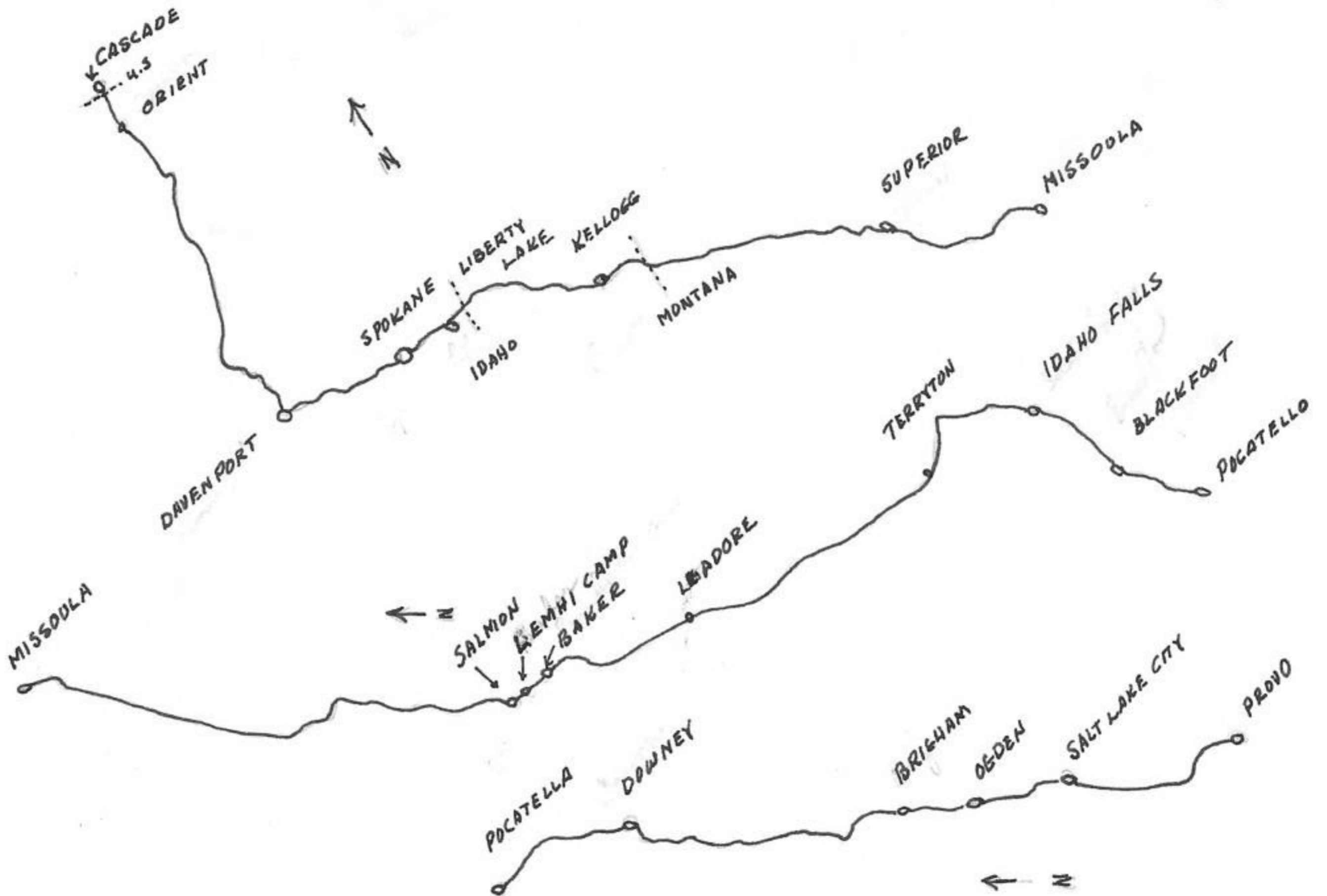
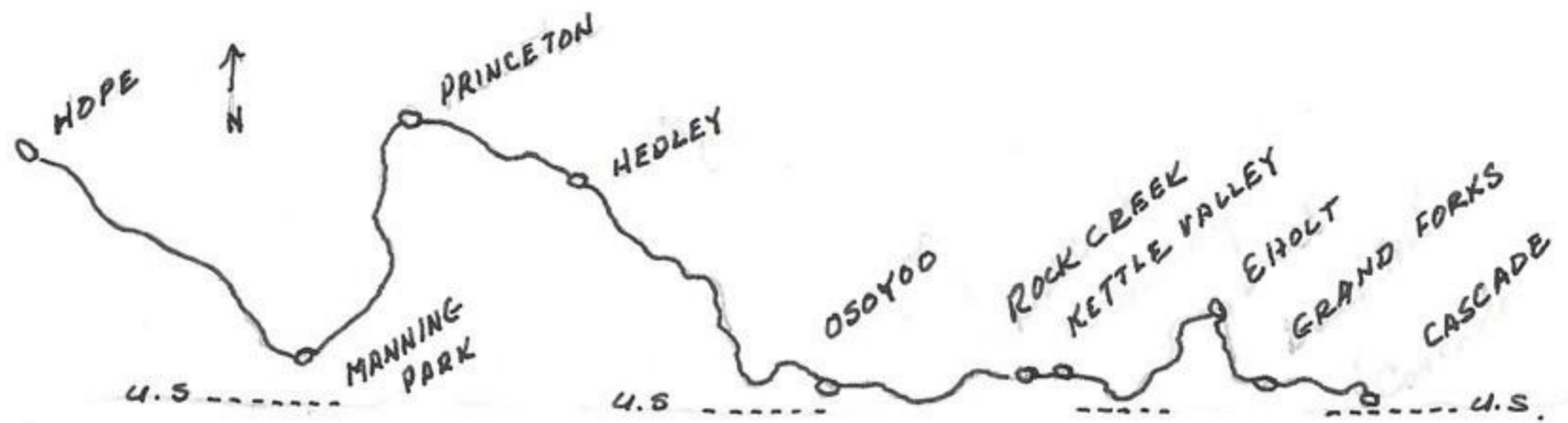
JULY 13 - AUG. 14, 1974

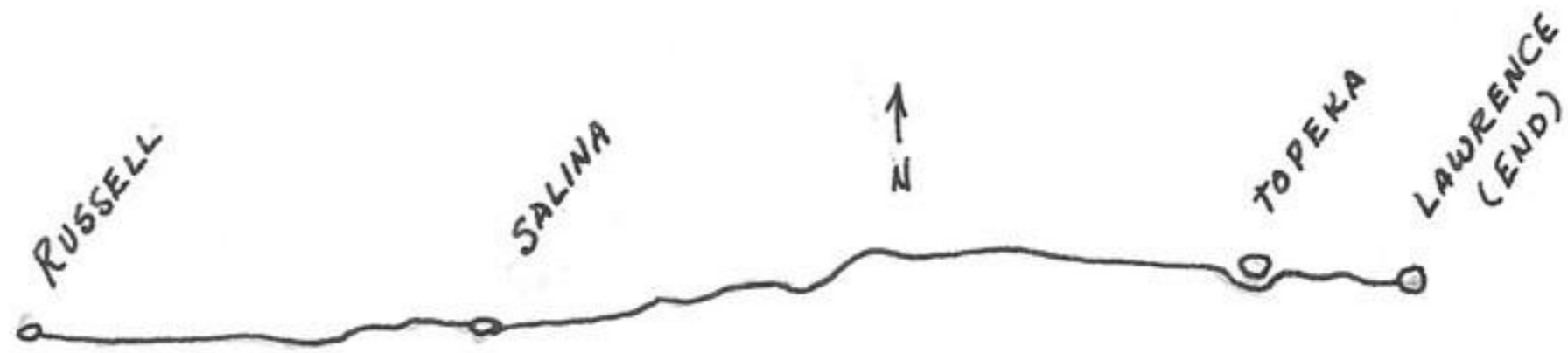
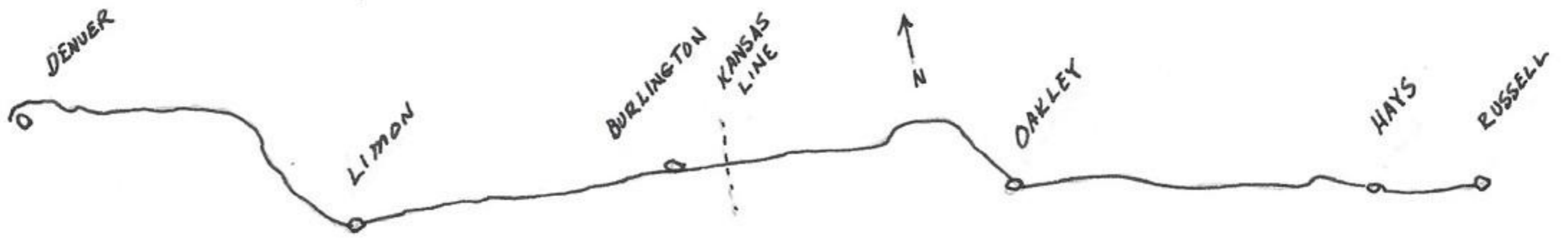
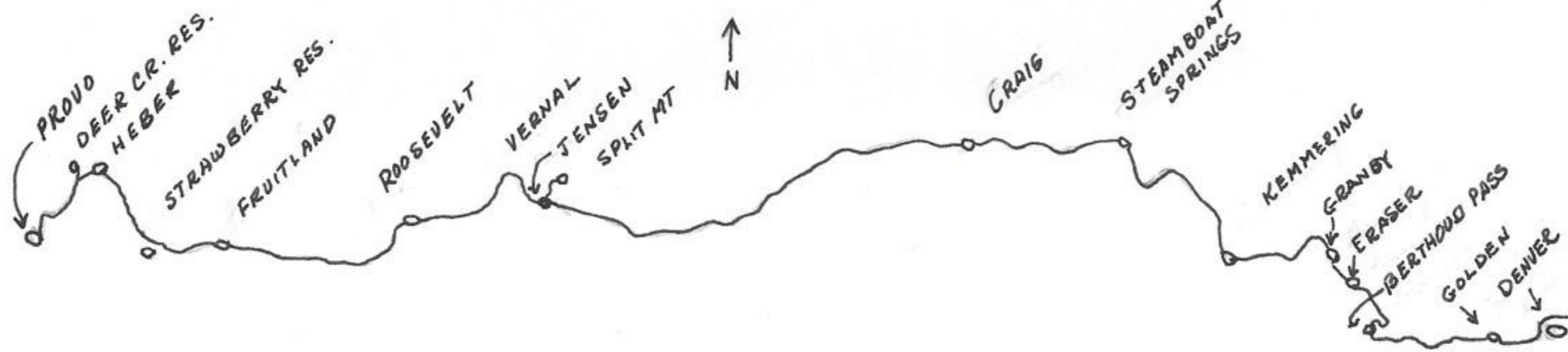


740713-60

CANADA SCALE

1 INCH = 39 MI



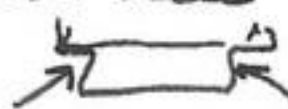


84986 redtail, 48907 Flint hill quetta, 740713-62
along the country is ^{908 Vera Road. all} ~~exceptionally~~ green with no evidence of
summer browning. Right-of-way vegetation is becoming
very lush and should make a good stand of vegetation for
animals. From junction city w the land become flatter
than the deep valley and ridges of the flint hills to the E.
Abilene 84970 at 7:30 P.M. Miles per gallon is 8. First flock
of 600 grackles and first flock formation of any kind of bird
since Lawrence. Usual birds - redwing, mourning dove,
mourning dove etc. The cumulus clouds of eastern Kansas
have disappeared here. 85000. redtail. ^{side rd} 238' at 006 mileage
85014 redtail. First night hawk. 85018 Elkhorn Creek.
2 raccoon road kills at 85020. 85022 redtail. These
hawks are associated with valleys. Sundown ~~at~~ 8:57 P.M.
Wilson dam at 85045 at 9:30 P.M.

Wilson Dam, Russell Co., Kansas
July 14, 1974

min temp 75°F, temp 91°F at 9:00 P.M. last night. Present
temp. 78°F. Sky clear and slight breeze from S. Wind
stopped shortly after sundown. meadowlark and
Spermophilus tridecemlineatus parvus in area. Also
killdeer, grackle. Left 8:50 A.M. Will keep complete record to Nebraska
4 meadowlarks, 4 meadowlarks, horned lark, 2 meadowlarks,
mourning dove, mourning dove, meadowlark, 8 cowbirds,
meadowlark. 494 S end dam. 50 barn swallow feeding
grackle, 3 mourning doves, w kingbird, meadowlark, 3 cow
birds, meadowlarks, meadowlark, 2 meadowlarks, mourning doves,
meadowlark, 2 meadowlarks, marsh hawk, 4 mourning doves,
056 highway 18. 058 Lucas 5 m. doves, w kingbird, meadowl.
062 sparrow hawk, 063 3 redtails 1/10 mile apart. M. dove,
063 redtail, sparrow hawk, 2 meadowl., shrike, mourning dove,
m. dove, m. dove, m. dove, 067 redtail, w. kingbird, m. dove,
m. dove, w kingbird, w kingbird, m. dove, 2 w kingbirds,
m. dove, w kingbird, m. dove, redwing, 7 redwings, 072
redtail, m. dove, 3 m. doves, m. dove, 85074 Waldo. Eng sp
in town but neither these birds or barn or cliff swallow are
being count. The Eng. sp is associated with house and sometimes
3/10 mi away. The swallows are common and using culvert or
bridges for nesting. Robin in town. m. dove, m. dove, m. dove,
m. dove, m. dove, chimney swift, 2 meadow larks, w kingbird

3 m. doves, m. lark, 077 redtail hawk. m. lark, m. lark, m. lark,
 m. dove, w kingbird, redshouldered woodpecker. 080 Paradise
 5 m. doves, 4 w kingbirds, 2 m. doves, 081 redtail, m. dove,
 081 Osborn Co. line, Song of meadowlark is western. 082 Turkey
 vulture, m lark, m. lark, w kingbird, 084 redtail, m. lark,
 m. lark, m. dove, m. dove, redwing, m. lark, redwing,
 2 redwing, redwing, redwing, meadowlark, 2 me. larks, 085
 prairie falcon on top pole, horned lark, m. lark. 088
 Natoma at 10:10 A.M. E. kingbird, 089 Cooks Co. line,
 redtail, 091 2 turkey vulture, one of them feeding on a snake
 at side of road the other circling 20 feet overhead. E kingbird,
 w kingbird, E kingbird, m. dove, m. dove, m. dove, m. lark,
 m. dove, w. kingbird, 2 m. larks, 4 cowbirds, 095 turkey
 vulture feeding on raccoon roadkill, m. dove, w. kingbird,
 m. dove, w kingbird, w kingbird, m. lark, 2 m. larks, w
 kingbird, E. kingbird, m lark, m. lark, w kingbird, m. lark,
 4 grackles, w kingbird, redwing, no starling so far. w kingbird,
 104 Plainville no going N (highway 183), eastern kingbird. The
 area so far is river valley and cretaceous stone is used as
 houses, barns, fence posts. Striped skunk rd. kill, m. lark,
 w kingbird, m. dove, redwing, m lark, Area flat and
 cultivated on both sides and so fewer birds. m lark, 116
 S Solomon River, 117 Stockton. (10:45), mockingbird,
 m. dove, horned lark, w kingbird, m. dove, m. dove, striped
 skunk rd. kill, m dove, m. lark, 126 Bow Creek. mockin-
 bird. w kingbird, m. dove, striped skunk rd kill, m. lark,
 m. dove, w kingbird, m. lark, m. dove, m. lark, m. lark,
 w. kingbird, e. kingbird, 134 N Solomon River, 134 Junction
 with highway 9. Blade. m. dove, 2 m doves, w king-
 bird. 137 Deer Cr. 139 Phillipsburg. temp 92°F. m lark,
 m. dove, shrike, 3 redwings, 2 w kingbirds, shrike, m. dove,
 m. dove, m. dove, redwing, redwing, m. dove, Baltimore oriole,
 m. lark, m dove, m dove, 2 m. doves, m dove, w kingbird,
 w kingbird, m. dove, m. dove, 2 redwings, m. dove, m lark,
 3 m larks, m. dove, m. dove, m. dove, m lark, pheasant
 rd kill, 2 m. lark, m. dove, yellow shafted flicker, 2 redwings,
 2 m doves, w flycatcher kingbird, w kingbird, robin, 2 m. doves,
 grackle, m. dove, 158 Nebraska and of Complete Census,
 159 Prairie Dog Creek. Reference between Kansas & Nebraska
 is more corn in Nebraska. no new kinds of birds & numbers
 about same. Occasionally hear dickcissel. 183 badger
 rd. kill, 205 Platte River & every low. The main bird
 & interslate 80

along 80 is m lark. Only occasional m dove or kingbird. Few redwing wherever conditions favorable, no ducks. Wherever vegetation is burned along road the pocket gopher mounds are common and visible. 331 redtail. McConaughy Lake. On N side sandunes sealed in and century plant growing profusely at least every 10 feet. Beach beautiful and like marine. 356 first Artemisia. 357 striped sk. rd kill, 429 first 13 lined ground squirrel since leaving Lawrence, area like Wyoming. 434 good marshlands and redwings. Chimney Rock to NW. 439 redheaded woodpecker. 441 Dayard. at 4:55, 454 Minutaire. 477 30 grackles in flock. 482 40 grackles. Cottonwoods small but very extensive ^{in valley}. 6:55 at 486_{mi} at Henry, 486 Wyoming border. 499 sparrow P.M. hawk 505 sp hawk, 507 sp. hawk, 508 first jock rabbit. Arrive Fort Laramie Nat. Mon. 578 at 8:30 P.M. Camped just w of Army bridge over the Platte River (constructed 1875). approx. 400 nests of cliff swallow on new ^{bridge} at Army bridge 

Fort Laramie Army Bridge, Goshute Co., Wyoming
July 15, 1974

Caught 3 *Peromyscus maniculatus*.

740715-1	<i>Peromyscus maniculatus</i>	152-19.5-65-16-20gms	♂ testes 8mm
740715-2	"	150-19.5-64-16-21gms	♂ " 8mm
740715-3	"	155-20-66-16-23gms	♂ " 8mm

min temp last night 53°F. Max at 9:00 84°F

Birds in area. mourning dove, yellow breasted chat, red shouldered flicker (4 ^{dirt} in road among cottonwoods, red-eyed vireo, brown thrasher, robin, ^{Bullfinch's} Baltimore Oriole, eastern kingbird, killdeer, large raccoon tracks in road, 4 skunk tracks to one raccoon tracks, pheasant tracks, deer tracks, great blue heron, magpie, meadow lark, starling, redtail, 2 eastern kingbirds vigorously attacked a sparrow hawk and displaced it, Brewer blackbird, grackle. Left 9:00 A.M. at 85519. Photo 740715-4 ^{Annette on} of Army bridge and 740715-5 on N Platte River. ^{approx. 100 years old.} 522 sparrow hawk road kill. 523 raccoon rd kill, mourning dove flying 48 M.P.H. 535 shrike, 546 first ^{on trip of} lark bunting at junction 25-26, 556 rd. kill porcupine, 560 sparrow hawk. 575 redtail, striped skunk rd. kill. 3 striped skunk road kills in last mile. 579 north Platte River at Bridger Crossing. 587 adult golden eagle sailed ~~over~~ along ridge and then closing wings dropped behind ridge. 592 where road crosses railroad tracks

W of Douglas. 593 N. Platte River. 612 turkey vulture. 613
 Bishop Road. 627 Badger rd. kill. 658 redtail, a second
 one. 660 Coyote road hill. 664 sage thrasher 672. first
 2 antelope. 673 one group of ♂ ♀ and 2 young, one group adult
 and young and another of 2 adults. 680 antelope. Have
 seen both jackrabbit and cottontail road hills but very few.
 684 Powder River. and striped skunk rd. hill. Will keep ^{grazing land} ~~at least~~ ^{at least} ~~foot~~
 complete census from here to Shoshoni. of typical short sagebrush.
 685 S. Fork Powder River. 686 2 adult & 3 young. Lark
 bunting, horned lark, lark bunting, lark bunting, m. lark,
 lark bunting. 689 Helli half acre. Lark bunting, m lark,
 690 antelope rd. hill, lark bunting, 691 3 ^{adult} antelope. 694 Waltman
 Road. 695 Badger rd. hill, lark bunting, cliff swallow, sage
 hen rd. hill, horned lark, meadowlark, m lark, 3 lark
 bunting, lark bunting, lark bunting, lark bunting, lark
 bunting, lark bunting, lark bunting, lark bunting, lark bunting.
 703 Dyland, pop. 10. 4 bunting, meadow lark, lark bunting,
 sage thrasher, m lark, lark bunting, l. bunting, l. bunting.
 2 lark bunting, 3 lark bunting, lark bunting, 2 sage thrashers,
 2 lark bunting, lark bunting, 2 m. doves, 1 lark bunting,
 m. dove, m dove, lark bunting, 2 lark bunting, lark
 bunting, 2 lark bunting, lark bunting, 2 cliff swallows, 6
 road hill sage hens? sp., lark bunting, lark bunting, 2 lark
 bunting, lark bunting. 720 3 young 20' from side of road.
 721 1 antelope, 3 antelope, lark bunting 722 Moneta. exact
 From here to Shoshoni will keep census according to mileage.
 Time 4:25 P.M. 24.0 cottontail rd. kill. 24.8 lark bunting.
 29.0 lark bunting. 29.4 rabbit rd. kill. 30.5 2 m doves,
 34.3 2 m doves, 3 m. doves, 4 m doves, all within 1/10 mi.
 38.4 prairie falcon. 38.8 Cottontail. 39.5 antelope in ^{surface} dry but
 probably warm creek bed as if using heat for therapeutic
 purposes. 40.4 m. dove, 42.0 end of census. 85743.0
 at Shoshoni. Will keep complete census to Windy Canyon
 but not associated with mileage. 3, 8, 7 mourning doves
 in wheat area near (2 mi) Shoshoni. Will close census here
 as incomplete. It is interesting to note that between
 Powder River & Shoshoni there is a direct correlation between
 antelope and lark bunting. 745 Badwater River dry.
 764 Marmat rd. hill, white throated swift. 770. Big Horn River.
 774 Thermopalis. Windy Canyon is excellent for traversing geol.
 section. 776 Photo 740715-6 of hot springs at Thermopalis

These hot springs have been active down river from main group by about 410 miles. 789 second magpie so far on trip. 789 Washakie Co., line. striped skunk rd. kill. 806 Big Horn River at Worland at 630 P.M. 99°F geol. 822 3rd magpie 833 Tensleep. Several good photographs, exposure between Tensleep and Worland. 7:05 left Tensleep at 833. 836.9 leaving main highway. 842 15 magpies in 2 miles. 842.7 end pavement. (Canyon Creek Ranch to right). 846 cottontail. 847 ♀ mule deer (when thunder directly above deer did not move). 848 cottontail. 849 2 rd. kill cottontail 850 2 deer (mule). 854 Staff Camp at Girl Scout National Center West. Has been raining lightly on way up. This is a fabulous place with deep canyon on 3 sides and high country to N & E and distant basin view to W.

Girl Scout National Center West, Washakie Co., Wyoming.
July 16, 1974

Min temp last night 59°, max (at 9:00 P.M.) 76°F. This morning observed the following ^(6000 ft) from trail just east of Staff Camp area. 4 red-shafted flickers, redtail on ridge near water tank, Brewer sparrow, Brewer's blackbird (these birds moving up slope from S. green-tailed towhee, Eutamias minimus, meadowlark, chipping sparrow, vesper sparrow, sparrow hawk, marsh hawk.

On trip (9:00-12:00) with group of 18 scouts led by Polly observed R. mt. bee flower, Eutamias minimus, rock wren, cottontail, Tamiasciurus, Clarke's Crow, Photo 740716-7 of group of Polly's scouts (from Texas, Michigan, Pennsylv. Photo 740716-8 and 740716-9 of canyon with frame of ponderosa pine. 740716-10 and 740716-11 of Chatfield Cabin & Polly. Built about 1890. Mt Chechadee, white throated swift, badger digging. mt. bluebird, mule deer aviprint 68 mm. m. dove. The giant inland rye grows at edge of cones as result of increased fertilization there.

At trailer observed 8 white-throated swift hunting over sage brush flat east of Staff Camp.

Set 100 traps in Chokecherry draw area. 50 in vegetation of Melposum in Chokecherry Draw at base of canyon wall (see map and 25 in ponderosa forest on Melposum on S side of Wilkes Spring Canyon and 25 on W side (upper ledge) of Cooks Spring Canyon above Cooks Springs. (see map). House wren 4, Cassin's purple finch 12 (feeding on inflorescence of cliff rose), Townsend solitaire, Traill's flycatcher, gray-headed junco (2), Mac Gellivray warbler 1, pine siskin 8, robin 1. Allen track 62 mm. 4.2 miles from Chokecherry draw to Camp, violet green swallow 3.

Suggestions for Camp.

Use weatherproof nylon on excavation site markers and replace when needed.

Have scout get involved with activity at Camp.

Form archaeological protocol for digging (no pot-hunting)

Don't touch pictographs

Limit speed to 12 miles per hour on all roads to reduce ^{dust,} upkeep, and improve quality of camp value.

Decrease danger on ledges

Keep scouts on established trails (can be natural trails)

Reduce overall car traffic.

Stratigraphy in area:

Willwood - Tertiary

Chugwater - Triassic

Phosphoria }
Dunwoody } - Permian

Tensleep (ss)

Arnolden (ss/shale/dolo) - } - Penn

Madison (limestone) - Mississippian

Big Horn Dolo - Ordovician

Cambrian

Gallatin }
Gras Ventre } - Cambrian

Flathead }

PreCambrian

(gneiss, diabase, dike intrusives, pegmatites, quartzite - PreCambrian)

CANYON

CREEK

CAMP I

CAMP II

CAMP III

CAMP IV

CAMP V

NATE'S CORRAL

CANYON

WEST ROAD

COORDINATE METHOD:
QUARTER SECTION 15D
OF FULL SECTION #3

COOKS

COOKS

CHATFIELD CABIN

PARKING LOT

BIG 'A'

Gentry Spring

ROAD

SAWMILL DRAW

Bob Spring

Bob Spring

Bob Spring

Bob Spring

Bob Spring

Girl Scout National Center West, Washakie Co., Wyoming

July 17, 1974

Sun up at 6:20 A.M.
Min temp last night 58°F, 71°F
after sundown.

Collected the following mammals from Chokecherry Draw.

<u>740717-1</u>	<i>Peromyscus maniculatus</i>	160 ¹⁶⁰ -68-21-17-19gms. ♂ testes 8mm
<u>740717-2</u>	" "	166-68-20-17-16gms ♂ testes 8mm
<u>740717-3</u>	" "	149-68-22-17-14gms ♂ testes 6mm
<u>740717-4</u>	" "	108-66-20-18-27gms ♀ 2x2 emb 18mm
<u>740717-5</u>	<i>Microtus</i>	159-58-20-13-25gms ♀ ut. normal
<u>740717-6</u>	<i>Eutamias minimus</i>	194-88-32-16-44gms ♂ testes 8mm
<u>740717-7</u>	" "	190-85-30-15-33gms ♀ testes 4mm (degenerative)
<u>740717-8</u>	" "	203-88-33-15-47gms ♀ ut normal?
m. on m. on <u>740717-9</u>	<i>Peromyscus maniculatus</i>	160-66-21-17-20gms ♀ ut. normal
<u>740717-10</u>	" "	145-67-21-17-14gms ♂ testes 6mm
<u>740717-11</u>	<i>Eutamias minimus</i>	198-90-32-15-36gms

young 2, (T.L. 168mm 4.5gms) of *Peromyscus maniculatus* from building at camp. Eyes closed, dark dorsal, white venter. On trap line observed one large mule deer buck with imprint measuring 80mm and two other tracks associated with this deer measuring 75 and 62 mm respectively. *Tamiasciurus hudsonicus* midden with tree nest 9 feet in ^{small} tree directly above the center of the midden. Numerous diggings in midden.

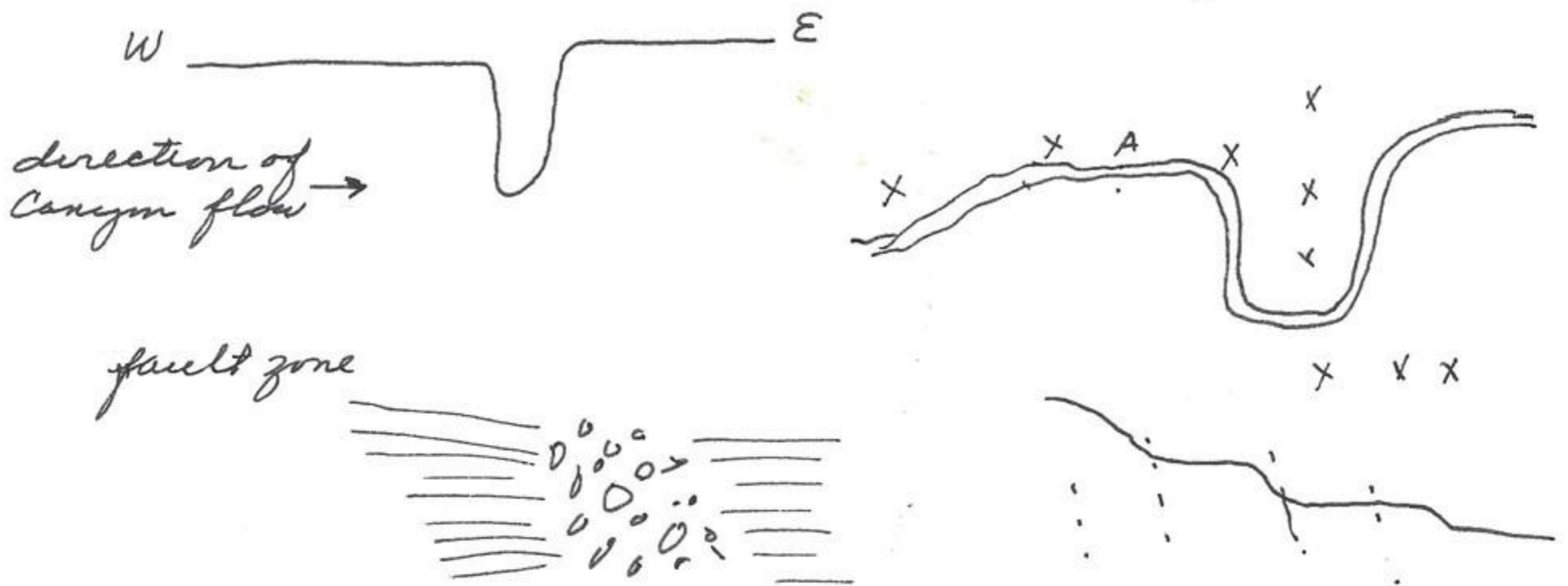
Left Camp 3:30 P.M. at 85872.3. Photos 740717-12 and 740712-13 of drag of white beds of Tensleep on fault running E-W along S end of range. This fault produces the deep eroded canyon and the dropped slope 9 of the fault, at 85876.6. Cultivated fields in foreground and Artemisia border. at 85883.0 photo 740717-14 of marmota flaviventris road kill. between trassie (chugwater slopes) and cultivated fields. Photo ~~858~~ 740717-15 of drag fault and lower from W end of cultivated valley. Exit of drainage from these fields is three deep canyon beginning at left of photo. At junction of 16-346 is 85887.6. Continued a ~~short~~ 1 mile up main canyon of Tensleep and then returned to Tensleep. Left Tens ^{left} 85893.5 and going W to Worland. Will keep complete census from here to Worland. Rabbit road kill at 85897.5. Photo 740717-16 at 85897.9 of black formation with white rocks ^{of} capping on slope of black formation. Scout Center can be seen in background. 85900.9 meadowlark 85902.5 magpie nest and rabbit rd kill. 85903.8 magpie & rabbit rd. kill. Area grazing land (wheat) with sagebrush averaging 1 foot high. 85906.6 rabbit road

kill. 85911.0 cliff swallow. 85914.9 Brewers blackbird. now cultivated valley + at 85918.0 in suburbs of Worland. and end of census. 85919.6 leaving Worland. Country in ~~the~~ sugarbeets. 85930.0 lark bunting, meadowlarks, mourning doves in area. 859953. approx 500 starling in one group. 859956. Greyball temp 96°F. 85992. 1 ♂ antelope and one at side of road. 85993 3 magpies at 85994. 85996 ♀ + 2 young antelope. 85997 4 antelope. 86007 Cody. mouth Shoshoni Canyon at 86012.8 where we camped at edge of canyon overlooking the Shoshoni River. white-throated swift in canyon. Sulphur odor when wind blows from E of S but not when wind is down canyon.

Some of the observations are as follows:
River has cut down in series of benches



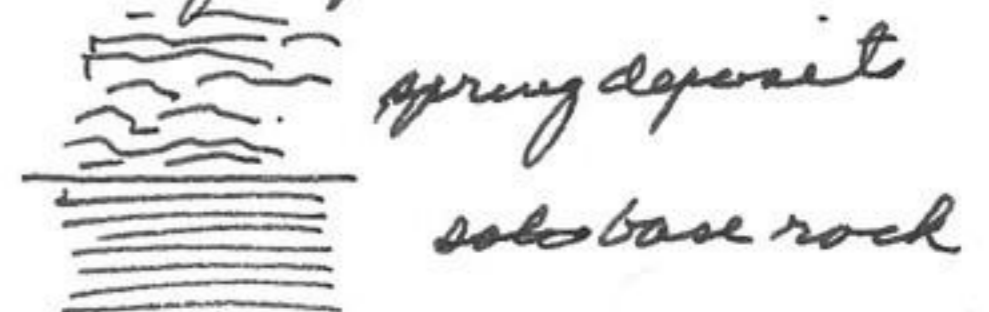
W-E profile shows up canyon floor level is lower than down river because of available water for erosion thus:



distribution of percolating waters from fault zone



side profile A



sulphur deposits in 6 fault lines across mouth of canyon marked X

Mouth Shoshone Canyon, W Cody, Wyoming.

July 18, 1974

Camped ^{at} edge river. min temp 70°F. 84°F at 9:00 last night. wind calm at 9-10 o'clock then down canyon until morning. Returned to Cody and mailed package of Pollip's and left at 10:00 at 86017. 86088 at Yellowstone Lake observed first roven since Lawrence. This seems incredible and may indicate effect of poisoning programs. 86090 of photo 740718-1 of Squeaw Lake at edge of Yellowstone Lake showing reflected Conifers & foreground of sage and blue flower. 86093 Fishing bridge. 86102 3 Canadian geese and 4 goldeneye ducks. 86103 buffalo. 86104 3 trumpeter swan, 80 Canadian geese, 20 red-breasted mergansers and other ducks. 86108 Artists point and photos 740718-2 falls and conifer border. 740718-3 wall of canyon to NE 740718-4 tets of river below 740718-4a " " " " 740718-5 tets of falls 740718-6 tets of river rapids W of point. Redtail marea 86115 2 roven. 86143 west of Madison junction photos: 740718-7 Trumpeters swan at edge of river 740718-8 " " " " " " " " 740718-9 " " in water, all same bed. 19 Canadian geese 200' beyond. Left Yellowstone at 86151 at 4:01 p.m. 86160 Idaho line. 86197 grey-ruff grouse on side of road. 86205 Ashton. and 25 crows. These were first observed since Lawrence! 86217 Henry Fork of Snake River and first yellow-headed blackbirds. 86219 St. Anthony. At 86221 will keep complete census to Kepburg. Magpie, Brewers blackbird, 2 Brewers blackbird, Brewers blackbird, yellow-headed blackbird, redwing, Brewers blackbird, Brewers blackbird, Brewers, meadowlark, Brewers, Brewers, sparrow hawk (86223), Brewers, Brewers. 224 entering Madison Co., Crow. 15 Brewers, Brewers, killdeer, 225 N. Fork Teton River. Brewers, end of census. 236 Thornton. will keep list to next town 238 Snake River. 239 Lorenzo. Brewers, Sp. hawk. (240), Brewer, Brewers, 8 starling, m lark, 243 Rigby. m. dove, Brewer, barn swallow, Franklin gull, 2 m. larks, Brewer, m dove, 246 Bonneville Co., 2 starling, m lark, m. dove, 2 Brewers, m. dove, Brewers, 254 Turn off to Idaho Falls Business and end of census from 86221 beyond St Anthony. There is a difference in numbers of Brewer blackbird with the greatest number associated with free open water & marshes to N. No striped skunk road kills or for that matter any kind of road kill

86303 Pocatello.

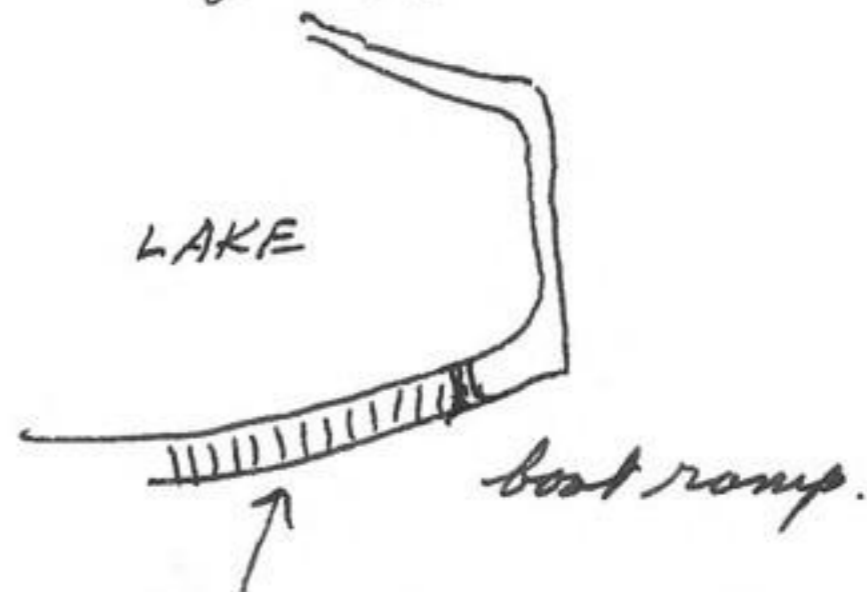
86334 at W side of dam of Am. Falls dam

at sundown. ^{8:30 P.M.} Camped here on beach.American Falls Reservoir, W of dam, Idaho

July 19, 1974

Min 56°F. Max 82°F at 9:00 P.M. last night. Calif. gull in area. English sparrows (at least 20) and starling (at least 8) are nesting in bank swallow nesting holes in sandy cliffs on west side of reservoir just N of W side of dam.

The English sparrow nests in many cases were extending out beyond the hole. One nest was 1 foot from starling nest. The swallows nested in localized colonies and



in one case English sparrows nested 10' away from colony. The swallows reacted by flying by the Eng sp & starling nesting sites. Their reactions are definitely being modified by the foreigners. One starling removed a feather from a hole and in one case both swallow and starling used the same hole.

A western Kingbird flew out onto the beach and was challenged by 2 Eng. sparrow. The Kingbird captured an insect on the sand. Last night a horned owl used top of cliffs and flew out over sands on several occasions. Left 86335 at 7:45 A.M.

Photo 740719-1 of trailer and Annette, showing cliffs in background used by English Sparrows and bank swallows. 353 great numbers of duck (approx 3000 in 10 miles) at point where road follows lake. 364 Raft River. 379 Snake River. ^{At} Ada Co.

line at 525, will keep ^{complete} census (2:40 P.M.). Temp. 527 Orchard turnoff. Indian Creek Reservoir beyond. Ducks. This is at mile post 70.

536 Brewers blackbird. 538 now at mouth of canyon entering the low valley and end of census. In this stretch of 13 miles only one bird was observed (the Brewers blackbird). 86598 Oregon line at Snake River at 4:50 P.M. Time. 605 junco with 371. Will keep complete census. Grazing & wheatlands. 606 bodger road kill. Cliff swallow. 612 Cliff swallow, 620 Turnoff

at Weiser on 30N & Snake River. and end of census. Only 2 swallows were observed on this census route of 13 miles. Gulls along river.

623 Huntington turnoff. Approx 40 gulls (California) and no ducks.

624 Baker Co. at 352 sign post. Will keep complete census. M. dove.

626 marsh hawk. 3:45 Pacific Time. Country grazing, sage brush and pot

La Grande, Washington

July 20, 1974

Camped at Bus Station in La Grande to meet Chris.*

3 magpies, 2 magpie, There is a brownish (lowgrowing) sunflowerlike plant that gives the country a burnt over effect, 630 Lime Turnoff above plant. 634 Lime Plant. 640 golden eagle soaring below and in front of a bold cumulus cloud. Bird nearly out of sight to eye. adult. 640 weatherby. 2 Cliff swallows. 645 Plano Road & now out of canyon and onto broad^{cultivated} valley. Brewer's blackbird, Brewers, Brewers, Cowbird. 330 signpost = 646 on car register. m. dove, 648 Durkee Exit. 651 Crossing RR overpass. It is remarkable how few birds are observed along route. Cliff swallow. 654 2 redtail with 1/10 mile. 656 4 Brewer's blackbirds. robin. 658 Pleasant Valley Turnoff. 660 Brewer's blackbird. 661 roven. 667 magpie. 669 Exit to Baker (first) and end of census (4:05 P.M.). 711 2 sparrow hawks. 717 La Grande. #

* Left La Grande 96728 at 645. 749 porcupine road kill. 753 sparrow hawk. 761 roven. River overflowing into some field. 774 Wallowa. 775 5 magpies. 792 Enterprise at Clara and Emory Davis home where Grace is visiting. Their home is the family home of the Davises. Clara, Grace & Emory are sisters & brother. Emory, who has lived in Enterprise for most of his life says that the hills were covered with conifers in early days and were cut over for fields. The valley was in brush. A beaver dam, since drained 40 years ago, still remains as sticks and mud. Oscar was superintendent of the lumber mill in early period and with after depression left area with Grace.

Population of Enterprise has remained relatively constant since the last 40 or so years. The Davis home has been renovated with picture windows and modern kitchen etc. Two saws are pastured for food. The mountain range would be a good one to leave undisturbed and along with the Snake & Salmon Rivers, could become an important wilderness area of proper biological extent. The lake just S of Enterprise is already becoming populated with coypu and habitat. Extension of roads into the higher country will ~~also~~ surely come with demand from Spokane to N. The area to E is not populated and becomes dry in contrast to the green valley influenced by the mountain range.

Left Enterprise for Lastine. at about 1 mi S of Lastine photos 7407²⁰19-2 and 7407²⁰19-3 of Lastine River showing canyon to S.

at 9:30A.M
Left at 87102₂. At this camp noted 8 American mergansers on log.
They were young and an adult. The young about size of adult.
87104 Thorpe to East. Now on Interstate 80 and travelling west. 87130
6 rosen in one flock. 87134 Casper. 87153 regular me Pass. Continued
to East Gate just W of Sammamish State Park.

Williamson Campgrounds, Lostine River, Blue Mountains, Wallowa Co. Oregon.

July 20, 1974

Caught the following mammals:

740720-1	<i>Zapus princeps</i>	[222-] [125]-32-15-31 gms ♀ ut normal
740720-2	"	243-142-32-16-40 gms ♀ ut normal. fat.
740720-3	<i>Eutamias minimus</i>	183-84-30-15-30 gms ♂ testes 6 mm
740720-4	"	168-70-30-14-28 gms ♀ ut normal

The *Zapus* were both taken from the entrance of a squirrel hole among dogbone which was among lower montane conifers. Min temp last night was 45°F. Tracks of deer in area were 62, 66, 70 mm in length. Trails thru forests about 100' beyond canyon floor. Marmot, golden-mantled ground squirrel, *Eutamias* sibilans. Robins were common. Chipping sparrow and a flycatcher at camp. Left at 86821. 824 at Pole Bridge Campground and 740721-8 photo 740720-5, 740720-6, 740720-7 of Lostine River. marmot, g.m. gr. squirrel & *Eutamias* here. 827 sparrow hawk and marmot. 828 sparrow hawk. 830 short-eared owl roadkill, at 1/4 ^W of Lostine. 2 photos of valley to S up Lostine River Valley. ^{nos. 740721-9 and 740721-10} Minsk 840. 853 Entering Union Co. 881 Woodland Camp Ground. Some snow among Conifer tree. 886 Pole Gate 920 redtail at Helix turnoff. 934 short eared owl rd. kill at Slope gulch rd. turnoff 964 Washington at bridge over Conbee Columbia River. Pied-billed grebe at Yakima in barrow pit.

Interstate 90 and Wenatchee turnoff, W of Ellensburg, Washington

July 22, 1974
Camped by Yakima River ^{across from Kroke Residence.} Min temp last night 60°F. Wind from mt ranges and conifers leading from and out onto the open country beyond. (See opposite page).

East Gate, Bellevue, Washington 98004
Trailer Inns, 15531 Interstate 90, Washington (phone 747-9181)

July 23, 1974

Drove to Seattle to meet Chris at 4817 37 NE. met Ruth Miller, Spear and Karen & don. Visited Blumensly and yacht club to see boat we will use this weekend. Approx 17 miles from trailer court.

July 24, 1974

To Seattle to visit with Chris. In the A.M. visited harbor front.

- 740727-1 Forest of sailboat masts at Shelshole Bay marina. Mooring here eliminates passage thru the channel & locks from Washington Lake.
- 740727-2 Our sailing caravan to right at Shelshole Bay marina. 23 foot. Held 17 friends of Annettes thru canal and locks. sleep 4
- 740727-3 Annette.
- 740727-4 Robert Dready the skipper & friend of ^[Chris]Annettes. Former president Washington Yacht Club.
- 740727-5 ibid
- 740727-6 Bob + Annette. The dingy makes the only noise sailing.
- 740727-7 Compass. Temporarily fits on panel.
- 740727-8 Annette, Bob and Chris
- 740727-9 Annette and refreshments!
- 740727-10 Annette and Bob.
- 740727-11 Chris with navigating charts.

- 740728-1 Mariann Bee, Chris + Bob in dingy - Annette on board.
- 740728-2 ibid
- 740728-3 sail boat to starboard.
- 740728-4 boat with spinnaker. Bob + marine hat.
- 740728-5 " " "
- 740728-6 The Caravellet returns to Shelshole marina. Prepared to return to Univ. Yacht Club via locks. Chris, Marianna, Bob
- 740728-7 sail boats at Shelshole Bay marina
- 740728-8 Boat at locks. also 740728-9
- 740728-10 Bob, Chris, Marianna on Caravelat locks
- 740728-11 " " " " " "
- 740728-12 old life boat converted to sail boat at Univ. Wash. Yacht Club.

Australian duckbilled platypus still in window of ge old Curiosity Shop. The manager said that there was no way in which an institution or museum could purchase such a specimen. Photo 740724-1 of fire boat with gull to left. Photo 740724-2 of Polynesian Restaurant, a new building at end of dock. Both photos on the gold rush strip on the waterfront. The docks are no longer being used for shipping facilities except the ferries. The docks are gradually being converted to tourist attractions of stores and restaurants.

July 25, 1974

To repair car in Issaquah. need volvo ground. Remainder of day in Seattle at Bon Marche, Fredrick + Nelson, then to Univ to pick up Chris and bring to Trailer Inns for overnight.

July 25-1974

Checked car and head nut yet removed. Will see Seattle and University then have dinner this evening with Don Michelberry at Federal Way. Picked up 2 maps of Eastern Siberia from Univ. Wash. Library (duplicates).

July 26, 1974

min temp 53°F and seems to be average for area. Will prepare for sailing tomorrow.

University Washington Sailing Dock, Seattle, Washington

July 27, 1974

Chris, Ron and Bob took the 20' Caravel sail boat thru locks to Shelshole marina on the sound last night. This morning we drove to marina and boarded the boat at 8:00 A.M. Bob Dreahey, Annette C, Annette P and myself made up party. Bob worked for the sailing club and has raced larger boat in this area. He made one trip from San Diego to Washington. Between Seattle and Port Townsend noted: (see opposite page for photos)

Herring gull, pigeon gull, Bonaparte Gull, harbor seal, rhinoceros auklet, belted knifefish, double crested cormorant. Birds uncommon until we approached Port Townsend. Arrived at bridge over to Judean Island at 6:45 P.M. and at Old Port Townsend at 7:15 P.M. After supper we went to Port Townsend and met Noel + Phillip and visited with them until about 11:00 P.M. then return to boat and moved to Ft. Worden where we moored and slept in boat arriving there about 1:30 A.M. Photos 740727-1 to 740727-36 of this trip.

Fort Worden, Washington

July 28, 1974

(see photos opposite page)

Left 10:00 A.M., arrived Seattle Shelshole marina at 4:00 or 6 hrs in contrast to 10 hrs 15 min coming up and then with use of motor part of way

July 29, 1974

740729-76

Left Seattle at 12:00 at mileage 87453 and continued N to Vancouver, thence NW along new mountainside highway to Horseshoe Bay. This new road is quite a gouge on the landscape and replaces the old single road along the sound, a single lane to 6 lanes. The new road in already crowded and carries people into former primitive and inaccessible area now converted to residential area. This is the only direction Vancouver can expand. Photo 740729-1 of Horseshoe Bay, originally a very beautiful bay but now completely occupied by ferry terminal, 3 stories of park aprons and a cloverlike highway approach that takes up the rest of the cove. From here continued up fjord, keeping on right or S side all the way. This fjord is outstanding and although timber has been cut from many of its mountain slopes, is still outstanding in land forms and water surfaces. These fjords would be excellent places to navigate, even by canoe. At Britannia Beach took 2 photographs nos. 740729-2 and 740729-3 of fjord. Considerable pollution from pulp mill at wood fibre at head of fjord (Howe Sound), fjords are just not the places to place a smoke spewing pulp mill. Continued past Squamish, copper mines etc and arrived at Shannon Falls for a camp site.

^{mainland}
^{W. Coast}
Shannon Falls, ¹ British Columbia, Canada

July 30, 1974

Photo 740730-1 of early morning lights on upper Shannon Falls (telephoto). Continued up canyon with Garibaldi Provincial Park on right hand side of canyon. This area is not as impressive as lower reaches of the water held fjord and if I were to advise on travel in this area it would be to go as far as Squamish and then return to Horseshoe. The area beyond Squamish is interesting but does not have the scenic qualities as the lower reach. Some spots, however, are good. The ^{high country} Provincial Park is hidden by the high shoulders of the mountain. Continued to Alta Lake at divide. This is a beautiful clear lake but is ~~not~~ commercialized as loses its value. Continued E down drainage by Green Lake and at the E outlet of the Lake, camped on log road above the highway. The lake is definitely greenish in color and not clear as is Alta Lake. Mileage at this camp site is 87709.2. or approx 7 mi E of Alta Lake. This area is conifers, talus, mt stream fallen logs. Bear, deer in area. Fished creek and caught trout approx 10" long.

Outlet Green Lake, N Garibaldi Prov. Park, British Columbia, Canada

July 31, 1974

Collected the following mammals from montane community:

<u>740731-1</u>	<i>Clethrionomys</i>	145-42-18-12-24gms. ♂ testis 10 mm
<u>740731-2</u>	"	128-34-18-12-20gms. ♀ ut. enlarged.
<u>740731-3</u>	"	143-40-18-12-22gms. ♂ testis 11 mm
<u>740731-4</u>	"	145-40-19-12-22gms. ♂ testis 9 mm
<u>740731-5</u>	"	108-30-17-11-11gms. ♀ ut normal
<u>740731-6</u>	<i>Sorex</i>	112-52-12-7-5gms. ♀ ut normal
<u>740731-7</u>	<i>Peromyscus</i>	200-105-23-18-22gms ♀ 3x2 emb 9 mm
<u>740731-8</u>	"	188-100-22-18-18gms ♂ testis 11 mm
<u>740731-9</u>	"	204-110-22-17-25gms. ♀ 3x1 plac scars.
m. only. <u>740731-10</u>	<i>Clethrionomys</i>	144-41-18-12-25gms ♂ testis 10 mm

mainly from conifers, talus sealed with mosses and lichens, fallen logs. One *Eutamias* observed in area. 100 traps
 Logging trucks bringing logs from E. They travel 45-60 M.P.R. on these roads and without regard for other traffic. Unloaded they probably exceed 60 M.P.R. The number of trucks would indicate that timber had to be removed at all costs. It is said that the loggers will on occasion deny passes on government roads. The noise of these trucks is unbearable. Continued E down Green River to Pemberton, situated in a most beautiful intermontane (wide valley) surrounded by magnificent mountains and snow covered peaks. Drove N for several miles and on return to approx 2 mi. N of Pemberton took photo 740731-11 ^{and 740731-11a} to the SW of feed and mt. beyond. Photos 740731-12 and 740731-13 of snow covered range SW of Pemberton (tel. photos). Continued S from Pemberton for several miles and at point where road crosses main river for first time took photo 740731-14 of mountain range to W from bridge. Steller's jay and Oregon junes in area. Photographs approx 2:00 P.M. Returned to Green Lake Camp and hitched up with trailer and at 3:00 P.M. at mileage 87770.9 left for Horseshoe Bay. Photo 740731-16 of Green Lake. Photo 740731-17 below Daisy Lake dam to SW showing deep canyons + distant snow covered mts. Tel. photos 740731-18, 740731-19, 740731-20 of snow covered mts to W. Photo 740731-21 of Paperpulp mill smog. 740731-22 of air pollution at Britannia mines. Arrived Horseshoe Bay at 6:10 at 87841. Crossed by ferry to Langdale, thence to Roberts Creek where we camped in Provincial Camp grounds. Set 50 traps in forest at camp, mainly along Robert Creek.

mouth Roberts Creek, NW Gibson, British Columbia, Canada

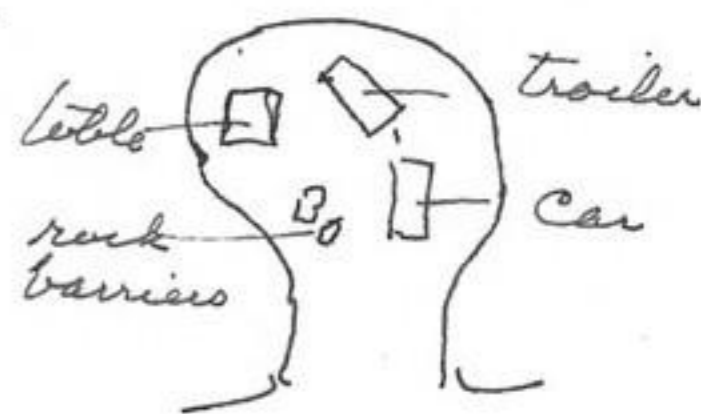
Aug 1, 1974

From near climax coniferous forest with broken & sword fern undergrowth and among fallen moss covered trees collected:

	740801-1	<i>Peromyscus maniculatus</i>	159-73-21-17-13gms	♂	testis 3mm
	740801-2	<i>Peromyscus</i>	205-105-21-18-23gms	♂	testis 10mm
	740801-3	"	191-96-20-18-24gms	♂	testis 10mm
SK. on	740801-4	"	171-71-21-18-20gms	♂	testis 10mm
	740801-5	"	194-95-21-19-23gms	♂	testis 10mm
	740801-6	"	206-101-22-18-26gms	♀	2x3 emb 5mm
	740801-7	"	180-90-21-17-20gms	♂	testis 10mm
SK. on	740801-8	"	181-88-21-17-17gms	♂	testis 8mm
"	740801-9	"	179-87-21-17-23gms	♀	2x3 emb, 14mm
"	740801-10	"	170-85-21-17-15gms	♂	testis 4mm
"	740801-11	"	161-78-21-17-14gms	♂	testis 4mm
"	740801-12	"	168-82-22-17-16gms	♂	testis 5mm
"	740801-13	"	165-81-21-17-14gms	♂	testis 5mm
"	740801-14	"	158-74-21-16-13gms	♀	ut. normal
	740801-15	<i>Clethrionomys gapperi</i>	122-32-18-13-20gms	♂	testis 10mm

Left Roberts Creek at 12:15 at mileage 87855. Photo 740801-16 of Annette at camp. These Provincial Parks are well organized and these that are developed in conifer forests can be so protected as to be in faint light even in the daytime. The campsites are well separated and are easy to back a trailer.

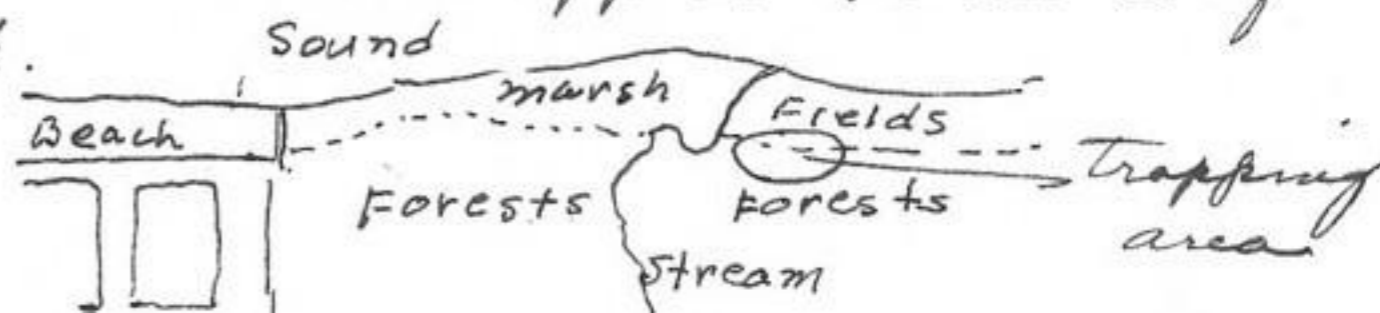
The surface is flat and ordinarily elevated from surrounding terrain so that the surface of site is used instead of the surrounding area. If these camp roads could be paved to eliminate dust, a major objection would be overcome.



profile

Drove to Porpoise Bay and then after locating a campsite made reconnaissance trip north to as far as Garden City. Photo 740801-16 of Annette at marina. Observed that the homes are adequate but never pretentious. Life is less hectic than in larger cities. The roads are just beginning to be realistically developed to handle modern traffic. The route so far from Vancouver can be easily navigated by car and any size trailer. There are not the steep narrow roads I had anticipated for this Coastline. Returned to Porpoise Bay, arriving at 7:05 P.M. at mileage 87943.

Set 50 traps at contact between open field bordering sound and forests (see diagram of Aug 2 for details). This area is approx 2/10 mi E of the beach of the Provincial Park and approx. 100' E of the point where stream leaves forest.



Porpoise Bay, Sechart, British Columbia, Canada

Aug 2, 1974

min temp 57°F last night.

From edge and bay deciduous forest in marshlands Collected:

740802-1	<i>Peromyscus maniculatus</i>	199-105-21-18-23gms ♀	2x2 emb 3mm
740802-2	"	"	"
740802-3	"	"	"
740802-4	"	"	"
740802-5	"	"	"
740802-6	"	"	"
740802-7	"	"	"
740802-8	"	"	"
740802-9	"	"	"
740802-10	"	"	"
740802-11	"	"	"
740802-12	"	"	"
740802-13	"	"	"
740802-14	"	"	"
740802-15	"	"	"
740802-16	"	"	"
740802-17	"	"	"
740802-18	"	"	"
740802-19	"	"	"
740802-20	"	"	"

at this camp noted the following:

band-tailed pigeon
 hummingbird
 glaucous-winged gull.
 kingfisher, belted
 great blue heron

American merganser & young.
 Oregon junco.
 Song sparrow
 crane

at the point where creek leaves the forest surprised 2 adult mergansers and 5 young in last pool before after the creek leaves the forest. One adult left with young and paddled down stream to bay while the second adult merganser swam ^{tree} over stream at point where stream leaves forest and at that point made considerable noise and diversion by forcefully diving into water. young were approx. 6" long. This canal or bay is separated from the straits to west by a narrow neck of land and it would be interesting to see if the mammals on the N of this neck of land are different from those to south. If this connection is a beach plug across a former channel, the fauna would conceivably show some remnants of genetic stock. Left this camp with car only and travelled N to Earls Cove (photo 740802-21 of chain & 740802-22 of Annette & height of organisms) left Earls Cove by ferry at 3:00 to Saltery Bay, then to Powell River at 8:00 at 5:00 P.M. Left Powell River 6:15 via ferry & crossed Malaspina Straits to Jaxada Island, then across island to Killeas Bay where we stayed at a resort arriving at 8:04.

Gillies Bay, Tetada Island, British Columbia, Canada

Aug. 3, 1974

From trap line of 50 traps at base of large trees in Coniferous forest:

	740803-1	<i>Peromyscus maniculatus</i>	182-80-22-19-26gms	♀	2x3 emb 3mm.
	740803-2	"	185-83-23-20-29gms	♀	2x0 emb 4mm
SK. only	740803-3	"	170-78-23-19-21gms	♂	testis 4mm
	740803-4	"	181-80-22-19-30gms	♂	testis 9mm
	740803-5	"	176-79-22-19-27gms	♀	ut normal
	740803-6	"	193-90-23-19-40gms	♀	2x3 emb. 18mm
	740803-7	"	198-88-22-20-32gms	♀	3x2 plac scars
	740803-8	"	192-87-23-20-46gms	♀	3x3 emb. 16mm
	740803-9	"	192-86-22-20-35gms	♀	3x2 plac. scars.
	740803-10	"	190-88-23-20-37gms	♂	testis 10mm
SK. on.	740803-11	"	163-82-22-19-20gms	♂	testis 7mm
SKull m.	740803-12	"	171-84-22-19-21gms	♂	testis 10mm
SKull m.	740803-13	"	150-69-21-18-17gms	♀	ut normal
Skull only	740803-14	"	147-66-22-19-14gms	♂	testis 5mm ut. normal
Skull only.	740803-15	"	148-68-21-18-14gms	♀	ut. normal

Tails of above Pers. short & thick in contrast to mainland which are long and thin.

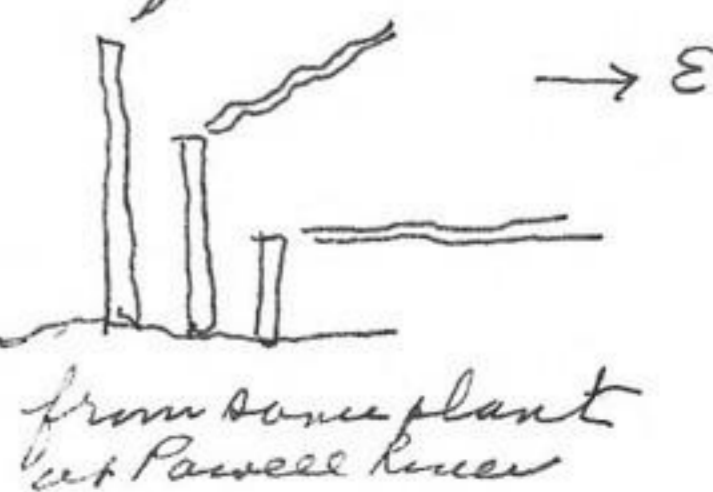
From deciduous forest, mainly alder and periodic runoff.

	740803-16	Sorex	110-57-13-8-4 1/2 gms	♀	ut. normal.
	740803-17	<i>Peromyscus maniculatus</i>	180-81-23-17-26gms	♂	testis 9mm tail 4.5mm wide at base
	740803-18	"	185-88-22-18-26gms	♂	testis 6mm
SKull only	740803-19	"	158-69-21-18-20gms	♀	ut. normal
skull m.	740803-20	"	173-84-23-18-22gms	♂	testis 3mm
SK. only	740803-21	"	153-74-22-17-18gms	♀	ut. normal
skull or.	740803-22	"	148-68-22-17-23gms	♀	ut. normal

Set ⁵⁰ traps last night in mature coniferous forests in the upper reaches of a new Provincial Park now under construction and 50 traps in deciduous forests. These areas, especially the coniferous forests are equivalent to the mainland forests and I do not see differences between the two. Length of tail seems to be the main factor in the differences of *Peromyscus*.

After preparing the above mammals left at mileage 88016 and return to Blueberry Bay to wait for ferry. Photo 740803-23 of ferry approaching. This bay was formerly a whale station and presently a mining area. D.B. Heron here. Left 2:45 P.M. on ferry. Across Malaspina Strait saw 2 cormorant and 1 gull (glaucous wing) and no other birds. At Powell River noted smoke from mills as follows.

Some mt profiles are: Left Powell River 3:20. At Satterly Bay photo 740803-24 of twin or more mt farms. Birds are am. merganser, cliff swallow, Herring gull, Glaucous wing gull, New crow, Bonaparte gull. Between Gallery Bay and Earl's Cove noted only 5 gulls and these were flying along shore. At Egnont two photos 740803-25 and 740803-26 of boats. Photo 740803-27 at S end of Ruby Lake.

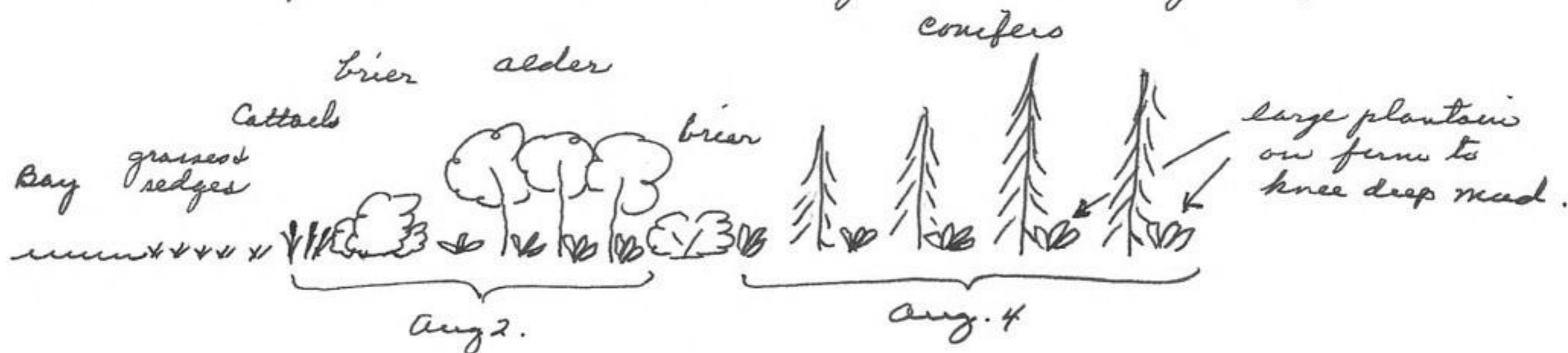



Porpoise Bay, E of Sechart, British Columbia, Canada

Aug. 4, 1974

min temp last night 57°F, max 74°F at 1:00 P.M. today.

From 50 traps in same area as Aug. 2, but among conifers.



The optimum conditions for *Peromyscus* is area labeled Aug 2 and especially near edge between sedges and alders. The areas of plantain among conifers were less attractive to the mice although the plantain were about same in community composition. The large fruit of the plantain was extensively used for food by the mice? In handling these cones of seeds  the cones would fall apart and the seeds were readily exposed for food. The mud in places was firm but in most places one would sink to 3-5 inches to knee deep and other places to an indefinite depth. No other plant grew below the large leaves of this plant. Photo 740804-6 of these plantain plants near edge. Open field of sedges and bay beyond. The *Peromyscus maniculatus* here reminds me of concentrations of microtines rather than isolated or pairs of individuals as is ^{usually} the case with *Peromyscus*.

740804-1 *Peromyscus maniculatus* 184-94-22-17-23gms. ♀ 2x3 emb 5mm

This (above) specimen has a tail that is wide at base (3mm) and is characteristic of all these specimens in contrast other *Peromyscus* in which the tail base is narrow and the tail is longer. It requires more cotton on tail wire for the Porpoise Bay specimens.


740804-2 *Peromyscus maniculatus* 175-81-20-17-23gms 3x1 emb. 14mm

740804-3 " " 188-96-22-17-18gms ♂ testes 4mm

740804-4 " " 181-90-21-17-19gms ♂ testes 6mm

740804-5 " " 196-100-22-18-23gms ♂ testes 10mm.

Left at 88097 at 1:30 P.M. Photo 740804-7 of fireweed + 3 native children (Indians) at Tillicum Bay shooting to N. Photo 740804-8 same area as above. A boat owner is reconstituting a 42' boat (fishing) for (minus labor) \$9,000. Left here 88102. This area is indeed a very beautiful part of this long inland water course. The facilities are right on the bay proper. Long grasses are submerged just of the edge of the bay.

Continued to Langdale where we waited for ferry to Horseshoe Bay. There is a mountain ^{no 740804-80} just W of ferry terminal that is a mirror image.  These ferry installations are made with the idea of handling the crowded traffic ways of the future, especially as these areas become the residential areas of Vancouver. On ferry made photo 740804-86 of general topography of the area. ^{740804-8c wall of boat, 740804-8d on ferry, 740804-8e wake of boat.} Some of the best scene areas are near the coastal areas at what would be considered the mouth of the fjords. The timber is being clear cut and the range to E is sadly defaced. The road scars are the most serious problems created by logging, especially as they erode and become uncontrollable. They are also unnatural features in an otherwise natural setting. The best areas seem to be the slopes facing west. At Horseshoe Bay made photo 740804-9 of ferry terminal. The bay has become completely replaced by man structures including cloverlike road approach, 3 layers of parking areas for cars and complete occupation of the water front with ferry terminals. On E slope are provisions for train, cars and service roads. This area is a good example of preempting and beautiful protected by with man made structures and as so as that occurs the beauty of the bay disappears. From Horseshoe Bay a new road has been blasted out of the mountains to Vancouver proper. This scar is extensive. The 4 to 6 line highway has been made to handle commuter traffic between Vancouver and the new residential area of the Sunshine Coast of British Columbia. At one time this Coast (W coast) was inaccessible and primitive, now it is on its way to becoming a solid residential area and when this occurs the beauty of the land will be modified to the point where the land loses its beauty. One of the most serious problems in this area is smoke and air pollution. Photo 740804-10 of marina just S of Horseshoe Bay

Continued to Vancouver and attempted to contact Douglas Chang but he was not at home or school. The address at home is: 2077 W 62 Ave, phone 263-8858 or at the University of Vancouver: phone 228-6469 (room 366 in Fisheries building). He is translating scientific publications in biology (fisheries) in Spanish. Continued thru Vancouver City and in park area W of City noted one of the most outstanding events of the entire trip - 14 Canadian geese flew from one pond to another over 5 extensively used ^{and converging} superhighways and at not over 5 feet above hundreds of cars racing, 50-60 miles per hour below. They seemed unconcerned about ^{traffic} man's inhumanity. If these birds can survive in the middle of a large metropolitan city, they have hope for future survival. Continued E thru endless residential area to Cliff Park E of Honey at mileage 88188. Set 50 traps in gulch of undisturbed conifers, deciduous trees & complete ground

3 mi. E Haney, Fraser River, British Columbia, Canada.

Aug. 5, 1974

From old stand of conifers and deciduous forest and associated with a draw collected:

<u>740805-1</u>	Zapus	220-140-31-14-16gms. ♂ testes 5mm
<u>740805-2</u>	Peromyscus maniculatus	198-104-22-18-24gms. ♀ 1x3 emb 13mm
<u>740805-3</u>	"	190-98-21-13-22gms. ♀ post part.

Skull
only

This area is a remnant of the old forests of this area but is being invaded by road building and home construction. This area trapped is in a direct line of a new road which will completely replace the plant community with a wide road. This entire area E of Vancouver is characterized by complete utilization by man for home and pasture sites, in fact we travelled 20 miles without finding a single place to park the trailer for the night - the area is completely sealed by fences. The homes are modern but not pretentious.

Left at 10:00 A.M. Noted a turkey vulture at Deroche. Photo 740805-4 of flooded field from the Fraser River. High mountains in background. Most rivers in the NW seem at high water stage although today with the Corp. of Engineers regulation, one cannot judge the natural condition of any river. Some rivers are dry when normally they should be in flood stage and vice versa. The tragic condition is in those drainage systems in which all the water is preempted from the channel thereby eliminating all native forms of aquatic and some terrestrial life. The above photo was near Deroche. This area along the Fraser is indeed scenic all the way. Two more photos were taken E of Harrison at mileage 88232. They are 740805-5 and 740805-6. One has a dead tree in foreground. Agassiz at mileage 88238. At mileage 88240 three photos of Fraser River from vantage points:
740805-7 River and sandbars. Could be an interesting river to canoe
740805-8 Same as above but with island.
740805-9 Same as above with tree frame on right.

Three gulls passed by in 20 minutes along the river.

At the Hope Land Slide took photo 740805-10 of the upper section of the slide. The low valley portion was covered as was the slide in yellowstone. Photo 740805-11 shows how the soft unconsolidated soils of the valley meadows were displaced and carried up the opposite side of the valley for several hundred feet creating a distinct timber line. This area is dramatic and a good one to follow thru on vegetative and faunal succession of a dynamic geological event. Three houses in area. Continued on highway 3.

7 mi. E Princeton, highway 3, British Columbia, Canada.

Aug 6, 1974

min temp 47°F, max. 78°F last evening.

From trap (100) set in rock slides and around boulders at base among
ponderosa pine and spruce, collected:

	740806-1	<i>Ochotona</i>	205-12-33-21-15.5 gms. ♂ testes 5 mm
	740806-2	<i>Eutamias</i>	212-96-33-17-51 gms ♂ testes 7 mm
	740806-3	<i>Peromyscus maniculatus</i>	172-79-21-19-28 gms ♂ testes 12 mm
	740806-4	"	161-68-20-18-22 gms ♂ testes 7 mm
	740806-5	"	161-71-22-18-20 gms ♂ testes 10 mm
	740806-6	"	169-76-21-18-20 gms ♂ testes 4 mm
	740806-7	"	168-78-21-17-19 gms ♂ testes 10 mm
	740806-8	"	178-85-22-18-22 gms ♂ testes 4 mm
	740806-9	"	167-76-21-17-19 gms ♂ testes 5 mm
	740806-10	"	170-80-21-19-20 gms ♀ ut. normal
	740806-11	"	165-81-21-18-21 gms ♂ testes 11 mm
	740806-12	"	152-68-20-18-15 gms ♀ ut. normal
SK. on	740806-13	"	140-62-20-17-13 gms ♀ ut normal
"	740806-14	"	153-68-22-17-16 gms ♂ testes 3 mm
"	740806-15	"	162-76-22-18-19 gms ♂ testes 7 mm
"	740806-16	"	165-75-21-18-18 gms ♂ testes 3 mm
"	740806-17	"	148-65-20-17-12 gms ♂ testes 2 mm
"	740806-18	"	152-68-21-18-15 gms ♀ ut normal
"	740806-19	"	135-58-20-18-11 gms. ♀ ut normal
"	740806-20	"	133-57-20-18-12 gms. ♂ testes 4 mm
"	740806-21	"	145-62-20-17-12 gms ♀ ut. normal.
"	740806-22	"	148-64-20-19-16 gms. ♂ testes 5 mm
"	740806-23	"	147-65-20-17-14 gms. ♂ testes 3.5 mm
"	740806-24	"	144-61-20-17-14 gms. ♂ testes 3.5 mm
"	740806-25	"	140-61-20-17-13 gms. ♂ testes 4 mm
"	740806-26	"	142-62-20-17-13 gms ♂ testes 3.5 mm
"	740806-27	"	143-62-20-18-13 gms ♀ ut normal
"	740806-28	"	125-52-20-16-8 gms ♂ testes 3 mm
"	740806-29	"	147-65-21-18-14 gms. ♀ ut normal
	740806-30	<i>Eutamias</i>	208-93-32-17-48 gms ♂ testes 6 mm
SK. on	740806-37	<i>Peromyscus maniculatus</i>	162-76-21-18-18 gms. ♂ testes 5 mm

This area and drainage system is characterized by good talus slopes and beautiful river. Tree squirrel, deer, bear in area. Both the chipmunk and pine siskin fed on the seeds of the thistle, the pine siskin being so confiding as to allow me to approach within 6 feet of live trap placed for chipmunks the only one that caught the mammal was the one associated with the thistle plant. Pika called both in the afternoon of 5th & the morning of the 6th but only with a very faint call. Left at 88351 at 2:50 P.M. at 88423 rest. 88428 sparrow hawk

3 mi. N Rock Creek, Kettle River, British Columbia, Canada

Aug. 7, 1974

From 50 traps collected the following. Cut over Coniferous forests along river.

740807-1 *Clethrionomys* ⁴³⁻ 145-18-14-23gms. ♀ 1x2 emb 10 mm
 740807-2 *Peromyscus maniculatus* ^{inside} 163-80-20-18-20gms. ♂ testes 12 mm

This area was at ^{inside} bend of river where second growth had taken over. Large stumps remained. Last night observed a doe mule deer near camp. Left at 11:00 A.M. at mileage 88450. Entered U.S.A. at mileage 88515. No questions asked. (at 1:30 P.M.). There is no reason why these check points cannot be combined and one installation be used instead of two separate ones. This arrangement is the worst deterrent to unification. Followed along Franklin D. Roosevelt Lake (reservoir) ^{Point 740807-3 along this lake} This area is characterized by successive benchlands of the former pleistocene valley. The flat benchlands are used for wheat and grasses and if irrigation is employed could be a veritable garden spot of this part of the country. Wave action, especially on S exposures, has reduced many of the unconsolidated ridges and benches. This lake, except at 2 points is not used as a recreation lake. 88601 mileage photo 740807-⁴ of this lake and some of its geological formation. At mileage 88602 at bridge. 88606 marmot feeding at roadside. At 88615 sparrow hawk. 88617 sparrow hawk (2). Continued S to Spokane. This entire area has been converted to dry farming and has completely displaced or exterminated the native vegetation and fauna. Some areas of native vegetation of adequate biological slope should be held for that time when the demand for complete use of the land is diminished. At Spokane visited the world fair. Several buildings were providing exhibits demonstrating the theme of ecology and threatening environment and the objective was satisfactorily accomplished. Whether the theme made people more aware of our plight of environmental destruction remains to be seen. One of the most impressive exhibits was 10-12 of Russell's original western Indian and cowboy paintings. The originals are not as impressive as the preprints - the individual characters whether man or animal, on close inspection, appear stiff and disproportionate. The overall action, however, is dynamic. Continued to Liberty Lake east of Spokane where we camped for the night arriving there at mileage 88685.

Liberty Lake, E of Spokane, Washington.

Aug. 8, 1974

Left at mileage 88685. at 8:45 A.M. 88694 Idaho State line.
 88860 2 dark redtails using currents in front of clouds. They moved
 3 approximately 6 miles and a speed faster than car (50 MPH)
 88864 Frenchtown 88865 sparrow hawk. 88892 Lolo south
 of missoula. At Univ of Montana visited museum. Wright or Kelgore
 not at museum. All skies cloudy & rain 88901 sp. hawk
 88904 sparrow hawk. 89001 first magpie since NW in Washington
 and this one near North Fork. Beyond this first encounter of
 the magpie the bird was common or at least 1 per mile.
 89028 Lemhi River (first crossing) SE of Salmon Salmon.
 at 8:45 P.M. 343 miles today. Rain most of day.

Lemhi River SE of Salmon, Idaho.

Aug 9, 1974

Min temp last night 39°F. Left 8:30 A.M. Photo 740809-1 and
 740809-2 of yellow flower at this place. Photo 740809-3 of the red &
 yellow seeds of the wild rose. 89050 first meadowlark since the
 NW. Yesterday rains put snow on mountains down 1/2 way.
 At 89051.2 will keep complete record of magpies. 51.3 kingfisher.
 52.6 sparrow hawk. 52.9 (signpost mileage 102). Kingfisher.
 striped skunk road bell, eastern kingbird 56.7 magpie.
 Photo 740809-4 of valley photo with field of yellow daisy or sunflower
 type flower and old fence. ^{President Ford inaugurated this moment.} Road now leading away from bottomland
 and ~~cross~~ crossing sagebrush so magpie number will change appreciably.
 64.5 Leadore and end of magpie census. Prior to census would
 estimate the magpies occurred at 1 per mile. 89080 two photos
 740809-5 and 740809-6 of Lost River Range with new snow. At this
 moment of photography, Ford was being confirmed as President of the U.S.
 89089 three telephoto shots of ^{nos 740809-7, 740809-8 and 740809-9} Lost River Range near south end
 showing typical topography of this mountain. ^{740809-10 of same range} These mts are Hawley
 mts. 89099 sparrow hawk. 89102 Clark Co. line. 89106 Lone Pine.
 The stretch of road just covered is without habitation or buildings
 and is one of the few places without manmade structure or interference.
 All sagebrush. 89129 flat area valley of sagebrush, gopher noted a
 Swainson hawk. Three horned larks flew across road. Except for
 a few small sparrowlike birds, the above were the only ones observed
 across this valley. 8989 136 ^{89137.9} sagethrush. ~~89139~~ bend of road at
 junction of 28 and 88 89139 mud lake. 89144 first 2
 magpies since last one recorded in census above. This area is in

cultivation. Area shows flooding from recent rains. 89160
 14 Franklin gulls, and Snowy Egret. 89162 18
 Cinnamon teal 89198 sparrow hawk. 89199 sparrow
 hawk. 89203 Blackfoot, Idaho. 89288 sparrow hawk
 89261 three photos, nos 740809-10, 740809-12 and 740809-13 of
 cloud studies. The cloudless skies of the north west were
 in contrast to these skies in southern Idaho. The best clouds are,
 however, in the Great Plains area. This area of clouds is just
 before divide into Salt Lake Valley, or approx. 2 mi. N of Downey
 Turnoff. 89305 redtail. 89307 11 white-faced glossy
 ibis and fish Provo 89420 at 7:30 P.M. Stayed at Mary and Dons
 place at 3 fountain ~~condominium~~ ^{condominium} at 4251 N and 265 E. Mary
 was still in Europe. Slept in trailer at Dons.

Provo, Utah Co., Utah
~~Provo, Utah Co., Utah~~

Aug 10, 1974

This A.M. visited Shadow Brook Condominium that Don is developing.
 Next to white, yellow is a most pleasing interior decorative theme
 and it maintains the greatest feeling of space. In the afternoon
 visited Edith. She is now fishing at Strawberry Lake and is
 canning trout for winter use. They have a truck and tow truck
 camper. Their system is two hooks with worms + a marshmallow
 on each hook which, because of its buoyancy lifts the worms off
 the floor of the lake. They get their limit every time the fish.
 We also visited Dove and Romona on way out of town. Drove
 to mouth of Provo River at point where it enters Deer Creek Reservoir
 and camped + fished. Caught 2 trout with flies in shallow
 water in a channel at edge of reservoir. Several flocks of
 ducks passed over, probably mallards, pintails and cinnamon teal.
 California gulls rested on N shore. The extremely low waters produced
 mudflats and in this area attracted approx 80 killdeer and a
 flock of dowitchers?. Photos 740810-1 and 740810-2 of Mary + Don's home.

Deer Creek Reservoir, Wasatch Co., Utah
~~Deer Creek Reservoir, Wasatch Co., Utah~~

Aug. 11, 1974

Fished this A.M. and caught many perch (striped) and one trout which
 got away. Other people were getting their limits. Improper equip
 and bait made the difference plus a boat with only one anchor that
 caused continuous rotation of boat. The fly pole + equipment did not
 permit distance casting to get beyond the influence of rotating boat.
 Noted one pied-billed grebe, Wilson snipe, Brewer blackbird and
 other kinds. The Heber Creeper is discharging considerable smoke
 and offensive noise.

Left at 2:22 P.M. at 89481. Continued to Daniel Canyon and at Strawberry Valley noted that since the poisoning of the lake and valley, the Artemisia, Solix are coming back. There are, however, greater areas of pasture grass which growth was anticipated after the vegetative poisoning. Sagelush is still the most suitable plant for this area. Arrived Current Creek at 89526. Turkey vulture here (Current Creek). Continued E on 40 to Dinosaur National Monument where we camped at mouth of Split Mountain. Made several photographs before sundown. (photos not arranged in consecutive order of capture.)

740811-1 Sabata sunflowers on approach to base of mt near Dinosaur quarry.

740811-1a Massive Weber Sandstone from camp. Artemisia and a purple flower in foreground

740811-2 Juniper branches as silhouette against Weber Sandstone

740811-3 ibid

740811-3a "

740811-4 From ridge to W of mouth of Canyon, as was the local of

the above 2 shots, of Green Krae to S.

740811-5 To right of Split mt from the S.

740811-6. Mouth of Split mt. Canyon

740811-7 Parkley - Mancoski contact

740811-8 east mouth Split mt. Canyon.

740811-9 from ridge W mouth Split

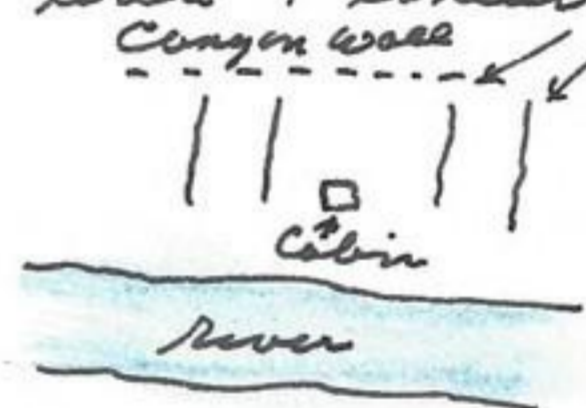
Canyon and face of Weber Sandstone.

740811-10 Same as above but later

many deer tracks and trails on this ridge. Below on N side of river is a log cabin on river floodplain with 4 linear ditches associated with the adjacent field.

Porcupine on sandbars just out from cabin. A Cooper hawk, white-throated swift were observed

on ridge. The robin and eastern kingbird at camp. River seems muddier than previous years, probably as a result of holding water back in flaming gorge reservoir and permitting Gompas River to dominate water mixture. Cutworms fewer than last year.



Dinosaur National Monument, Utah

Aug. 12, 1974

Left at 9:00 AM and continued E on Highway 40. Made census of prairie dogs by 1/10 mi intervals between Dinosaur, Colorado and Elk Springs (Dinosaur, Blue Mountains, Skull Creek, Massadona, Elk Springs) a distance of 34 miles, but there was a failure in the recorder and this area was not recorded. Failure from Current Creek, Utah to Berthoud Pass, Colorado.

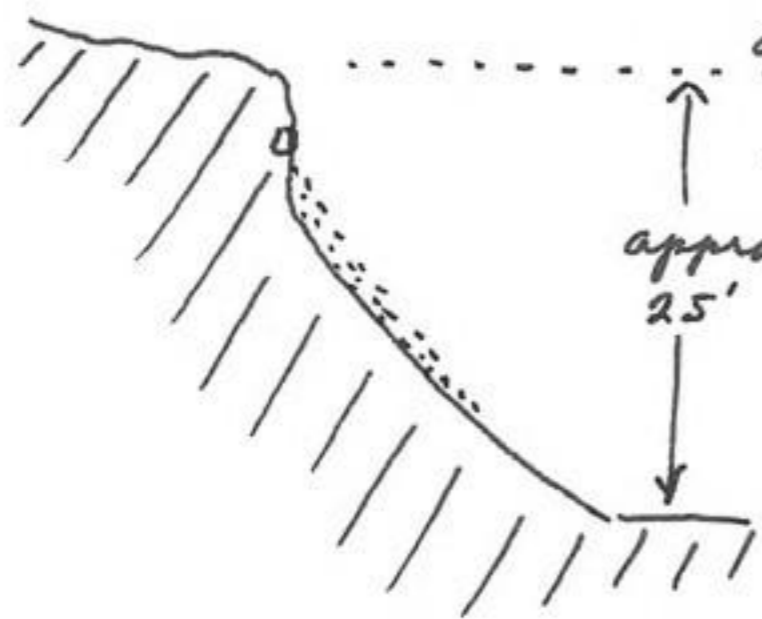
An estimation, in retrospect, of the numbers of prairie dogs, ^{actually observed} is 250 individuals. The numbers of good mounds would indicate a much larger population along this highway. These prairie dogs are generally dispersed and show less of colonial formation than those, for instance W of Snowy Range in Wyoming. Usually we observed singles or groups of 2 or 3, ranging from running across road

or feeding at edge (on or 1 foot from road macadam) to as far as 250 or so feet from road. The obvious ones were standing on mounds. There were no road kills which was surprising in view of the fast traffic on road. In this same area (see previous census in former years) several years ago there were several dozen road kills and what I would estimate a greater population than there now although now they seem to be less localized and more generally distributed. Beyond Elk Springs the road is on uplands rather than along the side of a valley and although there are more here now than in former years, the numbers are low.

At Steamboat Springs called Evans and were informed that Si and Mil were staying in a trailer camp at Glenwood Springs. Continued E to Berthoud Pass, Colo, where we camped at drainage approx 1 mi. SW of Pass at 11,200 feet elevation (trapping area), mileage 89901. Set 100 traps along creek and in montane forests above camp toward Cirque & high peak beyond. This site is defined by a government weir at camp near road. Birds in area observed are 3 pine grosbeaks, gray-headed junco, Canada jay.

A *Thomomys* started excavating at twilight and continued all night or at least part of the night. At the beginning there was about a quart of soil as talus below hole on perpendicular face of road cut and next morning the soils had accumulated to some 4 gallons and from 5 different holes separated as far as 30 feet. The gopher did not expose itself to hole but pushed dirt in front with part of the dirt acting as a barrier between the gopher and the outside of the hole.

Traps every 20 feet and mainly along actual edge of creek among sedges or on sand bordered by vegetation, or in dense grasses and other montane plants in boggy or saturated soil slopes. If a log was adjacent to creek, placed trap under protection of log in case of rain from threatening skies. Some traps were placed away from stream in mature coniferous forests, in all cases associated with fallen logs or at base of large standing trees. Last trap in meadow at head of drainage (old logging loading platform on N side of this meadow). Signs of bear digging into old logs. Deer tracks common but did not see or hear them. This is a good area to trap and is unaffected only a days drive from Lawrence. One could trap that night and put animals on dry ice and be back in Lawrence the evening of the second day.



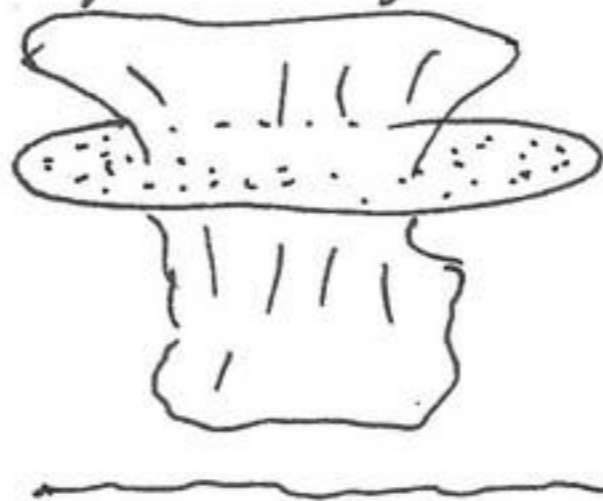
1 mi. SW Berthoud Pass, 11,200 ft., Clear Creek Co., Colorado

Aug 13, 1974

From trap line of 100 traps collected:

<u>740813-1</u>	<i>Microtus montanus</i>	157-42-20-12-43gms ♂ testes 12 mm
<u>740813-2</u>	" "	153-42-19-12-39gms ♀ 3x4 emb 6 mm
<u>740813-3</u>	" "	178-60-21-14-38gms ♂ testes 12 mm
<u>740813-4</u>	" "	163-50-20-13-34gms ♀ 1x3 emb 8 mm
<u>740813-5</u>	<i>Sorex palustris</i>	152-74 -20-6-12gms. ♀ ut. normal
<u>740813-6</u>	" "	[157]-[70]-20-6-17gms ♂ testes 7 mm
<u>740813-7</u>	<i>Sorex</i>	110- ⁴⁶ 48 -13-9-6gms. ♀ ut. normal
<u>740813-8</u>	"	97-40-11-6-3.5gms. ♂
<u>740813-9</u>	"	100-67-12-6-3gms. ♀ ut. normal
<u>740813-10</u>	<i>Clethrionomys</i>	163-51-20-15-35gms ♀ 5x2 emb 3 mm
<u>740813-11</u>	"	159-48-19-15-28gms ♂ testes 12 mm
<u>740813-12</u>	"	123-37-17-13-14gms ♂ testes 6 mm
<u>740813-13</u>	"	150-46-17-15-25gms ♂ testes 13 mm
<u>740813-14</u>	"	132-37-18-13-23gms ♂ testes 11 mm
<u>740813-15</u>	"	131-37-18-13-24gms ♂ testes 12 mm
<u>740813-16</u>	"	147-45-18.5-14-25gms. ♂ testes 11 mm
<u>740813-17</u>	<i>Phenacomys intermedius</i>	126-26-18-13-25gms ♂ testes 8.5 mm
<u>740813-18</u>	" "	116-26-18-13-22gms. ♂ testes 5 mm
<u>740813-19</u>	<i>Zapus</i>	225-135-22-13-24gms ♂ Testes 5 mm

Left 10:45 A.M. at 89901. Denver at 89960. At 90082 photos of cumulus 740813-20 ^{740813-21 and 740813-21a} showing secondary veil of less dense clouds from out of cumulus and forming a halo. Road mileage post 401 at 90082. At 90133 Kansas State Line Behind the bald cumulus from as one travelled east is a coalescence of cumulus until solid solid nimbo-cumulus where rain occurred. Hail for approx 30 miles and of for approx an hour duration which is a long period for hail. Front of trailer pitted, ventilator on top pierced in two places, some roof damage, front reflector light damaged. No damage of car. From Kansas ^{border} to as far as Brewster the land is flat and grown to corn and melo which is irrigated. 90167 entering Thomas County. This major storm is moving in from the south. Photo 740813-22 of rainbow with Grinnel in background at 8:20 P.M. Continued to Hopie Rest Stop at 8:40 P.M. where we camped for the night. Still rain and wind. mileage 90229



Notie, Kansas

Aug. 14, 1974

Left 8:00 A.M. Still raining. Arrived Lawrence at 4:10 P.M.
at mileage 90517. Total mileage of trip 5,656 miles.

Lakeview, Lawrence, Douglas Co., Kansas

Sept 9, 1974

A large *Rana catesbeiana* left bank of lake (R.R. grade area) which was protected overhead by a buttonbush. This frog has been using the same area for at least the last four days. Two spotted sandpiper and one solitary sandpiper in area along with 5 bluewing teal and 2 great blue heron. Photo 740909-1 here

Museum of Natural History, University of Kansas, Lawrence, Kans.

Sept. 9, 1974

A visitor from Kansas State University stated that he observed evidence of the black-footed ferret in Cove Co., Kansas as trenches dug at entrances of prairie dog holes. He knows of 7 skeletons ^{of black-footed ferret} in Museum in South Dakota and that they should be prepared and placed in some responsible institution. His experience with the ferret is that they are active at night.

Lawrence, Douglas Co., Kansas

Sept. 10, 1974

One ^{maple} tree on meridian of Princeton Avenue is bright red (1/2 of tree). No other maple in this line of trees has changed color. In another part of town noted one maple that is red and one hockberry that is light yellow, both trees are exceptional as far as general color of trees which are green.

Sept 12, 1974

Considerable more yellow in leaves since Sept. 10. From the museum of Natural History at K.U. when looking out over the city the yellows are not noticeable and the color of trees are summer green.

Lawrence (8th and Vermont), Douglas Co., Kansas

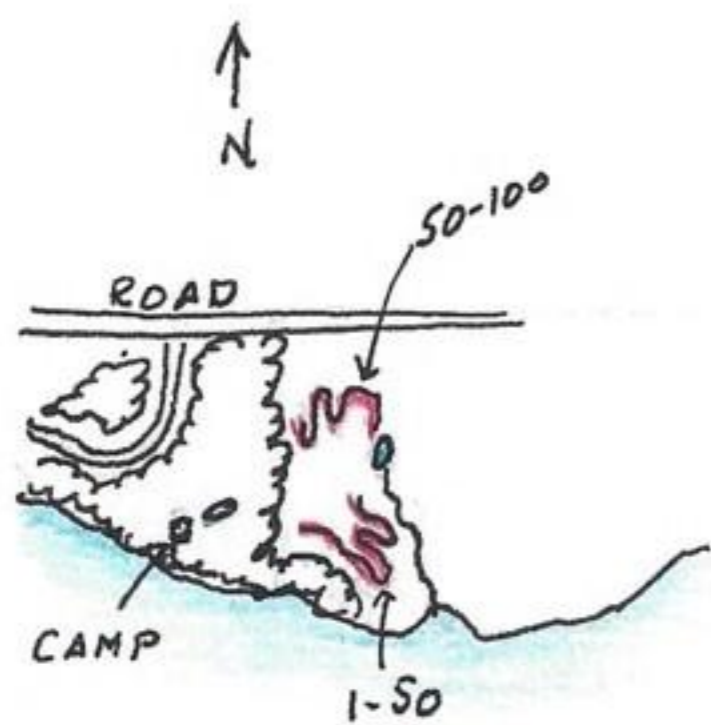
Sept 13, 1974

Approx. 500 Chimney Swifts retreated into the SE chimney of the Standard Life Insurance Office building at 8th & Vermont Street. They wheeled in an inclined circle above the chimney and as the lower part of the circle passed by the chimney, groups of 5-20

swifts would drop down into the chimney, the rest would continue in the circle flight. The roosting procedure took approx. 6 minutes. After the last individual of the circle flight dropped into the chimney, 4 other individual swifts entered approx. 3 minutes later.

Paradise Point, Perry Reservoir, Jefferson Co., Kansas
Sept. 20, 1974

Michael Barton, John Guthridge, Dan Lubovich, Bryn Stewart and myself made overnight collecting trip. Camped at old site on south side of peninsula. Left Lawrence at 2:20 P.M. at mileage 91452. Set traps (100) in first field E of camp as follows: (see map below). The areas that are cut are becoming



restricted and the attempt seems to be to create a momentum edge effect. The cut areas do not support mammals and the uncut areas are rapidly growing into ^{low} brush and other shrubs to the point where favorable areas for microtines are disappearing. All traps set at edge between cut fields and uncut areas that are in shrubs. As

far as prairie ecosystems are concerned they are rapidly disappearing in this area. It has always been recommended

(see March 17 for details)

that this area be maintained as natural prairie except some drainage systems that could support riparian cover. Grass cut high would substitute for grazing or fire. In hay to 5 observed very little activity, 18 bluewing teal and 4 great blue heron and 5 ring-billed gulls. It is surprising that there were not more birds.

Paradise Point, Perry Reservoir, Jefferson Co., Kansas
Sept 21, 1974

min. temp. 49° last night.

Collected traps at 7:00 A.M.

	740921-1	Synaptomys Cooperi	148-19-18-11-26gms ♂ testes 6mm
SKU	740921-2	Microtus ochrogaster	158-41-18-11-44gms ♀ 1x2 emb. 18mm
	740921-3	Synaptomys Cooperi	141-22-20-11-40gms ♂ 6mm
	740921-4	Peromyscus maniculatus	160-64-22-15-22gms ♂ testes 11mm.
	740921-5	Synaptomys Cooperi	138-21-19-11-53gms ♀ 2x0 emb 28mm
SKU	740921-6	Microtus ochrogaster	152-36-19-11-40gms ♂ testes 12mm
SKU	740921-7	Microtus ochrogaster	161-39-19-11-41gms ♀ 2x2 emb 24mm
SKU	740921-8	Microtus ochrogaster	107-27-18-10-13gms ♀ ut normal
	740921-9	Synaptomys Cooperi	108-18-19-10-18gms
SK. on.	740921-10	Cryptotis parva	76-18-11-4-4gms ♀ ut. normal.

The difference between the number of mammals captured this date and the number caught earlier in the season (see March 2, 16, 17, 1974) is the change of plant community, there being an abrupt invasion of brushy vegetation into the incut areas.

My recommendation would be to control the peninsula by cutting grasses every other year at a height that would provide overhead protection. Fire those ^{limited} areas that present unusual woody plant invasion every other year and only in those areas that are adjacent to grasslands. Fence E end peninsula a manage by grazing buffalo, antelope and elk with vantage points for man to observe rather than use the area.

At approx. 8:00 A.M. 650 American pelicans were ~~observed~~ ^{observed} circling over ridge at east end of peninsula as if they were trying to land or were leaving the river-bay area N of the ridge. The group increased in number by small groups gaining elevation from the river bay area and the consolidation of larger groups. They circled higher and higher and moved progressively S at what would be the east edge of lake at about a thousand feet high until out of sight. The circling seemed effortless and especially so when there was no ground wind at that time. These birds definitely need area of the lake where they can land and where they can feed and rest. Motor boats harass them and keep them on the move south. The bay S of the peninsula would be an excellent area to set aside as it is shallow and would make good feeding ground. For example S great blue herons lined the east shore of the bay for $\frac{2}{10}$ mile indicating favorable areas for small fish.

At the same time that the pelicans were circling, 15 turkey vultures circled the same ridge but to the west near the center of the peninsula.

This morning at 6:30 a flock of 40 bluejays passed over camp. At 7:30 another flock of 140 bluejays flew E along S edge of peninsula and at 8:00 another group of 130 jays flew E. Each flock was compact with a few trailing for 2 or 3 minutes. These are the largest flocks of bluejays I have ever observed and reminded me of the peregrine jay of the west in numbers.

Photos 740921-11, 740921-12, 740921-13 ^{and 740921-14} of trapping area shooting mainly E Photo 740921-14 of students (from left to right - Bryan Stewart, Michael Barton, Dan Lubovic and John Sullridge).

Last night heard coyotes. Great blue herons are more active at night. Redbellied woodpecker, black-capped chickadee, redbill, meadowlark, 15. Double crested cormorant also in area. A sample of Pennsylvanian ripple mark 740921-15 was collected 4 feet above the present level of lake. S side.

Lawrence, Douglas Co., Kansas

Sept. 25, 1974

Chimney swift still in area. Observed one group 8 and others frequently observed to at least 4:00 P.M.

Lawrence, Douglas Co., Kansas
 Sept 23, 1974

When viewing city from museum office, the trees are predominantly dark green^{50%} but with ~~lots~~ yellows and yellowish greens^{49%} nearly equal to dark summer greens. Occasionally a bright yellow tree^{1%} stands out. There are no red trees showing.

The last week has been one of great numbers of mixed flocks of red-wings, grackles^{cowbirds} and starling. Some groups are pure in species kind. They are forming long lines of birds, some requiring as many as 4 or 5 minutes to pass by.

Oct 1, 1974

Colors have been relatively stabilized since Sept. 23. There is more yellow^{5%}, some intense and only a slight increase in red and these reds are not intense. I would estimate the reds are 1% of color when city view from office in Lynch. The native deciduous forests started good color long before the city trees and are now in good color with considerable reds, yellows and greenish yellows. green 40%
greenish-yellow 54%

Lake View, Douglas Co., Kansas
 Oct 1, 1974

Shortly after sundown a bat (big brown bat) fed along shoreline at edge of trees. One plump looking duck arrived and called in a voice I have never heard before. Bull frog still active. Caught 8 crappie and 2 green sunfish. Water pulling away from rocky shoreline (NW end lake).

Lawrence, Douglas Co., Douglas Co., Kansas
 Oct 2, 1974

Chimney swifts still in area.

Leaves of trees much the same as Oct 1 but approximately 7% red color now.

Slight increase in yellow and some yellows turning to golden. The drought this summer killed some trees and in other trees the individual leaves turned color while the remainder of the tree was in good greens. Some trees (elm) have ends of branches colored only. Other trees show change of color in parts of the tree while the remainder of the tree is in green. Trees in country are changing earlier and more in synchrony than in city as if they did not suffer from drought as much as in city.

Perry Reservoir, Jefferson Co., Kansas

Oct 6, 1974

Polly Batendale, Bill & Betsy, Annette and I made trip to Perry Reservoir to check on birds. Visited SW observation point, to peninsula on W side, across dam to Big Slough Camp, thence to Ozawie, Long-view and return. Some observations are:

41 great blue heron in groups of 13-9-6-4-4-2-2-1, the 13 at Little Slough creek on E end bay. At Big Slough Camp on W side along shore noted approx 500 bluejays. Other groups of 2-10 were observed throughout trip and the birds are definitely more numerous than usual.

Approx 5,000 Am. coot in groups of 1500 to 4005. The larger group was a roft in lake off Gap Point. On east end of dam from gate to shore were continuous resting birds on ^{rocky} shore.

An adult bald eagle in perfect plumage circled south from Gap Point. Another large immature was in upper ^{along shore} camp of Long-view. It had no white at base of tail and seemed to be a very large bird. It flew over ridge to N.

Double crested Cormorant were generally distributed and in groups of 8-4-2-2.

Ring-billed gulls frequently observed. One group of approx 100 resting on point S of Ozawie. Other groups from 40 to singles

2 marsh hawks (a large and one medium in size on peninsula N of dam on west side. They hunted this area persistently.

Red tails in pairs and 1 single totaling 12 birds
1 sparrow hawk near headquarters!

at Gap Point on S side (lee side from cold N wind) noted 1 ruby kinglet, 4 titmice, 2 black capped chickadees, 1 red-bellied woodpecker, 1 yellow-shafted flicker, 1 downy, 2 meadow mourning doves, 1 kingfisher and 2 groups of coot totaling 85 birds, and 1 great blue heron. Also great horned owl.

Cliff swallows in small groups were occasionally observed, one group harassing the bald eagle.

A mockingbird was noted at Big Slough Camp W side.

meadowlarks, 13 noted on uplands at several places.

Crows in groups of 2-5 noted at several places.

It is surprising that there were no ducks or geese in area today, and if so might have been farther N. in lake.

On return home at about 1 mi W of Yorkshue Dr. noted 14 eastern bluebirds, 2 myrtle warblers, 2 goldfinch and 2 chickadees. The flocks of redwings, grackles were nearer towns than elsewhere today.

Lawrence, Douglas Co., Kansas
 Oct. 6, 1974

Pom Pearson returned from Alaska and spent the evening with us, relating his experience of last winter and summer and his objectives for the coming year:

I'm going south this year down to S. America as far as I can go. We hope to make it as far as the S end of the country. A large group of people from Alaska are going sailing in the Caribbean for a month ^{in November} and before the tourist season ^{starts in} December and we will rent a couple of yachts and sail for a month. There will be a dozen people who will sail for about a month and then go on to South America starting at Caracas. I'm really interested in boats now. I went to Cordova and spent about a month working in a cannery. Every time it got sunny I would quit the job and tramp around outside, then it would get cloudy and drizzly and I would go back to the cannery ^{and work awhile.} They needed a lot of people so they would hire me back. I met a fellow with a boat which was an 18' skiff with a cabin on it and an outboard motor. I stayed with him for a couple of weeks and went out digging for clams and fished. I helped him with his cabin. There is a lake call Ex just ^{at outside} south of Cordova and there is open water on it and there is 40 to 50 trumpeters swans that stay there the year around. They are really beautiful and were not over 20 yards off the road. You could watch them and all the little regnets. They are really ^{beautiful} birds. The Copper River goes thru this area and is a ^{pretty} flyway. There is all kinds of ducks. The canal between Cordova and Valdez (another all year open port) has trecky tidal currents. There is a highway that has been worked sporadically that leads south 15 miles from Cordova to the delta of the Copper River and is a big nesting grounds for all kinds of waterfowl. There is a proposed gas line that would effect Cordova but the transportation of oil will not effect Cordova. There are no roads to Cordova and the only people who want a road into this town are the business men. and these are ~~pr~~ in the minority. It is a fishing town and the fishing industry keeps the town going. At one time there was a railroad from Cordova up the Copper River to Cheltna where Kenⁿceath Mining Co had a rich copper mine at one time. It is proposed that a highway be built upon the grade bed of this old railroad grade. The town of Cordova wants to maintain their uniqueness and are objecting to the highway. They have put in a skii lift and have ~~pretty~~ good snow conditions and get about 10 feet of snow. I

have done a lot of snowshoeing there. It's real wet stuff and you would have to get up to at least 1000 meters by lift to get the really good powder snow. Some of the mountains go up to 5000 feet. And is really beautiful with all the big timber starting up from the shore and all the islands. The forest service has been really picky about building a cabin on any of the national forests and is withdrawn until the native claims are settled, so nobody in town will build ^{structures with a lot of time + energy spent} permanent houses because the forest service will go down there and burn or move them down off. What they have done is build a lot of saunas on the little islands so that fisherman and go out and clam for a little while and get filthy dirty and then go into a sauna and clean up. There is always stacks of wood and rocks along the sides of the saunas. They stoke it up and then go out and jump into the stream or lake. I decided against homesteading near McKinley because it was too cold, too rough and subsistence living. The Chelidna area looks better and there are many whitefish that could be used for eating and feeding dogs. The ^{mt} McKinley area was overtrapped in the past for fur-bearing mammals and as it was unprofitable trappers stopped. Now it is beginning to look better and the animals are starting to come back a little bit. Even when you trap too much and wipe out the animals, as long as the habitat is not destroyed the animals surrounding the area will come back with a little bit of time.

We went up the Yanvit River and crossed over the Alaska Range and skied down the Wood River to Fairbanks.

On the overland trip to Fairbanks it only took us 10 days. It was a cold trip and we had a really hard time with the overflow ice on the river. It got up to about 36°F one afternoon and we travelled in our T shirts and with the upwelling of the water and we would travel about 100 yards and then we had to stop to get the ice off our skins. There was one dog team and we would get up about 8:00 o'clock and start on the trail and then the dog musher would go back to sleep and later ^{12:00} leave camp and latch up with us ^{at 2:00} and pass us to go on to make the next camp. at 4:00 P.M. Then we would come in about 6:00 o'clock all sweat and hot and were able to move into our 8 x 10 wall tent with a stove. I went outside by myself in a mountain tent and nearly froze to death. When you pack along you use a candle in your tent whereas in a large tent which the dog pull you can use a Coleman light. The bag I used was good for 20° below but with a stove you

don't need this much protection. The cold weather I love stand but I do not like the idea of darkness all the time. As long as you can try you cannot be outside more than 10-12 hours a day. And the rest of the time you spend in your ^{little} cabin and develop all these habits like "O my photo not quite clean and you keep it immaculate although I usually live in a pig-pen. That was the worst part that it was dark all the time. It was much easier to live in the cabin in the winter. We would get 55 gals of oil and haul it 4 miles from the main road and we would burn this oil instead of wood so that there was very little work to do. We did not cut down trees because we wanted to leave them for beauty around the cabin. Other than food for the dogs we got some exercise in walking to the main road. In summer I had to walk in and out every day to go to work and that was not a whole lot of fun. It like to walk but not when I have to go to work.

One time we were weathered in for 2 days and we woke up one morning and it was 46°F ^{below} outside and so we maligned around a little and we had a cup of coffee and then another cup with the wind blowing 20 MPH and so you make all kinds of excuses to stay inside. One day we started to climb Pyramid Mountain ^{6000 ft} to practice for McKinley climb and the wind was 60 miles an hour and the temp about 30°F ^{below} so we decided to try again some other day. The coldest I have every felt was 20°F below in a mt tent. The wind is more critical than the temperature. It also gets complicated on how you dress yourself. In the morning no matter what you do you have a tendency to overdress and then you go out and start to work hard and you have a choice whether to take off some of your cloths or sweat. The best thing is to pace yourself so that you do not sweat. If you go to bed with sweaty cloths you are sure to be cold all night and even the next morning and for that matter all next day. The large arctic boot is the best shoe ever invented but once they get cold it is hard to get the shoes warm again. So if your feet are cold when you put them into these shoes they will remain cold for several hours. One night I wore them in bed.

Before I got the oil burning stove I used a wood stove and no matter how well I banded it I was never able to put more than four hours of wood in the stove and then it would go out except a few hot ember in the ashes and these were not providing any warmth at all so one night I stoked it up a whole lot and got the cabin really hot and I woke up an hour later and opened the window a couple

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 An then went back to sleep to wake up two hours after the stove went out and it was 30° ^{below} in the cabin and it was very difficult to get things going again. The oil burner worked very good and I burned 55 gals ¹⁰⁰ between February and August but did not burn the stove all that time. Most of the time in warm parts of the year you could wear a sweater and be comfortable. If you wanted to write or something you would warm it up to 60° or so.

On the Mt. McKinley trip I was a dog musher and we got up to 8,000 ft., and we were above the lower icefall, and I really wanted to go on up to the top. We skied out behind the climbers and stayed at Wonder Lake while they were baring supplies and everything, and they were working pretty hard, and in the meantime were going along as helpers or somebody to bring the dogs back after they were done. We didn't want to interfere with the commorads they were developing on this long a climb. We pretty much stayed by ourselves at Wonder Lake we had some friends out there in a cabin. One time they were getting pretty tired because they were working hard so we were helping them take a load up and ^{we} were up there and we had all our own food and the weather was so good we followed ^{the trail} them up to 8000 feet. They made a ^{big} cache at 8200 feet above the lower icefall and another at 10,500 feet just before the ^{on} go up to Kasten Ridge and then they made a camp at 12,800 ft. and then another camp at 14,500 ft. and that was their highest permanent camp. Everything was dog sledged out to 8,000 ft and then everything was carried up to 14,600 ft or whatever it was. Helicopters are not used for placing caches as the National Park is against aircraft in the Park. It is the general idea around the park that the climbers take up everything on the climb. We went with them in late march. Although it is much like winter they have 12 hours of light. That was the big difference. They were not worried about the weather as they were about making good time. Out of 6 people 4 made it to the top and one guy developed pulmonary edema, and another had to take him back to a lower altitude real quick. Above a certain altitude the recuperative powers to heal a ^{wonder} really fall off. The atmosphere bulges out a little at the equator and at 20,000 feet in Alaska is about 22,000 feet at the equator. and the air is thinner and there is less oxygen. It really

visibly effects the climbers and they look terribly. They had a successful climb and we dog sledged but to Wonder Lake headquarters which is about 95 miles. There is a road going along there but in certain places the road takes a scenic route along the mountain ^{cliff} and the road is drifted over, so in the winter we do not necessarily take the road, it's much easier to take the natural highways of river courses.

In the winter the bears are lethargic and sleep alot. I didn't see many caribou ⁱⁿ during the winter as they were about 185 miles NW of where I was last winter. About 3000 wintered at Lake Chikina. There is only an average of 12-20⁴ inches of snow at certain elevations. In 1971 they had an unusually high snowfall, 5 feet, a right away in the spring the biologists ran a game count and it was ^{really} quite obvious that a whole bunch of moose yearlings had died off during the hard winter and a lot of young sheep, not so many, died and all the ^{high mortality} was related to a ^{heavy} snow fall. Cause that is what they would have to do is to dig down and get the snow off. I think it was pretty hard on the wolves too. When it's hard on the other animals they have to travel through the deep snow too and it's hard on them I'm sure. The higher the snow the more difficult for the wolves to catch the animals, or to get to them. The sheep do go across the ^{wide} valley from the summer ranges, ^{and the outer ranges} to the winter ranges on the inner range of higher mountains like the McKinleys which are just a gigantic ^{granite} ice berg. I believe they have a tendency to stay high on the mountains of the Alaskan range where the wind keeps the ridges bare where they seem to be more comfortable. I have seen sheep walking along what was obviously the rocky river bed in the valley, where they seemed to be more comfortable than away from the river bed and what appeared to be more like their normal ground surface on the mountain ridges. Even though they are more highly exposed on the river ^{bars} ~~gravel~~ they prefer these areas to the ^{higher} vegetation. Most reports of wolf kills are on these gravel beds where the sheep were caught while crossing the valleys. It would make a big difference how they would react to you when you would approach them for photographing or just observing them. The easiest way was to ^{not} hide yourself at all but very boldly walk right up to them until they start to get pretty jittery

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Every time 741006-101
and, ^{then} stop to watch them. If you tried to be sneaky and try to out around ^{behind} them, or peer up over a rock to look down upon them, that made them very uncomfortable especially when you were above them. They always preferred to be above you and you to be in a clear spot. That was the best technique I had which was to walk right up to them and watch them.

The ravens are in the Mt. McKinley area all the time both summer and winter.

I sure saw more eagles in the summer. There was a guy named Williams ^{Ruth?} that got a really good sequence of golden eagle pictures ^{on its nest, the} ~~on a nest~~ was a really old nest ^{built up year after year} at least 4 feet thick and was right by the ~~road~~ ^{road} and there have been golden eagles there for a long long time. and the first year I was there in 1971 some fellow took pictures when there was 2 eggs in the clutch and pictures a few hours after they had hatched and the birds ^{and the adults feeding them} growing up. It was pretty interesting learning to fly and from the edge of the nest they would jump ^{off and} ~~up~~ then glide down across a steep cut where a stream had cut thru. and by flapping a couple of times until they landed on the other side and they would hobble and swabble up the the slope until they were high enough so they could glide back to the other side ^{to the nest}. They did that for at least a week before they started to circle around on their own power. This nest was really close to the road and what really happened was that in 1972 some giant gyrfalcons had nested in this eagle nest ~~and~~ as the eagles had not used the nest that year and the ~~birds~~ gyrfalcons were stolen by 2 young fellows who planned to sell them and they got caught at the border and somebody in some zoo somewhere got the birds. They were a mated pair and ^{be} nothing came of their eggs and since then nothing has lived in this nest and its kind of funny in that you dont know why not. Somebody might tell you that its because the nest has been disturbed but there have been people living there a long time and they have been watching these birds every year. Some other people say the Park people have done something to alter the nest so that the birds will not nest there anymore. A lot of times you would be walking alone the tundra and you would see golden plovers and you will see nests

that have been disturbed by people. There are a lot of people coming into the Park and there is more and more disturbances to wildlife. There were probably fewer people altogether this year but then last year in the park but there just many many more people who were back-packing than there have ever been before so the back country has taken a terrific beating.

The bears have always been pretty good about avoiding people unless somebody is ^{being} very blatant and bothering them. After the tourists leave there is not near so much trash at the dump for the bears to sift through so they spread out from the dump into a camp ground that is about five miles from the dump so right away around September 20 one can just about expect to hear about bears in this one certain campground.

It is just ^{as much} ~~about~~ probably ^{very} ~~as much~~ by chance as any ^{else} thing they are not like the bears in Yellowstone. They ^{stay around the camp for a few days and then} ~~leave.~~ tend to be shy of people ^{and avoid them}. There is always a greater chance for an incident than anything else if you were to surprise them. It is a bad idea to walk towards a bear simply because for the bear there is not too many ways a bear can interpret the thing except as an aggressive act. and you don't want to run away from them either and that doesn't leave you with too many choices ~~than~~ except to become non-chelant. A lot of times you might pass by a willow thicket where a bear is resting without the bear reacting to you but on the tundra they watch you a way away and you watch them and most likely they will avoid you.

There are problems with the backpackers. Every time they build a fire on mineral soils they leave a ring of rocks and on the tundra they burn out the vegetation. It is encouraged that they use stoves. It will be the way of the future, a lot of the country is upland tundra and there are no trees to burn at all, so they do not have a choice except to use a stove if they want to stay on the tundra for any length of time. Backpacking is now by reservation, they know pretty well where people are and what areas and then there are some wildlife closures. which means that you can't hike there because you disturb the animals, but what it

it is set up for biologists to do research. There is a Gordon Haven who is studying wolverines and he doesn't want anyone to go into those areas and disturb the dens while he is conducting his research. So he is a pretty controversial figure. The Park Service doesn't like him because he plays with politics and he is on good terms with the Secretary of Interior's wife Mrs. Morton so anytime the Park Service disagrees with this fellow Gordon he will call up Washington and get Mrs. Morton to call up the McKinley Park and say "Oh please ~~do not~~ ^{don't} do that." "Don't give Gordon a hard time." Gordon has been working on this study for eight years. He's quite a character and is outspoken. The Kinley park is an ideal place to study the wolverine because there is so much open country and a piper cub can be used to observe them every day and to follow their patterns of movement of the pack as compared to Isle Royal where they have done some wolverine studies but the timber hinders their observations.

Satellites have brought TV to Alaska but as far as photos for censusing animals are concerned they are not detailed enough. Fish and Game do most of their census work with aeroplanes. There is one place on the Kenai Peninsula that was recently burned so that there are willows and all the other vegetation growing back which is good moose browse. So they fenced off an area and put a certain number of moose in the enclosure and then they offered free rides for people to fly over this enclosed area to count the moose. They got a wide range of different people flying over this range with a known number of moose and they then compared that with the the numbers of moose counted by the people so they could get an idea of how accurate are their game counts. They ask hunters to send in the lower jaw of their moose kills and where they were taken so they have a good age distribution of the moose that are shot. They make many graphs of the information.

I am not sure what they mean about the road finished to the Arctic oil fields. One interesting engineering construction is ice bridges over a few rivers for heavy truck traffic. They keep piling ice on top of the river and reinforcing it with trees and logs so that a big block of ice over the frozen river will support the traffic.

There is considerable talk at Mt. McKinley National Park about the construction of the Alaska pipeline from Prudhoe Bay to Valdez. Mt. McKinley is an isolated island of conservation and in the middle of the rising tide of construction the state is just a broomstick and in that way is depressing.

At Katmai National monument I did a little construction work. The fishing is good and I caught a six pound rainbow trout. The red salmon were spawning and was able to watch all the behavior of the salmon. There was one rainbow trout that was interesting to watch. The salmon were moving pretty well along and others staying in one place where they dug out a little shallow dish with their tails and they set up their territories and you could see them chase away other salmon. The trout would come up and hit the salmon on the side and a few eggs would pop out and the trout would then eat the eggs. The trout were there to eat the eggs of the salmon and they laid their eggs. but the salmon outnumbered the trout by about 1 thousand to one.

There was a whole lot of fishing that come into ^{? up.} Rainier Lake last year when $\frac{3}{4}$ of a million red salmon moved in. They are expecting only a third that number this year and they closed the fishing. I wonder how good an idea they have about fish populations. It's pretty hard to estimate the fish population. The best time is to count them as they come ^{to spawn} in. They set up these fish towers where they can have a glass observation station where they can count the fish as they swim by. They probably make about a 25% error in counting. It's really an impressive site down at Katmai. The valley of Ten Thousand Smokes and while they are not smoking anymore there are many interesting things to see. The great depths of ash is easily eroded and there are deep steep walled canyons.

I stayed in a campground ^(by Bert's Camp) there for two nights and the bears were always near and every morning they would walk thru the campground. The Park has a cache they provide there and people put their food there so the bears could not get it. At McKinley Park I always meticulously

* I talked to the carpenters union in Alaska and they were pretty nice. They told me that it would be at least two years before I could join the union. I think I would like a trade skill and my choice would be carpentry. I have worked on a lot of log cabins and I am pretty sure I can build a log cabin. The next step up is a little more sophisticated and I can work on a frame house.

the bears but here one night we passed by the south part and we were within 30 feet of them where they were down by the lake edge eating dead salmon. They completely ignored us and went about eating the salmon. We didn't think they would bother us ^{unless} we scared them or something. At this time of year there is dead salmon everywhere and these bears don't bother the campgrounds or run after people.

This is where I did my construction thing. There was a ^{Park} lodge that was run by an air concession. They were way behind schedule in putting in their sewer line, electrical wires, fuel lines and water lines and everybody was frustrated about the job. Guy Peterson came down and found out he lost ^{that summer} \$100,000 and he fired the guy who was in charge of it. They ^{then} ~~were~~ worked 14 hours a day for three weeks when I got there and the boss was frantic to get as much ~~so~~ work done as he could before October the first, which was the end of the construction period for the year. So the Park Service kids, the sons of the permanent park personnel, kids 16-17-18 years of age, they all had jobs with this concessioner, and they were the slackest construction ~~you~~ crews that you have ever seen and they were disorganized and at the same time I got ^{per} promoted the third day ^{from} ~~to~~ a shovelling aggregate into a cement mixer for 14 hours a day. The boss came one day and said, 'say have any of you guys had experience laying pipe and before I knew it my hand shot straight up "yes sir"'. So there I was in the middle of the ditch, smoothing it out to grade at a few inches per hundred feet and we were fitting pipe and all the shovelling ~~and all~~ The Park Service didn't give them a large enough right-of-way and they didn't want trees cut down in the concession area, so they dug up the dirt for the power lines and threw it out among the trees, and there was no place to get a machine in to push the dirt back into the trench. Actually it was pretty silly for the park service to not give more of a right-of-way because at it was the trees were pretty well damaged anyway. So there was all this hand shovelling that had to be done. I worked there for about 3 days and was educated to the fact that there was such slack in safety that I didn't want to work anymore so after 10 days I quit and that was my heavy construction career.

I'm getting more and more interested in carpentry. I have friends who live on a farm about 20 miles north of Lawrence and tomorrow I am going up to help them frame a house.

Lawrence, Douglas Co., Kansas

October 7, 1974

From top of ^{in vicinity} Museum of Natural Hist. at K.U. observed the condition of fall color to N over stadium

Yellows 50%

golden 20%

greens 15%

brilliant reds 10%

dark reds 5%

Few chimney swifts in area.

Oct. 9, 1974

yellow (dropped to) 20%

deep red 10%

golden (some faded to brown) 49%

green (slightly faded) 14%

reds (but not as brilliant) 15%

There appears to be a

general fading of overall colors.

Perry Reservoir, Jefferson Co., Kansas

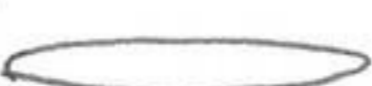

Oct. 9, 1974

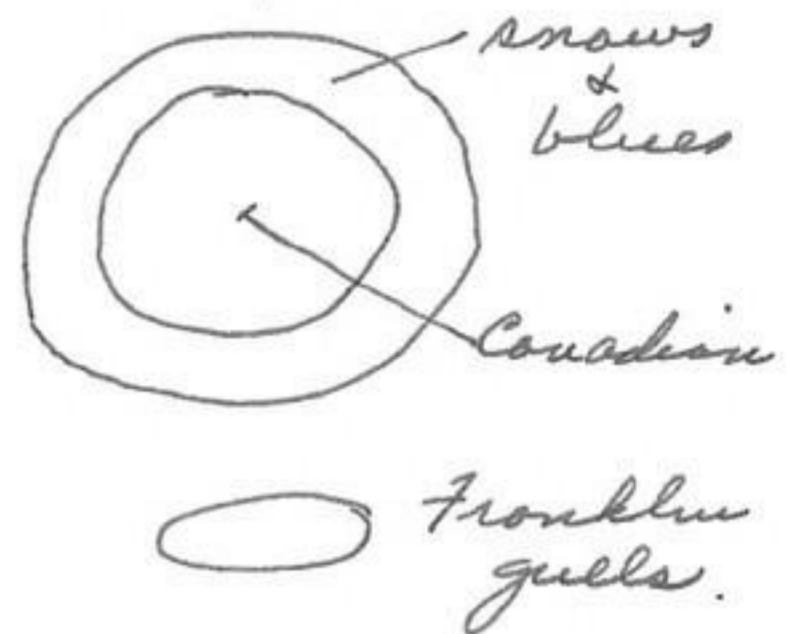
Left 9:00 A.M., day clear and warm, wind enough for good waves. Enroute took photo 741009-1 from 1/2 mi. E Lakeview Resort of sheep and good grazing field. This pasture is never allowed to be overgrazed and has been maintained in the condition for as long as I can remember (25 years). Photo 741009-2 of same area. Noted one dead sheep in pasture.

At NW end of ^{Kaw} Kansas River offbar at Lakeview took photo 741009-3 of old Cottonwood tree. These trees are probably the original trees along bank of the former Kaw river. Photo 741009-4 same area with dead drift wood in foreground. Photo 741009-5 in same area with Cottonwood leaves as border. All photos shooting to E.

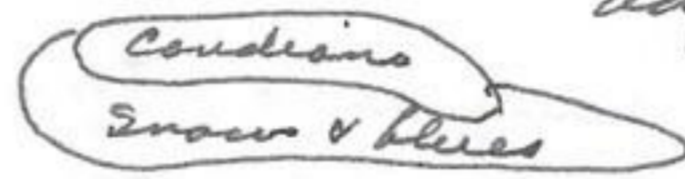
Continued to Perry Reservoir and checked Big Slough area and W side Lake just N of W end of dam. At a point approx. 100 feet SW of corner of Ferguson Road and County road 1029 took photo no 741009-6 of locust tree in full front view. These trees are delicate and golden in color. Photo 741009-7 on top of ridge at Slough Creek (Federal Park) just about 2/10 mi. S of main toilet and dump facility. These fields are mowed to edge of trees. Photo 741009-7a top point at boat camp to W. Photo 741009-8 at ridge in Slough Creek Park just before dropping down E to County road, showing bank of deciduous trees and branches of young tree in foreground.

Continued S to dam and at W end photo 741009-9 of raft of approx. 800 snowgeese, 200 bluegeese, 1000 Canadian geese, 300 Franklin gulls and some American Coots. The water on lee side

raft was smooth whereas on all other sides was in waves high enough to cause geese to ride up & down. This raft is in same area that is maintained as open water by the birds in the winter. The snow geese surrounded the Canadian geese at the moment the picture was taken. When viewed from dam the raft looks lenticular  but when view from 90° at another point the raft is . The true raft is circular in shape.



Later the raft adjusted to:



Geese called occasionally, adjusted wings and moved when car stopped on dam.

At a point approx 3/4 mi. NW of W end of dam photo 741009-10 of Cottonwood and old tree in background. Photo 741009-11 in same area and of locust tree (lone) at edge of lake.

At a point 1/4 mi. NW of W end of dam at edge of lake photo 741009-12 of osprey on limb of dead tree. This bird fed on a small 5 inch fish and remained until I approached to within approx 100'. It was alert to my movement and called whenever I became noticeable. It left abruptly and flew N along edge of water. This photo is first shot on new reel.

Photo 741009-13 and 741009-13a of same raft of geese as photo 741009-9 with a raft of loat just beyond. The Franklin gulls keep a separate but adjacent raft to geese.

Photo 741009-14 of W end dam showing racks facing surface. These are being invaded by a vine at this point. A trapline in this area would be interesting in that it represents a new ecological niche for the Kansas environs.

Noted a motorboat (speed) bisect three large rafts of American Coot as if intentional. Boat operators should be informed that these migrating birds have priority on the lake during this time of the year (migration) and should respect the formation of birds on the lake. Some areas should be held inviolate to motor boats. Other than 5 other fishing boats, this motor boat was the only speed boat on the lake (except 2 sail boats). Coots lined the shoreline from W end of dam to outlet gate and rested on rocky beach. The Coot is the dominant bird on water. No ducks observed today.

Wakarusa River, Douglas Co., Kansas
Oct. 11, 1974

Michael Barton, ~~Sam~~ Labovich, Bryson Stewart and John Ruthridge
and I made canoe trip from Klingman's Crossing to Eudora. Rain
most of the way. Noted a coyote and 2 groups of wood ducks
(5-3) along way. One gar measured 42 inches long. Some
beaver active and noted 2 muskrats. Four great horned owls
observed.

Lawrence, Douglas Co., Kansas
~~Lawrence, Douglas Co., Kansas~~
 Oct 10, 1974

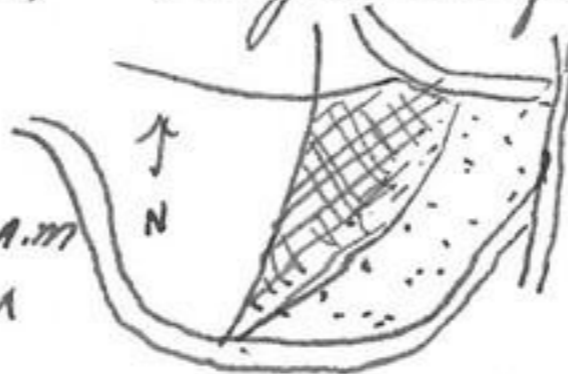
Color of trees from 7th floor Museum overlooking stadium to N.
 yellows changing to goldens and only 2% yellow
 golden dominating and now 60%
 brilliant reds slight increase to 14% but fading
 maroons increase to 15%.

greens now to 7% (summer green) and show considerable dulling.
 Trees when viewed from ground level show brighter colors and appear
 near maximum with considerable more green leaves yet to change. There
 appears to be less effect from wind. Some trees originally yellow are now
 bare of leaves.

Museum Natural History, Lawrence, Douglas Co., Kansas
~~Museum Natural History, Lawrence, Douglas Co., Kansas~~
 Oct 10, 1974

In afternoon, 4.00, noted nine fox squirrels and 1 gray squirrel in
 marion grove W of museum. They were feeding and burying black
 walnuts in ground in

There were no other
 hatched area. Yesterday
 2 gray squirrel in area
 were no squirrels in the area where 10 were observed yesterday



area marked with hatches.
 squirrels 5 of the
 noted 12 fox squirrels and
 south & east (dotted). There

Museum Natural History, Univ. Kansas, Lawrence, Kansas
~~Museum Natural History, Univ. Kansas, Lawrence, Kansas~~
 Oct. 15, 1974

Checked color of trees from 7th floor of museum in an area N of
 the stadium in residential area.

yellows increasing to 16% because of a revitalization of colors.
 golden color down to 35%
 light reds (mainly maples) 5%
 deep red maroons of oaks 25%
 greens 15%
 fuzzy from bare trees 4%

Oct 17, 1974

yellows 8%
 golden 20%
 light reds 3%
 deep red 40%
 greens 12%
 fuzzy from bare trees 17%

Museum Natural History, Univ. Kansas, Lawrence, Kansas

Oct. 18, 1974

Color of leaves N of stadium (from 7th floor Museum) is:

yellow 8%

golden 15%

light red 2%

deep red 45%

green 10%

fuzzy quality of bare trees 20%

Perry Reservoir, Jefferson Co., Kansas

Oct. 20, 1974

36°F but warming

Enroute to Perry Reservoir kept complete record of birds observed. ^{Left} 8:30 A.M.

Eng. sparrows 6-12-6-20-8-12-14-20

Crow 1

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

Killdeer 5

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

Cowbirds 5 (in field with one killdeer)

loggerhead shrike 1

grackles 18-80-4-8-2

starling 2-1-3-2-2

redbellied woodpecker (in road) ¹⁻¹

The above observed via LeCompton Road to LeCompton, Perry, Thompsonville, thence W to entrance to Reservoir area at which point included census.

The native deciduous forests were at various stages of color, but the average would be 90% leafless, the rest in dark browns & reds with an occasional yellow tree. The light reds of maples were dull or brown.

Some forests (W of Reservoir) were about 40% leafless with 40% dull reds and brown. It depends a lot on exposure to winds. In the ^{Riparian trees yellow on top, green below still in full leaf.}

center of that part of the lake N of dam were approx. 30 snowgeese and 80 blue geese. One group of 42 snow & blues (some proportion as above arrived from S at about 400' above dam. They set their wings and sailed directly N to group of geese already on lake and after circling 5 times without wing beats glided low ^{into} the wind and alighted at almost 0 speed about 150' from main flock after which they swam over to the main flock. This deliberate approach is in contrast to the toppling & dropping of these geese in spring. Two snow geese arrive about 5 minutes and were just able to clear the dam at which point they dropped to ^{near} the water surface and flew directly to the main group of geese. During the observation of these geese, three sail boats move by the geese and in each case the geese anticipated the movement of the boat and swam laterally to evade the oncoming boats. One ^{real} speed boat, estimating its speed at 80 MPH left marina and followed parallel to dam and when at W end turned and going into the wing gunned the boat with terrific noise and speed directly into the flock of geese. The geese all gained

an altitude taking them almost out of sight and then flew north. They acted as if truly terrified. The boat then reduced speed and went directly back to the marina as if the entire maneuver was to drive these resting geese out into the areas of hunters.

while observing these geese from a point about $\frac{1}{10}$ mi N from W end of dam from forested hillside observed a duck hawk fly S along beach at base of hill and then up over the dam & beyond. This is the same area where the osprey has been observed on three other occasions by myself and other individuals. One speed boat can dislodge every duck in this part of lake.

The duck population has increased in the last week and in this same area observed approx. 250 birds (Mallards, bluewings and others). The main mass of loat were not in their usual areas inhabited this fall and may have moved S.

Fly fished dam from W pipe to confluence with west hills and caught only 3 bluegills, ^{measuring 130, 150, 125 mm} There seems to be a decided drop in bluegills & sunfish in this area of the lake & may indicate a change in fish population. 1 dead shad per 100' along shore.

Lawrence, Douglas Co., Kansas
Oct 23, 1974

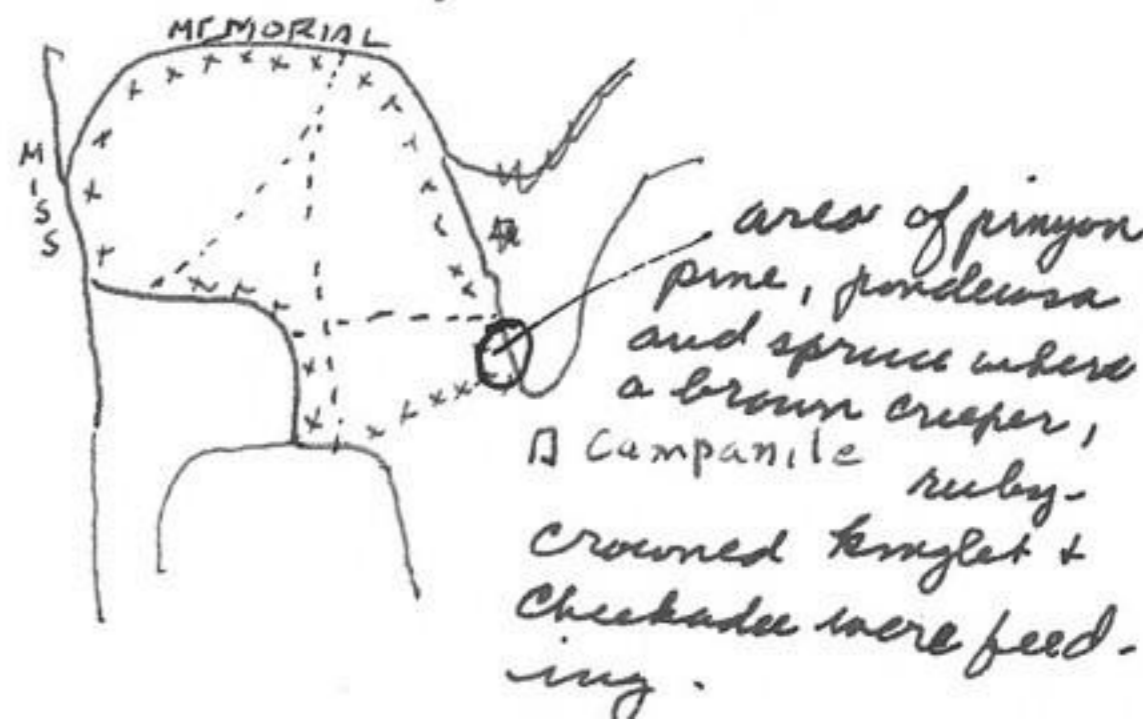
Last night at 2:30 A.M. heard snaw & blue geese pass overhead at 402 Yorkshire St. They called at about 1 every $\frac{1}{2}$ second.

Museum Natural History, Univ. Kansas, Lawrence, Kansas
Oct 24, 1975

Color of trees from museum.

deep reds (more brilliant) 46%
yellows (way down but some new trees) 10%
golden up & brilliant 17%
greens 5%
bare leaves 21%
light red 1% (almost gone)

At 3:30 P.M. walked thru Marvin Grove W of the museum and noted 26 squirrels (19 Sciurus niger and 7 Sciurus carolinensis). They were confined to Marvin Grove below Memorial Grove all within area of X.D. On return after approx. 1 hour counted the same number in the same area. They were feeding on ground, especially on the black walnuts in the area.



Perry Lake, Jefferson Co., Kansas

Oct. 27, 1974

Will take lower river road to Leecompton. Left 9:45 A.M. and will keep list of kinds of birds between here and Perry Lake. Sky 98% overcast with formed clouds. 92704 mileage at home. Bluejay, grackle, starling, Eng. sparrow, meadowlark, slate-colored junco, bluebird, 705 Leecompton bridge. tree (cottonwoods yellow and losing color, a few leafless trees. Sand in river 40%, 2 redtails between Leecompton bridge and Perry City. Redbellied woodpecker on road. 721.4 SE corner of Perry Reservoir. Sun shining now and clear blue to W. Crow. 722.3 E end of dam. Redtail soaring to S of dam in field below. Water level 889.6. Approx. 2000 coot along shore at base of dam east of the water gate and 100 west of outlet gate. In center of lake and just disturbed by a motor boat charging the flock were 15 snaws + 30 blues, 6 Canadian geese and 5 white-fronted geese. Less than 200 ducks including mallards, ¹⁵⁰ pintails, ³⁰ teal and ²⁰ shovellers. ⁹ ring-bill gull. 724.1 blue jay. 724.3 6 bluebirds, 1 bluejay. From W end dam to top & return to W end dam at 725.2. Harlan hawk hovering over dam. On the average the deciduous trees 95% free of leaves, the oaks mainly dull browns, yellows are conspicuous colors + are from recently turned leaves of green. 90 mallards flying S. 5 ring-bill gull on east peninsula, 4 killdeers, 727.0 E end peninsula. approx. 40 coot. 727.7 sparrow hawk. (change mileage to 3 figures now) 28.3 ring-bill gull along shore. 28.4 15 ring-bills on point. 29.0 black-capped Chickadee. 30.6 at main road on top. Approx 4,000 starling and in same area as observed 2 or 3 years ago. 31.4 7 crows. 32.4 Rock Creek bridge. An immature bald eagle flew E across lake to Gap Point at N end of Big Slough Camp area and then circled S along ridge. at one point it was attacked by a redtail hawk that dropped down on it from a height of 150 feet (above edge). 2 ring-bill gulls on bar near marina. 15 coot S of bridge along E shore. 20 coot beyond. 33.0 leaving main road and turning E to Hilldale to see if road leads to SE peninsula which is good vantage point to observe birds. 33.9 5 bluebird. 34.9 back to main road & now to N. 35.2, 28 robins. 37.1 2 juncos. 38.4 redtail. 39.0 5 robins, 50 robins. 39.3 near lake edge 1 cormorant + 50 coot. The cormorant held its wing outstretched and faced the east. 40.4 Perry Yacht Club. Photo 741027-1 of the sail boats in bay. This bay is protected from the north as well as from the south from winds and was no doubt selected for this purpose of wind protection in mind. No birds in extension of bay to left except Redtail and marshawk. Single cormorant flew S down lake. An immature bald eagle and probably the same bird as noted at mileage 32.4 above. This bird sailed N over ridge thence E toward

Little Slough Creek. 41.8 Approx 5000 starting in one group.
 42.4 back to main road at Lakeshore Estates turnoff. 43.6 redtail.
 44.1 2 redtails. 45.4 main road to Ozawie. 47.2 Ozawie just
 w of bridge. Photo 741027-2 of telephoto of car on emergent
 road S of Ozawie. (old road before new road built). This ~~450~~ road
 is used by resting birds and is interesting in that wave action splashes
 on wave side and throws ^{flows} water across the road. Returned to Ozawie
 and at 48.0 at bridge noted 15 ring-bills and 10 coot. 2 photos
 nos 741027-3 and 741027-4 at four entrenched corners E of Ozawie
 (Ferguson-Ozawie highways) show dangers of cliff collapse for
 fossil hunters. Some of these blocks slide or roll 20' from cliffs. at
 # 50.2. 52.9 Little Slough Creek. 7 great blue herons and 4
 mallards flying up Little Slough Creek E of road. 54.1 turning E
 off Ferguson Road to travel Big Slough drainage. 55.7 5 bluebirds,
 2 slate-colored juncos. 56.4 4 juncos, 2 titmice, 8 juncos.
 56.9 Big Slough Creek bridge. redwing. Brown-reddish leaves
 from ~~the~~ oaks are now on floor of forests and produces complete
 cover. Hackberry in forests still maintain dry leaves on the
 trees. 57.7 Crow. 58.0 4 juncos, 2 fox sparrows, goldfinch.
 58.7 2 juncos, 2 bluebirds. 59.3 redheaded woodpecker,
 50 tree sparrows, 4 juncos, redbellied woodpecker. 59.5 3
 juncos. Now at open field of east arm of Big Slough Creek at
 entrance of 4-H Composite. 60.2 Crossing bridge of this drainage.
 61.3 5 goldfinches. 61.5 standard county road to S. 61.9 3 gold-
 finches. monarch butterfly occasionally observed. 62.2
 2 crows. 63.0 cardinal, 2 robins. now on road to bay below.
 Crow. 64.4 edge of water of east arm of Big Slough. (3:30 P.M.). bluejay.
 65.4 redtail, crow. 65.7 main road. 65.8 redtail hunting best
 field for merotimes I have seen in The Perry Lake area. 66.9 redtail.
 67.2 junction Ferguson road. 67.8 turnoff to Marina Cove. 69.1
 6 bluebirds, 2 goldfinch on circuit NE of Marina. 71.0 3 juncos. 71.7
 3 bluebird, yellow-shafted flicker, bluejay. 73.3 Administrative Building,
 bluebird. Sky now about 70% clear. 74.0 at SE corner of
 Perry Lake area and end of census. Time 4:00 P.M. Birds other
 than those observed on way over to Perry Lake are: mourning dove,
 sparrow hawk (1 mi. W Medland), Home 92792. at 4:30 P.M.

Summary Lake Perry area:

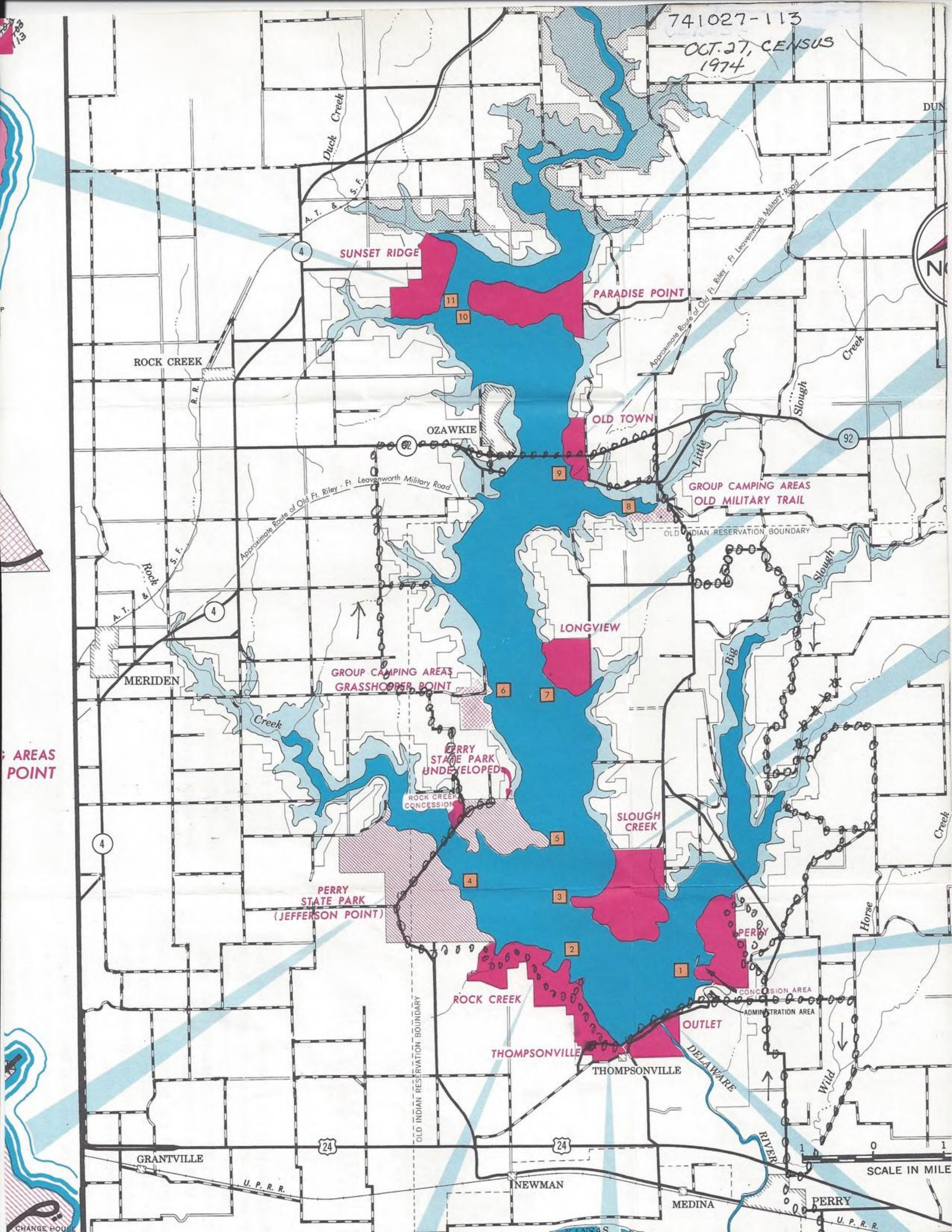
crow 1, 2, 1, 2, 1, 1, = 13	ring-billed gulls 9, 5, 1, 15, 2, 15 = 47
redtail 1, 1, 1, 1, 1, 2, 1, 1, 1, = 10	bluejay 1, 1, 1, 1, = 4
Coot 2000, 100, 40, 15, 20, 50	bluebirds 6, 5, 5, 2, 6, 3, 1, = 28
snows 15, 10, = 2235	killdeer 4
blues 30,	sparrow hawk 1,
Canadians 6,	black capped chickadee 1.
white-fronted 5,	starling 4, 000, 5000, = 9000
mallards 150, 90, 4, = 144	bald eagle 1, 1, = 2
redtails 30	robin 5, 50, 2, = 57
bluewing teal 20	cormorant 1, 1 = 2
shoveller 5	

33 species

yellow-shafted flicker 1
marsh hawk 1
great blue heron 7
slate colored junco 2, 4, 8, 4, 2
titmice 2, 4, 3, 3, 30
redwing 1
fox sparrow 2
goldfinch 1, 5, 3, 2, 311
redheaded woodpecker 1
tree sparrows 50,
red-bellied woodpecker 1
cardinal 1

741027-113

OCT. 27, CENSUS
1974



SCALE IN MILE
1 0 1

AREAS
POINT

CHANGE HOUSE

Paradise Point, Perry Lake, Jefferson Co., Kansas

Oct 28, 1974.

Made census of birds on Paradise Point. Left Lawrence 9:00 at mileage 92800. Sky overcast and wind from south. Average temp 60°F. Looks like rain. Enroute will keep list of total birds observed. Route via LeCompton Rd. (parallels Turnpike on the north side). 2 Starling, meadowlark, starling, 2 Eng sparrows, 4 starling, opossum rd. hill, Eng. sparrow, starling, 05.6 sparrow hawk, 50 starling. 07.9 near N to LeCompton, 18 starling, 3 Eng sparrow. 11.0 Kaw River. 8 Eng sparrow. 12.4 redtail, 4 killdeer, starling. 13.8 Highway 24. Opossum rd. hill. 3 gold finches, 4 Eng sparrows, shrike. 16.5 SE corner Perry Lake area. Will continue N along Ferguson Rd. and keep complete list of birds. 18.6 Big Slough Bridge. 15 Coot, bluejay. 20.1 Big Slough Comp area turnoff. bluejay, slate-colored junco, 2 bluebirds, goldfinch, 7 bluebirds, meadowlark, 2 starling, starling, 4 Eng. sparrows, 14 starling. 24.5 Little Slough Creek Bridge. 5 gulls, 5 bluejays. 25.3 4 corners intersection on Ozarkie - Oskaloosa Rd., crow, 4 robins, 2 goldfinch, 18 robins, bluejay, 30 robins, 4 starling, 8 robins, 2 marsh hawks, 28.8 redtail. 28.9 Entrance to Paradise Point. Continued S to turn-around near lake where I started the census of birds around the shoreline of Paradise Point. 29.3 is at turn-around. (9:45 A.M.). marsh hawk, 5 redwing blackbirds, meadowlark, ring-billed gull, 50 ring-billed gulls, 200 roots in bay to S resting. Catfish 34 inches long (2 main feelers on each side), ring-bill, cormorant, redwing, deer tracks to edge of water across mud beach. They measured. 82 mm. Distance from point of track to dew claw 120 mm. 9:58 passing E-W fence row, ringbill, song sparrow. 10:02 first N-S fence row of willow now yellowish-green. 10:04 point beyond. ring-bill. There is a round concretion measuring on the average $\frac{1}{4}$ of an inch in diameter that has eroded out of bank and soils and is redistributed in masses on the beach. 3 Bonaparte Gulls flying E, corp. Coyote tracks in mud and soft soils. Shad overaging 1 per yard, some places 15 per yard. The unmonid *Leptodea laevis* overaging 1 per 20 feet. The ones above water are dead & opened and of various sizes. The ones in water are alive and are either imbedded foot down on on side in very shallow water. These are not as round as the ones in Lake view. Ring-bill, ringbill, 2 killdeer, mourning dove, 2 ring-bills, 10:17 second major drainage. 5 Bonaparte bull, ringbill, few grasshoppers. Wind from S & overcast. a few white-cops. There are more dead shad here than to E. Ringbill, roccoon + coyote tracks along beach. 10:25 Point. 60 Coot resting, one cormorant. A fence line enters here.

dead snapping turtle 10 inches (carapace) long. Savanna sparrow
 on open beach 20 feet ahead. Rather than fly to weeds ~~downward~~^{land}
 it ran to water edge, picked up an insect and then flew to weeds.
 Cormorant. 10:35 drainage at ^{old} trapping area. 26 coot, 2 Cormorants,
 savanna sparrow. There is more rock, especially erratic (granite) here
 than elsewhere and may be associated with low pass on ridge to N.
 Just beyond to W the beach butts against the bedrock of the
 peninsula. There are concretionlike mass to 2 feet in diameter,
 sandy rock with top-set, fore-set and bottom set beds and good
 ripple marks. yellow-shafted flicker, 2 Bonaparte gulls. The
 gulls are moving along shore (out 100') from W to E. The ring-bills
 near shore. Ring-bill. 10:44 drainage from old home site (crescent
 bay). Good sandy beach and considerable drift wood among trees on
 hillside. 2 bluejay, 5 robins, 2 juncos, 2 ringbill gulls. Single coot.
 5 cormorants, 2 ringbills. 11:05 ^{SW} Point of Paradise Point (where
 Annette + I camped before water in lake. There is a high drop-off
 point + old river channel out to ^{SW} from this point inundated now by
 lake. 2 cormorants, ringbill, ringbill, ringbill, Bonaparte gull, 2
 ring-bills, cottontail, ^{E-W} ringbill, all gulls moving S along this shore.
 Ring-bill. 11:15 Old ^{E-W} County road plunges into lake. Fox squirrel.
 Dead catfish 32 inches long. Ringbill, bluejay, 2 ringbills, 5 coot,
 11:25 NW corner Paradise Point. Ringbill, 10:42 boat ramp.
 2 groups of 18 and 12 Franklin gulls flying E. Ringbill. Wind has
 little effect on N side of peninsula. 11:48 force on hillside because
 of beach logs and down timber from shoreline. 12:00 shelter area.
 12:05 stopped for lunch. It has been raining since I left NW corner of
 peninsula. On exposed mud bar and in shallow water surrounding
 this bar (about 1/2 way across valley) observed approx. 5,000 Franklin
 Gulls, resting and all facing E. 192 ring-billed gulls formed several
 groups at edge of Franklin gulls. At one time about 100 Franklin
 Gulls left main mass and flew down wind to W end of mass and
 started to bath in the water. most gulls inactive but one gull per
 20 seconds raised wings. One ring-bill made unusual gyrations
 by flying erratic, darting into the groups of other ring-bills coming down
 within 2 feet of them but never attacking any individual bird.
 After such maneuvers, which lasted about a minute and a half, it
 very gracefully alighted among the other ring-bills. One would say that
 it went crazy for a minute or so. Approx 60 birds arrived during
 the hour observation. Associated with these gulls were 2 oocets,
 18 long-billed dowitchers, 8 godwit, and ¹⁰ sandpiper about size
 of the pectoral. The Franklin ⁽²⁾ gulls definitely followed the

(the dowitcher)

dowitcher as they fed along side the resting gulls. An immature tree swallow systematically fed on the lee side of the resting gulls and made at least 10 flights in the hour of observation. It seemed to chase insects at certain points along its cruising range. A fox squirrel and a gray squirrel passed by my observation point on side of hill.

Left 1:05 and continued E along a deer trail which is 3/4 or more up side of ridge. The area is now covered with leaves but the trail has been established and the leaves recently trampled. 1:15 2 old road leading down from ridge. This is the first time that the beach can be negotiated although considerable amount of drift wood is deposited there. 1:30 road leading S over pass, lower part solid rock, upper part soil and muddy. Still raining. Returned to car at 2:15 P.M. 8 savanna sparrow, 2 song sparrows in weedy area. One horned grebe 2 feet from shore. It swam out 30' then dove. Redtail on old log in field. Left to return to Lawrence. Will keep complete list of birds. At 19.6 mileage at entrance to park. 33.3 4 corners. 34.0 Little Slough Cr. bridge. Grackle. 30 robins and 2 bluejays together, bluejay. 40.0 Big Slough bridge, 5 ringbills. Continued to and across dam. Approx 3000 coots in localized groups at base of dam. 44.6 W end dam. 3 crows + 2 meadowlarks on top. 45.5 Thompsonville Road & end of census. Still raining, home at 3:30 P.M.

Summary of birds^{etc} at Paradise Point:

marsh hawk 1-	long-billed dowitcher <u>18</u>
redwing blackbirds 5-1 = <u>6</u>	godwit, Hudsonian <u>8</u>
meadowlark 1-	
ring-billed gull 1, -50-1-1-1-2-1-1-1-2-2-1-1-1-2-1-1-1-2-1-1-192 = <u>268</u>	
coot 200-60-26-1-5 = <u>292</u>	
cornorant 1-1-2-5-2 = <u>11</u>	pectoral sandpiper <u>10</u>
song sparrow 1-2 = <u>3</u>	tree swallow 1
Bonaparte gull 3-5-2-1 = <u>7</u>	horned grebe 1
killdeer <u>2</u> -	red-tailed hawk 1
mourning dove 1-	
savanna sparrow 1-1-8 = <u>10</u>	5748 individuals
yellow-shafted flicker 1-	23 species
bluejay 2-1 = <u>3</u>	
robin <u>5</u>	
slate-colored juncos <u>2</u>	Other animals: catfish, deer tracks,
Franklin gull 18-12-5000-60 = <u>5090</u>	raccoon tracks, coyote tracks, shad,
ovocet <u>2</u>	unionids, grasshoppers, snapping
	turtle, cottontail, fox squirrel,
	gray squirrel, carp.

Museum Natural History, Univ. Kansas, Lawrence, Kansas
 Oct 29, 1974

Color of trees (from 7th floor of museum looking N beyond stadium)

golden 70%

yellows 80%

maroon 4% bright, 11% dull brown.

light red 0

green 10%

leafless 60%

repareau along Kaw River

20% yellows to pale yellows

80% leafless.

At 9:30 A.M. crossed thru marvin grove and counted 11 fox squirrels and 3 gray squirrels feeding or burying walnuts in grass. Burying nuts puts squirrels to a disadvantage in requiring the animal to have its head buried for several seconds (up to 10 or so). Predation should increase at this time of year. I was able to walk up to within 3 feet of squirrels occupied in burying these winter reserves.

Eleanor K. Lohmann, secretary to E.R. Hall, reports the following. (She lives about 2 miles SE of Stull.):

1. Dogs kill cats and leave them in the farm yard.
2. New born pigs ranging in farm yard to 200' beyond are never attacked by coyotes.
3. Young pigs up to a foot long or larger are not preyed upon by coyotes when running in pastures away from the house.
4. Many coyotes in area and some come to within 2 or 3 feet of house passing pigs, cats etc.
5. Coyotes are becoming more tame in field.

W. end Lake View Lake, Douglas Co., Kansas
 Nov. 1, 1974

At 6:00 P.M. (now standard time) heard snows and blues circling overhead and finally alighting in field north of here. This morning at 2:00 A.M. heard snows & blues passing S over 402 Yorkshire Dr in Lawrence, Douglas Co., Kansas.

402 Yorkshire Dr., Lawrence, Douglas Co., Kansas
 Nov 2, 1974

At 8:00 A.M. heard snows & blue geese flying S overhead.

W end Lake at Lake View, Douglas Co., Kansas
 Nov 3, 1974

Heard blues & snows passing S overhead at 6:00 P.M.

Museum Natural History, University of Kansas, Lawrence,
Kansas.

Nov. 4, 1974

at 8:45 A.M. approx. 500 snooks and blues flew 15° W of S over the museum at about 800' high. Morning overcast, temp 48°F, and distances 2 miles away were hazy. They formed wide V shapes and were travelling fast. They called at approx 2 times per second.

Eleonor Lohmann reported geese flying S over her farm approx. 2 mi. NE Stull at 7:00 A.M. this morning. A flock was in a field between here and Stull.

Robert Patterson reported taking the following ducks from Cheyenne Bottoms in Kansas: bluewing teal, redhead, shoveller, lesser scaup, mallard, baldpate, gadwall.

Noted today at 12:00 noon when the tornado warning sirens were blowing, the domestic pigeon at the museum, ^{left the building and} flew around the building in a compact flock for the period the sirens were sounding, then alighted on the art museum.

The color of tree leaves in residential area as viewed from the 7th floor of the museum (over stadium) is:

golden 5%

yellows 1%

maroon. Lost its color and now dull maroon-brown

with 80% of the leaves off the trees (oaks) 15%

light reds (maples) 0%

green. 9% may still produce some fresh yellows.

leafless 70%

Perry Reservoir, Jefferson Co., Kansas

Nov. 7, 1974

Checked birds in Perry Lake area from Lawrence to Paradise Point and return. Will keep complete list of birds. Left 402 Yorkshire at mileage 93041. at 9:43 A.M., temp approx. 40°F, wind from S, sky clearing to N and west with blue sky. Will follow Leecompton road which runs just N of turnpike road, thence N thru reservoir area to Paradise Point. 2 robins, 12 starling 42.3 redtail on top telephone post. meadowlark. 43.5 Lake view turnoff but continuing W, 2 starling. 45.2 yellow-shafted flicker. 45.9 opossum road kill. 46.8 2 redtails by pond, one of which was on a pole & the other to displace it, 48.2 redtail in top of tree on fence row of orange orange. 48.9

junction with N-5 LeCompton road. 49.7 5 eastern blue
 bird. Deciduous forest bare of leaves. Osage orange
 80 bare and color yellowish green. Willows last to loose
 leaves and now yellowish green. 51.8 LeCompton, bluejay &
 8 English sparrows. 52.3 Kansas Lmer. Slight increase
 in water since 2 weeks ago 52.9 redtail on top cottonwood.
 53.8 railroad tracks, shrike & redtail, 8 Eng. sparrows, 2
 starling, 4 Eng sparrows. 54.1 Highway 24 & continuing N.
 E. sparrow, 3 Eng. sparrows. 56.5 redtail in top tree,
 starling. 57.1 7 starling. 57.6 SE corner of r
 10:05 58.6 now on Ferguson Rd. 59.7 Big Slough Cr.
 bridge, 2 ring-bills & 4 Bonaparte gulls. All leaves off
 deciduous trees, oak leaves dead, 60.5 5 bluebirds, bluejay,
 Some osage-orange still green, bluejay. 63.6 meadowlark.
 starling, fat sq. on barn window ledge. 65.2 redtail on
 top tree in forest. 65.7 Little Slough Creek bridge. Not
 a single kind of bird in bay to W., sparrow hawk, 66.4
 entrenched 4 corners. 2 mourning doves. Continuing N.
 66.6 redtail top tree in forest. 67.1 3 Eng sparrows. 67.8
 meadowlark, 2 Eng sparrows. 68.2 2 redtail circling to W &
 12 crows fly high to west. 68.4 Perry Res. (Paradise Point) turn-
 off. 69.2 meadowlark, redtail top lone tree. 70.0 entrance
 Paradise Point Recreation Area. Time 10:25 or 37 minutes
 from Lawrence. 71.4 redtail in lone tree. 71.6 W end
 Peninsula. 3 meadowlarks, 6 coat visible. 10:30. No
 campers on peninsula. redtail in tree at W end. bluejay,
 From N W corner of peninsula observed 32 Bonaparte gulls
 1/2 of them hunting for food & 1/2 resting. They hover a
 great deal of the time and after searching a stretch of
 100-200 feet of water return to starting point and repeat
 searching. 2 cormorants on log to NW. 65 lesser scaup
 arrive from SW & alighted in middle of bay to N. 2
 Franklin gulls passed by. From sheltered area on N
 side of peninsula counted 135 gulls, 20% ring-bills, 60%
 Franklin and 20 Bonaparte gulls. One group of 40
 Franklin and 3 Bonapartes fed in a localized area in
 close formation. The Bonapartes diving under water.
 2 juncos & 2 tree sparrow, redbellied woodpecker. While
~~75.3~~ at W end of peninsula noted a yellow-shafted
 flicker fly across lake from west side to east side (and
 about 300' high). Left Paradise Point gale at ~~75.3~~ ^{12:05 P.M.} 75.3
 5 bluebirds & 1 sparrow hawk & one loggerhead shrike.
 75.4 2 marsh hawks hunting together at point on road.

120

8 robins.
 76.0 redtail. 76.4 redtail. 77.2 2 goldfinches. 77.8
 marshhawk. 78.9 sparrow hawk 79.0 entrenched 4
 corners (Ozawie, ^{road} crossing) and continuing S. 79.7 Little
 Slough Cr. bridge. 80.7 bluejay 82.7 redtail on
 wire of telephone line. 85.5 Big Slough Bridge 86.7
 end Ferguson Rd, redtail 88.8 ^{East} end dam 88.6
 gale on dam and elev. 890.6 of water. In center of bay
 to N approx. 5,000 geese (80% snow, 15 blues, 5 canadens)
 also approx 200 mallards and some other kinds of ducks.
 The only waterfowl along entire length of dam were 2 pied-billed
 grebe, except 3 ring-billed gulls flying. 90.3 W end dam
 91.1 Thompsonville Rd. 91.4 redtail. 91.9 end Thompsonville
 Rd & now to S. 92.0 cardinal. 93.2 Highway 24. and
 Cent. S. 94.6 meadowlark. 96.3 RR tracks E Perry.
 12 starling. 97.9 Kaw River Bridge at DeCompton. 98.7
 leaving E on lower river road. Monarchs & yellow
 butterflies active today, 98.9 5 chickadees & 3 tree
 sparrows & 1 fox sparrow. 99.2 junco. 99.3 4 juncos.
 00.2 bluejay & 4 robins. 01.1 redbellied woodpecker.
 Red yellow-shafted & fox squirrel & 2 juncos. 01.6 fox
 squirrel. 01.8 Crossing RR tracks. Reservoir (Costwoods)
 along river 80% leafless, some in good yellowish green but
 most a faded color. younger trees have fewer leaves.
 03.5 starling, 2 meadowlarks. 03.9 shrike, 04.8 9 Eng.
 sparrows, 5 starling. 05.2 Coseway at Lake Vees. 06.1
 killdeer & sparrow hawk. 07.9 12 meadowlarks - in one
 flock. 08.5 home at 2:00 P.M. or 68 miles round trip

Perry Reservoir, Jefferson Co., Kansas
 Nov. 10, 1974

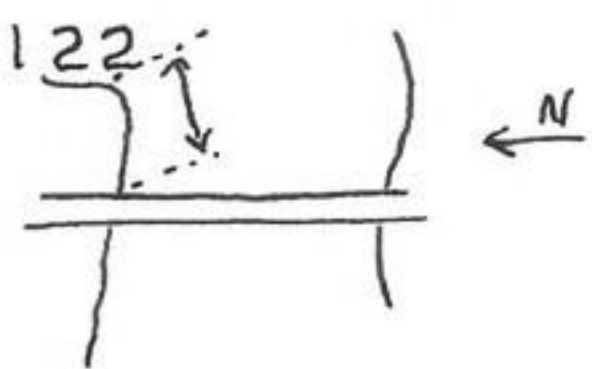
931
 Left 8:25 A.M., 67.6 mileage, visibility 1/10 mi., gentle rain. Will
 follow DeCompton road (farmers turnpike) from 402 Yorkshue at Law-
 renee. Will keep complete list of birds for entire trip. 8 starling,
 meadowlark, 68.7 2 starling. DeCompton Road at Kasold at
 mileage. 69.3. 72.3 opossum road kill. 72.7 sparrow hawk.
 73.1 redtail top pole in same area as previous trips. 75.2 redtail
 at DeCompton road (NS) and this road sitting top lone tree. 78.5 S
 end DeCompton Bridge, visibility 1/10 mi on Kaw River. 80.2 3 meadowlarks
 at Perry R.R. tracks. 82.1 3 meadowlarks, 2 starling (will not keep list of
 Eng sparrows. 83.4 Hi 24 S of Thompsonville 84.4 redtail. 84.7 at

Thompsonville road. 85.3 sparrow hawk, 85.5 now leaving Thompsonville road to Perry Les. 86.1 7 slate-colored juncos, 12 tree sparrow. 105 mallards leaving res ~~to~~ and flying to fields to S. 86.3 W end dam & now to N. Fox squirrel. 86.5 6 juncos. 86.6 single Canada goose swimming along W shoreline. Kingfisher. Lake smooth. 86.8 redtail. 87.0 Convergence of road. Coyote ran from field ⁱⁿ to deciduous forests. Bluejay above 87.5 leaving main road to go out onto peninsula. 88.0 horned grebe & ring-billed gull at E end peninsula. 88.5 now on main north-south road. 88.7 3 tree sparrows. 89.2 2 ring-bills. 90.1 head bay & now returning 18 tree sp. & 7 juncos and 2 cardinals there. time 9:35 A.M. Some surface agitation in main lake, bay smooth. 2 cardinals. Fog lifting slightly. Some osage orange & some cottonwood trees in wet areas still in full foliage but in yellowish green. 92.2 8 tree sparrows 93.0 W end dam. 2 ring-bills flying along base of dam. 93.3 ring-bill. 2 pied-bill grebes 4' out from shore & diving. 93.6 ^{outlet} gate. 889.8 water level. 93.9 coast. 94.2 2 coots. 94.3 ^E end dam. 94.5 Headquarters, 5 meadowlarks. 95.9 main road. 96.5 Ferguson road. 97.6 Big Slough Bridge, 1 ring-bill gull, cardinal. 99.1 turn off to Big Slough Park, 4 crows, 1 redtail. 20 starling. 00.0 entering Big Slough Park, 2 starling, yellow-shafted flicker. 00.8 turning off to left. 01.1 redtail. 01.3 2 bluejays. 01.7 redtail junco (no red in tail). 60 mallards flew S. In middle lake 300 lesser scaup & 80 mallards. 03.0 Top Point 3 cardinals, 8 juncos, 20 tree sparrows. 10:30 - 1:25 ^{fly} fished bay S of Gap Point and caught 5 croppie & 3 bluegills. Seven flocks of mallards totalling approx. 300 fly south and alighting in middle of lake N of dam. Bonaparte Gull & ring-bill feeding in bay. The Bonaparte obviously smaller, turns more abruptly, dives into water, flight more ternlike than ring-bill. On this behaviour alone one can differentiate the two. The white outer primaries the most conspicuous field mark in the case of the Bonaparte gull. 2 east left bay area S of Top Point. White fishing there was approx. 15 ring-bills and 3 Bonapartes flying into and out of the bay area. Rain off and on all morning. Waves N of Top Point but none S of Top Point. Returning some way out of Park area. The same redtail noted at 01.7 with wings still outspread. 06.9 3 bluejays. 07.5 group 18 robins, 5 cardinals, hairy & downy woodpecker, 3 chickadees, 20 tree sparrows, 10 juncos, 2 titmice. ^{B.C.} 07.7 leaving Big Slough Park. 08.2 8 starling. 08.6 Ferguson Rd. 09.0 2 bluejays. Continued S to

fly to 3:30

741110-122

Big Slough bridge and fished to point on N side and caught 7 bluegills from 50 to 120 mm.



90 blues & snaws flew 8 at about 400 ft high and called on the average one to every 10 seconds. King-bills and 2 *Sonopartes* visited area while fishing. This beach of rock is an excellent one, especially near E point, for fusulinids (fossil protozo). Low clouds formed & occasional rain all day. Wind out of NE. Left area & continued S. 10.0 at Big Slough bridge. The most conspicuous feature of deciduous forests on S side is the old, reddish-brown leaves of hackberry still remaining on trees. There is a tendency for these tree to follow disturbed road cuts and edge. 11.3 end Ferguson rd. 14.3 sparrow hawk. 14.9 highway 24. 15.7 starling. 17.7 E end Leecompton bridge. 19.6 starling. 22.1 redtail. 27.5 3 starling. 23.5 sparrow hawk. 26.9 Kasald Rd. at 4:00 P.M. 4 starling. 27.1 redtail. 28.2 4 starling. Home 93228.7 at 4:05 P.M.

Museum Natural History, Univ. Kansas, Lawrence, Kansas
Nov. 11, 1974

From 7th floor museum recorded color of tree leaves in that part of the residential city beyond the N end of Stadium.

- reds (of maples) gone
- deep reds or maroons of oaks gone (now dull reddish-brown)
- yellows 2%
- greens 15%
- goldens 10%
- leafless 73%

There is a major color change in fall but within this major change especially at its culmination are minor cyclic changes from rejuvenation & growth of green leaves to yellows & goldens.

Perry Reservoir, Jefferson Co., Kansas
Nov. 16, 1974

made trip to Perry Reservoir and will keep complete list of birds observed. Left 8:40 93337.3 mileage. Temp 43°. Wind from SW clouds close cumulus with blue. 3 tree sparrows, 2 starling. 34.5 opossum road kill, 3 starling, tree sparrow, red-bellied woodpecker. 35.8 redtail, 2 starling. Kasald-Leecompton rd. 36.1. 3 starling. 37.4 for squirrel rd. kill. 39.5 starling. Average hedge row 90% leaves gone and 10% faint yellowish green leaves generally distributed but more near middle of height than top of tree. Redtail usual pond.

41.0 4 starling. 42.0 N S Leempton rd. 43.2 8 juncos, starling.
 43.9 5 starling. 45.2 Kaw River & slightly lower than last week.
 Riparian growth of Cottonwoods 95%, leafless & rest yellowish.
 Undergrowth trees with more yellowish-green to green trees. 46.3
 Killdeer. 46.9 Perry R.R. tracks. 47.3 2 starling (Eng. sp. excluded)
 48.1 Delaware River, water down, yellow-shafted flicker, 2 starling,
 meadowlark, 2 tree sparrows. 48.5 meadowlark, skreke.
 49.5 meadowlark. 49.6 meadowlark, 5 starling. 50.1 Highway 24.
 50.8 sp. hawk. 51.0 Thompsonville road. starling. 52.2 new
 N into Res. area, bluejay. There is good community flock in
 gulch NW above pond. 53.0 W end dam now to N. Sun now
 out & sky 50% open. Approx. 30,000 mallard in raft. in middle of
 bay but nearer E side near Big Slough Park. No wave action on lake.
 but ruffled 54.2 turnoff to peninsula. ring-bill. 54.8 25 ring-
 bill resting on water with head under wings, another ⁶⁰ on shore rest-
 ing. 2 immature herring gulls in group. 55.8 ring-bill. 56.4 Bay
 area and will turn around and return to W end dam. At bay
 5 juncos, 8 tree sparrows, 2 cardinals. 58.9 W end dam.
 59.4 8 tree sparrows flying E end along N side dam. Water level
 89.8 ft. at gate. No ducks along edge of dam. Slight increase
 wind but no white-cops 60.5 Adm. area. Have noticed
 along all roads the droppings of Coyote(?) placed from 1' to 2 1/2'
 on pavement from edge of road. Distribution of these fecal
 dropping would give distribution and percent frequency of these
 animals in the reservoir area. 61.8 Ferguson Road. 62.4
 leaving highway 59 and to NW along Ferguson Road. 63.6 Big Slough
 Bridge. 4 ring-bill gulls, 2 ring-bills. 64.2 red-tail. 64.5
 rough-leg hawk 65.1 turnoff to Big Slough Park, 2 meadowlarks.
 66.1 entering Park. 66.2 dramage, 2 bluejays. 66.5 road to left.
 67.5 killdeer. 67.6 boat ramp. 68.2 back in main circuit road.
 From S point of Park noted a speed boat run directly into mallards
 resting in lake. They dispersed to N & to S and the 30,000 number
 estimated from W side was confirmed. 68.9 2 chickadees. Dope
 Point 69.9. To the north in lake in several groups are approx.
 50,000 mallards, many of them from middle of lake N of dam that
 were displaced by the motor boat. These were displaced by
 another motor boat, the ducks flying N & S or realighting in the
 lake. These birds need inviolate areas to motor boat trespassing.
 Boats are definitely harassing these birds either because of
 curiosity, uninformed of the need of protection or intentional harassing
 to move birds into hunting areas. Trees show water line at
 about upper canopy level being whitish in zone of water inundation.

This condition can be noticed at several points around the lake but it is especially noticeable E of Gap Point. Along with ducks are 15 ring-billed gulls. The 50,000 mallards were all out of the area some 10 minutes after the speed boat displaced them. One group of 60 scaup came into area but did not land. 2 red-breasted merganser flew by (to S) Gap Point. Leaving at 10:20 AM Crow, 70.4 bald eagle (immature) flying east in Big Slough area some distance to the E. 71.5 leaving Park, crow. 72.4 Ferguson Rd. 75.3 leaving Ferguson Rd to Longview Park. 77.5 entering Longview Park. 77.8 redtail. 78.1 cormorant on bank in water. Some trees (small) with as many as 10 nests and presume it to be used by English sparrows. 78.6 2 redtails circling together. 79.0 redtail. 79.1 23 tree sparrows ^{and} 4 goldfinch. 79.5 top. bluejay. 81.0 redtail. bluejay, redtail calling. 81.1 leaving Park (made complete circuit) 81.5 sp. hawk. 81.6 3 meadowlarks, 83.3 Ferguson Rd., red-tail. 84.7 Little Slough Creek bridge. 50 ring-bill gull in bay to W. 85.5 Entrenched 4 corners, now W. 87.7 Ogowhee bridge. 88.2 end of old road at water edge at 11:00. On the end of the road with water washing across road were 27 ring-billed gulls and 3 Bonaparte gulls resting. The ring-bills legs of greenish hue, ^{to flesh color} contrast to red legs of the Bonaparte gulls. The ringbills show 3 white dots in folded primary feathers except one which was all black. Bills range from orange-yellow ^{flesh color,} to greenish yellow (ring-bill). Sun shot some 3/10 mi away cause gull to react, some to lift wings. Between 11:00 + 11:30 the gulls increased from 27 to 40 and the Bonaparte from 3 to 4 in number. 38 tree sparrows and 4 goldfinch in weeds near water. 89.0 back to bridge. To N are approx 300 mallards + 20 Bonaparte gull. 89.9 Old Town Park still closed, 91.0 Entrench 4 corners and now N to Paradise Point. 93.1 leaving main road now W to Paradise Point. 94.1 Rd to N at bend before Park. Will check condition of this road. 94.9 cardinal. Rd not passible during snow or rain. bluejay, 2 cardinals. Road ends at 95.2. In area 2 redheaded woodpeckers one of which fed in milo field, 1 flicker, redbellied woodpecker, 2 bluebirds, 2 cardinals, 18 tree sparrows + 7 juncos. One junco chased a cardinal for 200'. This is not too good a put in for crows. Left at 11:50 AM. 96.2 back to main rd. + now W to Paradise Point, 2 crows. 96.5 from ^E end peninsula estimate 8,000 mallards in bay to S of Paradise Point in middle of bay 96.7 Park entrance + now S to turnaround. marsh hawk. grasshopper out. Notice that a raft of ducks control wave action for some 200 or more feet on lee side of raft. 97.5 now back to main road going west on Paradise Point. 98.5 now road to left. bluejay. From NW end of

double crested

of peninsula can see, cormorant on log. 00.9 arrived at shelter at 12:15 P.M. and fished with flyrod until 2:20 on n side of peninsula in an area of about 200 ft and caught 5 croppie and 3 bluegill. One of the Croppie was 10 inches long standard length. One of 3 blude got 6 sculp, 3 mealeads and 2 buffleheads. One group of approx 60 gulls, 90% ring-bills fishing at east end of channel. Otherwise very few gulls passed by. None of the large flocks of mallards to the south have entered this area. Mileage here 00.9. Left and at 01.4 sparrow hawk, and a goldfinch sitting about 5 feet from it on a telephone line. 01.7 redtail, yellow-shafted flicker. 01.9 leaving park. 02.4 Collected sample of sandstone from lenticular layers in the river deposited sands of the Pennsylvania. 02.8 redtail. 03.1 9 crows 03.9 3 juncos 05.5 Ogawha Rd. 06.2 Little Slough Creek. 06.6 redtail. 09.6 3 tree sparrows 12.3 Big Slough Creek bridge. 3 cormorant flew E to W over bridge. 13.3 end Ferguson rd. 14.3 SE end area of reservoir at 3:00 P.M. 17.1 highway 24, 2 starling. 18.1 4 starling. 19.7 Leecompton bridge. 20.6 row on lower ^{main} road; 4 tree sparrows. 21.1 cardinal. 21.9 chickadee, cardinal. 24.1 2 bluejay, 12 juncos, 2 chickadees. 24.5 meadowlark. 24.6 shrike. 25.7 5 tree sparrows 28.2 redtail on ground feeding on mouse. 28.5 Kasald Rd. 30.1 4 crows. 30.3 home at 402 yorkshire at 3:35 P.M.

Perry Reservoir, Jefferson Co., Kansas

Nov. 17, 1974

Made trip to Perry Reservoir to check on birds. Mileage 93436.2. Time 10:10 A.M., Temp 45° F. Will keep complete list of birds. Wind from S and mild, foggy. 37.0 redtail. 37.5 2 mourning doves, 38.0 Leecompton Rd. 39.5 2 tree sparrows. 40.5 5 meadowlarks, bluejay, 41.5 striped skunk rd hill. 42.0 mallard and one redtail, starling, 42.6 starling. 43.3 redtail. 44.0 N-S Leecompton rd. redtail. 44.4 meadowlark. 46.0 sparrow hawk. 46.7 meadowlark. 47.3 Kow Run at Leecompton, redtail. 49.0 ♀ starling 49.4 Perry. 4 starling. 50.1 Delaware Run. 52.0 Highway 24. 53.3 Thompsonville rd. 3 flocks of mallards 40-300-60 flying low in field to S. 54.1 entering reservoir area, 12 tree sparrows. 4 goldfinch. 55.0 W end dam row N on road. A red-throated loon fed in bay below W end dam at about 20' from shore.

Checked loon at closer range from top of dam and then returned to W end of dam at 50.2 and continued N. Approx 1500 mallards in middle of lake to E.

56.5 peninsula road
 57.0 2 ring-bill gulls 57.5 back to main road & 3 killdeer
 57.9 blue jay & chickadee. 48.0 crow, 2 ringbills in lake.
 2 tree sparrows. 58.7 hay area & turn around. 100 ringbills on point to N. 59.0 2 tree sparrows & 1 bluejay. 61.2 west end of dam. The red throated loon still feeding in same area. Its dives are very graceful. 11:15 A.M. mallards are in 7 pods rather than one raft. The pods take on the form of long lines and all moving west. Roughleg hovering S of dam. 62.8 Meadowlark 4 meadowlarks. 64.8 redtail in marina park area, ~~the~~ Cooper's hawk flew over area. 65.7 redtail 68.0 ^{main} Ferguson road. 68.5 Ferguson road. 69.7 Big Slough bridge, ringbill. 71.2 turn off to Big Slough Park. 72.1 entering Big Slough Park. 73.0 3 crows, 2 tree sp. 73.3 sparrow hawk. 74.1 7 killdeer. 74.5 tree sparrow. Notice forest 98% free of leaves, some elm in home areas still with green leaves. marsh hawk flew W down Gap Point ridge and continued across the lake, goldfinch, ringbill. 76.1 Gap Point 11:15. 76.7 roughleg. 77.4 redtail with boat from beach & flew 3/10 mi. 78.0 sparrow hawk, bluejay, 78.9 2 redtails, 1 single redtail 79.1 out of Park area. 80.0 Ferguson Rd, redtail 80.5 roughleg hovering in center of road. 81.1 Big Slough bridge. ringbill. 82.7 end Ferguson Rd. 83.7 NE end Perry Res. area, 2 crows. 84.5 starling 84.7 shrike, 84.9 redtail on telephone wire 86.3 highway 24. 87.8 R.R at Perry 88.4 5 starling. 88.8 meadowlark 89.4 Kaw Res. Turn off (90.2) Leominster Rd to river rd. 91.3 3 juncos 91.6 bluejay. 94.6 meadowlark & starling 94.7 marsh hawk feeding on mouse in recently (yesterday) cut field, 2 starling. 96.7 redtail. 96.8 Casseway, Lakeview 00.1 home at 402 Yorkshire at 2:00 P.M.

Museum Natural History, Univ. Kansas, Lawrence Kansas

Nov. 18, 1974

Tree colors in residential area N of stadium as observed from 7th floor of museum.

green (slightly yellowish)	12%
golden	3%
yellow	2%
red	0%
morom (now dull reddish- ^{brown})	0%
leafless	83%

Lawrence, Douglas Co., Kansas
November 22, 1974

From museum to n over stadium the trees are:

yellow	90%
goldens	2
reds	0
leafless	85
maroon	0
green	4

Lawrence, Mus. Nat. Hist., Douglas Co., Kansas

Nov. 18, 1974

Color of trees from museum:	
green (yellowish)	12%
golden	3%
yellow	2
red	0
maroon	0
leafless	83

delete entire
entry
(see previous page)

Marvin Grove, University of Kansas, Douglas Co., Kansas

Nov. 18, 1974

Building and Grounds picked up leaves from Marvin Grove by tractor and leaf sweeper (See Nov 22, 1968 for original data on this operation). This year the system varied in that the route of leaf sweeper crossed dividing borders of grove and ^{individual} the sections of the grove could not be computed. The entire grove produced 61 loads (2 cubic yards per load). At 216 lbs per load the total weight was 13,176 lbs or 6.06 tons. Since 1968 10 trees (large) had been removed of the approx. 240 trees standing in 1968 so: $\frac{1}{24} \times 6.06 = .25$ less trees so to make the figure equivalent to 1968 the .25 is added to the 6.06 tons making the revised figure 6.31 tons. Lack of rain was considered the main difference between 1968 and 1974 production of leaves.

Douglas Co.

Univ. Kansas, Lawrence, Kansas

Nov 21, 1974

Leaves of the fire ~~was~~ bush lining sidewalk N of field house came into brilliant red in last 2 days. 70% of leaves are off the bushes and 1/4 of the bushes are bare. The leaves were slow to change color and it took a second cycle to bring them into brilliant red this year.

Perry Reservoir, Jefferson Co., Kansas

Nov 23, 1974

Left 8:45 AM. 93592.1, temp 60°F, winds from south, skies clear to N but some clouds to south. Will keep list of all birds on entire trip (exclusive Eng. sparrows). 93.0 redbill top of windmill on Kasald. 93.9 Kasald & Leecompton Rd. 94.5 starling. 95.0 redbill on wire of telephone line 95.9 meadowlark.

96.0 fox squirrel rd. kill. 96.6 striped skunk rd. kill.
 96.9 meadowlark. 97.6 redtail on pole at edge of pond. 99.8
 11-5 Leecompton Rd. redtail in top lone tree. 00.7 7 starling.
 bluejay. 00.8 crow. 01.9 meadowlark. 03.0 Leecompton
 Bridge over Kow, water level same as last week. 04.1 3
 meadowlarks 04.5 redtail on pole. Redtail are
 territorial on winter ground. 05.9 Delaware River. Yellow
 shafted flicker in middle of road in center of bridge and
 an English sparrow chased it. 06.4 redtail on dead tree
 edge of orbaw. 06.6 redtail top telephone pole. 07.0 meadow-
 lark. 07.9 highway 24. 09.2 Thompsonville Rd. 09.9 Crow,
 flicker, 4 meadowlarks. now N at 10.0. 10.1 entering
 Thompsonville Park. 10.8 weed dam now N. 11.3 chestnut,
 Only 2 gulls (ringbills) in lake N of dam, no ducks 11.6
 main rd. 12.3 marshhawk. 12.4 3 ringbills, 12.5 E end
 peninsula. 12 ringbills on water in middle lake to E. 10
 ringbills on water N E peninsula (50' off shore). 13.0 back to
 main rd. 3 tree sparrows. 14.2 bay area & return. Approx.
 120 lesser scaup & 8 mallards flew up lake. 14.9 40 tree
 sparrows. 16.4 30 tree sparrows. 16.7 weed dam. Outled
 89.8 ft no ducks 18.3 Adm. Building. Some wove on beach
 and some whitecaps 19.7 Highway ⁹² now N 20.3 Ferguson
 Rd. 10:30 21.4 Big Slough Bridge. 25.4 crow, sparrow hawk,
 redtail. Cloud mass from E & S now over area and no sun or
 blue sky, wind increasing and changing to NE. 27.3 Little
 Slough Creek Bridge. 28.1 Entrenched Four Corners & continuing
 N. 29.5 8 tree sparrows. Cottontail road kill. Approx.
 5000 in bay S Paradise Point. 31.7 Entering Park & cont. W,
 6 ringbills flying N across peninsula. 33.7 W end peninsula
 and wind now NE and creating good whitecaps. From
 shelter on N side peninsula observed approx 40 ringbills
 fishing in E end bay and one pelican on floating wood
 and preening feathers. Temp 49°F from 60°F this morning
 and wind now strong and completely overcast. Left shelter
 at 35.2 at 11:38. Sky solid without cloud relief that is sky clouds
 homogeneous. 36.2 now S to lun around 36.6 turn around. Ducks in
 bay consist of 2 canvas backs, 4 redheads, mallards, 5 bufflehead,
 2 shovellers, pintail, bluewing, gadwall. 3 red-breasted mergansers
 flew N along shoreline. While watching mallards, 7 group of approx
 150 left raft at about 5 minute intervals and flew E out of sight in
 a straight flight but an irregular searching flight. It is interesting
 to speculate what causes these birds to leave in certain group numbers

and with such cyclic regularity. Left 12:20 36.9 leaving park area.
 37.1 7 meadowlarks, 37.3 2 sparrow hawks together. 38.5 Ferguson
 Rd. 38.8 meadowlark. 38.9 meadowlark. 40.6 Entrenched Tower
 corners. 41.0 now to right. At head of bay 22 Bonaparte gulls
 waddle in leg deep water to disturb water organisms for feeding.
 9 ringbills, ^{8 gadwall.} 32 mallards also at head of the Little Slough Creek Bay.
 Bonapartes will leave water at a 45° angle whereas ringbill will leave
 with a low angle and most frequently with one or two trusts of feet
 on water. One ring-bill gull chased a Bonaparte gull for approx
 1 minute. Cardinal, redbellied woodpecker 42.7 back to main
 road. 42.9 Little Slough Creek Bridge. 44.4 now to Longview
 area. 46.5 Entering Longview Park. For all tense and
 purposes the leaves are off the trees except some black willows
 and these have golden leaves on tops of the trees which is generally
 apposite to the sequence of leaves falling off trees. To some
 extent this is also true of cottonwood trees. 2 ringbills. 47.6
 2 ringbills, 2 juncos (state colored), Temp. 48 & good white-caps.
 48.6 bluejays & 3 juncos. 49.1 back to entrance of park. 50.1
 redtail 51.0 bluejay. 51.3 Ferguson Rd. 53.0 bluejay and
 shrike. 54.1 Crow. 54.3 Turnoff to Big Slough Park. 55.1 entering
 park 56.1 bluejay. Bypassing boat ramp. 57.0 S end. ringbill.
 57.4 ringbill. 57.77 wave at point reverse action at point. One
 mallard floating S along edge lake.



58.3 Gap Point. 5 mallards flew
 W + S around point rather than
 flying S across gap. Water muddy
 out 40' from wave action on bank. approx.
 400 mallards riding whitecaps to NW in bay.
 waves approx 2 1/2 feet high. (2:00) 59.8

leaving park. 60.7 Ferguson Rd. 4 crows. 60.8 Crow. 62.1
 Big Slough Bridge. Highway ⁹² 59 65.9 outlet S side dam. 66.6
 leaving at Thompsonville. 67.9 Highway 24. 69.4 3 meadowlarks.
 69.9 Delaware River, ringbill gull. 72.6 Leominster bridge.
 73.5 starling 74.2 2 juncos. 75.5 2 juncos 77.6 redtail
 circling. 79.8 redtail. 79.9 Lakeview Cassway. The weeping
 willows, especially around damp places are one of the last trees to loose
 their leaves and at this time are a rich golden. The birch are
 also one of the last trees to loose its leaves and many now are
 still carrying golden leaves. Wind out of NNW, a complete reversal
 from this morning. 63.1 402 Yorkshire Dr (home) at 2:35 P.M. and
 end of census!

Perry Reservoir, Jefferson Co., Kansas
 Perry Reservoir, Jefferson Co., Kansas
 nov. 24, 1974

Made trip to Perry Reservoir to check on birds. Time 11:00, wind NNE, mileage 93685.0. # 88.1 Leecompton Rd & Kasauld. Will keep track of kinds of birds only to Perry Reservoir. Redheaded woodpecker, bluejay. 90.6 now to N, bluejay, junco. 92.3 redtail, 3 juncos. 92.7 now on lower river road. ~~92.7~~ flicker. 93.4 bluebird, 3 tree sparrow, chickadee, cardinal 95.1 2 redtails and 1 roughleg, the latter competing with redtail in tree top, 96.2 7 killdeer + 30 starling in some field. 96.3 Leecompton Rd. Eng Sparrow. 97.0 Knew River 99.9 Delaware River bridge. 02.4 sparrow hawk. 03.2 Thompsonville and will keep list of all birds from now on. 3 slate-colored juncos. 03.7 2 starling, bluejay. 04.0 now N. 04.1 entering Thompsonville Park. 05.3 wind down. 06.5 leaving to peninsula, 2 ring-bill gulls, none to S. 07.0 NE end peninsula 38 ringbills in usual resting place off shore. Some whitecaps but most water under whitecap condition. 07.5 back main rd. 08.1 2000 ducks (mainly mallard N of Gap Point. 08.7 bay & turned around. 23 ringbills to N. 09.6 redtail. 10.8 ♂ & ♀ mallard along shoreline, bluejay. 11.2 wind down 11.6 3 horned grebes about 3 feet off base of dam. water level 889.8. 5 ringbills on ~~the~~ water N dam 12.8 Adm. Building. 14.8 highway ⁹² 59. 15.3 Ferguson Rd. 06.2 redtail, 2 ringbills on water. 16.5 Big Slough Bridge. 08.0 turnoff to Big Slough Park. 08.9 Big Slough Park, redtail. 20.0 3 redtail soaring together. 20.3 3 male mallards in small pond E of old road at Gap Point and did not leave. 21.7 2 ringbills. 22.6 bluejay. 22.9 bluejay, flicker. 23.5 leaving park. 23.7 flicker, 24.5 Ferguson Rd. 26.7 marsh hawk. 27.4 now to Longview Park. 29.6 entering Longview. 30.5 30 ringbills on rocks off shore, 30.7 3 large Canada geese and 2 lesser Canada geese together and swimming off shore about 150'. The size difference is very conspicuous. 31.1 15 ringbills flying to N 32.3 leaving park. 2 goldfinch. 32.9 checked Lakewood Well. 33.9 bluejay. 37.8 leaving Lake wood Wells. 38.0 3 redtails, 39.3 Ferguson Rd. 40.8 Little Slough Creek bridge. 46.3 now to W. 43.8 2 goldfinch 45.1 entering Paradise Point Park at 1:50. 45.6 sparrow hawk. 45.7 5 juncos, 15 ringbills are flying low above raft of ducks to S.

47.0 W end peninsula, 4 tree sparrows. 47.9 redtail. 30 ringbills on bar in upper bay N of peninsula. No pelican today. 49.3 leaving park. 50.6 3 juncos. 50.9 main road: 54.7 Ozawiee bridge. 3 ringbills N of bridge, 55.6 redtail. at point where old road ~~is~~ submerges into lake on west side S of Ozawiee. watched 7 ringbill gulls. By the time we left the group had increased to 15 ringbills. No Bonapartes arrived although one group of 12 birds hunted the waters to the south. 18 Bonapartes and 6 ringbills can be seen in water to south at one sweep of binoculars. 2 redtails circled over ridge to SW, monarch butterfly active. Left 3:25 P.M. Only 2 groups of ducks, one of 3 and one of 12 flew up lake. 56.5 Ozawiee Bridge. Approx 60 gulls hunting along shore wave action on E side N of dam. 60.4 first bridge E of upper end of reservoir area on road to Oskaloosa and end of census. at 3:30 P.M. 63.4 Crossing Little Slough Creek near Oskaloosa. Today has been characterized by few small birds, especially the large winter flocks. At Oskaloosa noted a shrike. Arrived home at mileage 93787. at 5:00 P.M.

Museum Natural History, Univ. Kansas, Lawrence, Douglas Co., Kansas
 Nov. 25, 1974 and 26th

Color of leaves on trees in residential area N of stadium as observed from 7th floor of museum.

		26 th
yellow	3%	2.0 faded
golden	5% and faded.	1.0 faded
red	0	0.0
leafless	90 can see houses now.	96.0
morom	0	0
green	2 and faded	1.0 faded.

The most noticeable feature the last two days is the appearance of houses as the leaves dropped from the trees. The colors are also faded, perhaps as a result from the low temperatures of 20° last night.


The gum tree is the last tree to show red and is outstanding among all other trees in the Lawrence. This date it looks more like the colors of September maples. I am wondering if these trees plus the birch, weeping willow, ~~and~~ ~~are~~ some cottonwoods + willows are originally northern trees. Even though the leaves are off the trees, there are still a few (elm, osage orange and others that show green but these are in the minority and represent exceptional examples in the general ^{country} landscape of leafless trees.

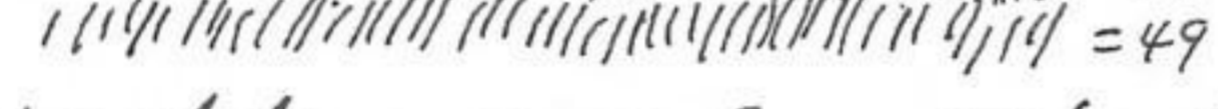
[a continuation of Nov 28, 1974 on next page]

46.2 Crow feeding in road. 46.7 12 bluebirds. 47.4 Big Slough bridge.
no gulls. no ducks. Wind ^{Consistently} ~~Consistently~~ out of ^NE. 48.0 redtail. 48.6
highway ⁹⁷ ~~54~~. No boats on lake today. 49.6 SE Corner Perry Res. area.
50.0 strike 50.4 16 tree sparrows. 52.1 7 tree sparrows.
52.3 highway 24. 54.2 2 horn larks. 55.7 Cardinal, 2 tree sparrows, Crow.
58.3 leaving 1029 to 438. 60.3 row to R. sparrow hawk. 60.5 Turnpike
overpass. 60.7 to left. 62.8 crossroads, mockingbird. 63.6 dramatic
5 cardinals, 40 tree sparrows, 15 juncos, 2 chickadees, 3 titmice, 1 redbellied woodpecker.
64.2 upper entrance Martin Park. 64.4 2 tree sparrows. 65.0 Kasold Rd
65.3 redtail. 18 starling. 65.5 starling. 93965.8 mileage at 10:50 A.M.
at 402 yorkshire. and end of complete census.

area to N can see 6 ringbills in flight above water. and these are generally distributed. This number varies from 2 to as many as 20. ^{dry} (except few good)

A survey of trees show no color in leaves and all trees bare of leaves as far as I can see to N with 10x binocular. The Canadian geese (2) remained just outside of raft. ^{as did a red-throated loon which was in the area before the mallards arrived} Left Jay Point at 10:46, and will return some way. Temp 45° air, water 46°F. 68.7 2 juncos, Will not repeat birds in Park except 69.8 redtail 71.0 2 bluejays, 2 tree sparrows 71.4 leaving Big Slough Park at gate, 72.3 Ferguson Rd, now to S 73.7 7 ringbill E of ^{Big Slough} bridge. 76.0 SE corner reservoir area - now W to dam. 76.1 Crow. 67.9 E end dam. wind from west (NW N.) 77.8 4 mallards 10' off shore. Approx 700 mallards in long narrow line in water 1/10 mi. N of dam & paralleling dam. 78.3 W end dam now N. 79.3 5 gulls (ringbills) in water. 79.6 now E onto peninsula. 79.7 male marshhawk, 2 tree sparrows. 80.1 red-throated loon. 57 ringbills on NE corner peninsula where they usually are found resting, Beldeer. 80.6 back to main rd. & now to S. 81.2 redtail. 81.5 4 juncos (state colored), 81.6 made Census of group of mallards near shore as to sex ratio:

male:  = 55 ♂ + ♀ evenly distributed in the flock.

female:  = 49

81.9 west end dam, now E. 5 ringbills flying along dam to E. 83.4 Adm. area, sparrow hawk on telephone line. 84.2 SE corner of reservoir area. End of Complete Census 12:00 P.M. On way home noted that there is no color in leaves in country side. The ^{leaves of} weeping willow and black willow are dull and faded browns. Home 00.5 mileage at 12:30 P.M.

Perry Reservoir, Jefferson Co., Kansas
~~Jefferson Co., Kansas~~

Nov. 28, 1974

Mileage 93512.7, 7:30, temp 34°F, overcast completely, wind from NE. 13.4 4 tree sparrows 2 starling, 13.2 redtail, 5 juncos, 23 tree sparrows. 16.1 Lake View Causeway causeway, W end 5 juncos & 10 tree sparrows, 17.0 3 meadowlarks, 19.1 redtail, 2 meadowlarks, 1 group 80 mallards flying E over river, another group of 20 following. 19.4 R.R. tracks, 4 juncos. 20.0 4 tree sparrows. 20.7 5 tree sparrows: 21.1 American roughleg, 4 tree sparrows. 22.5 Leecompton Rd. Cardinal. 23.2 Leecompton bridge. Mallards 150, 180, 500 ^{400, 50} flying high toward Perry Reservoir. 2 other groups of 55 and 400 all gaining altitude & flying toward Perry Reservoir. These may have been feeding in field near Kaw River to E of Leecompton bridge. 24.7 redtail. 25.8 2 starling. 26.1 Delaware River

W of Perry, 2 juncos. 26.5 bluejay. 27.7 sparrow hawk, on line. 28.0
 highway 24 continuing N. 29.3 Thompsonville Rd. 30.1 now to N. 30.3
 bluejay. 31.0 West dam. In middle of lake N of dam are approx
 10,000 mallard ducks in loose raft. 17 Ringbill gulls in area with 10x
 binoculars. Adult bald eagle came from E, ^{at 8:30} and circled about
 500 feet above ducks then set wings and sail N to crossing
 the west side peninsula at about 100 feet. In this gradual
 descent it flapped its wings about 4 times for about 3 strokes each
 time. It continued N & W out of sight, circling and flying
 about 100' above the water. Ducks did not react to ducks. The
 gulls in area are generally distributed in area. Waves just under
 white caps. 8:45 57 Ringbill gulls have collected above ducks in
 center of lake at about 100' high and are beginning to circle up-
 ward in both clockwise and counterclockwise and drifting to the
 west. By the time they were over the W edge of the lake, ^{3 minutes later} they were
 about 1000' above the water at which point they all stopped their
 gyration and all trended E for about 100 feet then reversed their
 direction and sailed W out of sight with an occasional circle
 movement. I was not able to ascertain whether they returned. There
 are other gulls (?) flying as usual over water. Mallards are
 arriving & leaving in groups of 150^{to}-800 and generally to the east,
 however, some are going SW & others arriving from the W. All at a high
 elevation. 8:50 leaving for Big Slough. 31.2 single ♂ golden eye duck
 at dam. (~~8:50~~ water level) 32.5 Adm. Building 33.9 highway ⁹²~~59~~
 via marina. 2 redtails in trees 50' apart, 34.5 Ferguson Rd. 2 tree
 sparrows 35.6 Big Slough Bridge. 36.5 7 bluebirds. 73.1
 Turnoff to Big Slough Park. Crow. 38.0 Entering ^{Big Slough} Park. 39.3 redtail.
 This bird yawned while flying. 39.6 overlook & not suitable for
 observation, ^{point} redtail. 40.4 now right to boat ramp. 41.4 on main
 road at S end Park. mallards raft contains at least 3 pintails,
 13 gadwals, 1 golden eye duck, 3 stovellers. In flock near road
 3 titmice, 2 chickadees 41.9 3 ringbills, no ducks ~~to~~ to W.
 Met Pete Pearson & he said he saw a snowy owl on Paradise Point. 42.3
 52 American mergansers & alighted with mallards N of dam. Wind subsided
 42.8 boat ramp Gap Point. Waves under whitecap N of Point. 1500 mallard
 in bay ^{to} N. 4 ring-bill gulls in bay area. Last 20 minutes 12 ringbills,
 individuals, have passed E along lake. 2 redtails circling NE above
 ridge. 3 single mallards flying low joined raft to NE part of bay. see
one
page
foreward
for
cont.
 more activity in mallard flight today than on previous trips. 42.7 at see
opposite
page
 10:00 A.M. left for picnic area on top ridge to S. 42.9 bluejay. 43.2 top
 killdeer alighted in road and is using settling basin nearby. 43.5 picnic
 point & good position to see main lake below. 10:05 returning to Lawrence
 44.0 bluebird. 45.0 leaving park. Temp 35° wind on top. 46.0 Ferguson R.

Perry Reservoir, Jefferson Co., Kansas

Nov. 29, 1974

at 402 Yorkshire, Lawrence

Trip to Perry Reservoir for bird census. Mileage 93978.4, sky overcast, snowed 1 inch last night. Temp. 26°F. About 8 mi. per hour from NNE, time 7:43 A.M. Will keep list of all birds observed on trip. Crow, meadowlark, 80 tree sparrow in recently cut milo field. 80.3 Kasald & Leempton Rd, starling. 81.1 Creek open but some ice along edge, 2 tree sparrows, ponds open. 84.1 redtail by pond on pole as usual. 85.4 sparrow hawk. 86.3 n-s Leempton Road. 87.2 bluejay. 88.9 42 starling. 89.6 Leempton bridge. Kingfisher from 88.9 to river. It flew or flapped for 2 or 3 times in one direction then changed direction for an equivalent maneuver. No mallard duck or any duck activity in Kaw River valley in contrast to the great numbers observed here yesterday. meadowlark. 2 song sparrows and 4 juncos. 91.3 railroad tracks, 3 starling 92.5 Delaware River bridge. 94.4 highway 24 and continuing N. Car tracks across grass are more conspicuous after a snow. Not a single duck so far. 95.8 Thompsonville Road, 2 juncos. 95.9 starling. 96.3 Coopers hawk on ground ~~at~~ on shoulder of road. 96.5 now N. 97.1 top? Crow. 97.4 wind dam and now to N. Wind NNE. whitecaps just forming but good wave action on beach. Countryside is in snow and water looks cold. In center of lake and to the E ^{are} approx. 500 mallards. At extreme E side on W side Big Slough Park are approx. 2000 mallard and perhaps other kinds. 3 ringbilled gulls flying by. 98.1 ringbill 98.4 American roughleg settled in tree but left and flew N just above trees. 98.6 a mallard and lesser scaup ^{at head of} bay 5 of the peninsula. 98.7 redtail. 98.8 now to peninsula. 20 tree sparrows. 99.2 E end peninsula. Waves to N are in whitecap waves whereas those to south are just under whitecap size. With 10x binoculars and with full sweep of lake from E end peninsula can see 47 ringbilled gulls, ^{and} 5 Bonaparte gulls. No ducks except ~~at~~ in dam area. 14 ringbills appeared in bay N of peninsula and search along wave agitated shoreline. (8:45 A.M.). 7 mallards flew S. Gulls select points for food huntings. No redtails with binocular search. Left at 8:55 from peninsula. 99.4 30 tree sparrow + 8 juncos. 99.8 back to main road, 3 juncos. 100.8 9 gulls searching wave cut points. 101.0 bay & now returning 102.2 150 mallards flying S. 40 tree sparrows. 103.5 wind dam.

03.8 from dam run now see about 3,500 ducks, directly below are a ♂ + ♀ golden eye ducks about 3' from base of dam and 100' to E 5♂ + 5♀ golden eye ducks in one group at edge of water (3 feet from shore but in water). Sparrow hawk alighted on rail on top of dam. 4 ringbills flew w along dam. outlet at 04.2 with water level 890.8 which is constant for the last month or so. 04.5 ♂ + ♀ golden eye duck. Ringbill flew by. 05.0 Administration. tree sparrow, 2 ringbills. 06.4 highway ⁹² 59 + redtail on dead tree. On w side lake only one car had preceded me, on Ferguson Rd the road was packed with tracks. 08.4 Big Slough Bridge, 2 of ringbills. Snow drifting on bridge and snow is white. Road beyond is darker. 09.1 bluejay. 09.2 bluejay. [at this point ran unknowingly out of tape so will fill in by memory only, approx. 1 hour later, when the malfunction was recognized]. Between Big Slough bridge and Ozawie observed a redtail about 2 mi. N along Ferguson Rd, and 20 tree sparrows. At Big Slough Park turnoff 8 juncos + about 20 tree sparrows + 2 cardinals and 2 crows. Before Walter's property noted 2 bluejays. At Little Slough Bridge noted 20 mallard at head of bay. Continued east to 4 corners, thence w to Ozawie where I set up a post at the submerged road on w side just S of Ozawie. Temp 33°F. Here noted 15 red-breasted mergansers alight at boat ramp area at Old town, counted 28 ringbill gulls and 4 Bonaparte gull, 1 golden eye duck (a ♂), 2 group of mallards (6-22) flying ^(1/2 hour) S. In extensive weed patch were 120 or so tree sparrows, 19 juncos and 3 song sparrows. Left this observation point + returned to Ozawie and travelled far enough N to see area S of Paradise Point with glasses and found approx. 300 mallards in lake just S of the peninsula in bay to E. From Ozawie bridge counted 18 ringbills N of caseway, most along shore flying as individuals. At E end dam 8 meadowlarks flew across dam. Continued E + thence S on Ferguson Rd to Longview turnoff. and at 1/2 mi. W along this road saw a sparrow hawk + 2 starling. Continued to Longview entrance and drove Park clockwise. No birds in bay. At S end Park noted group of 12 cardinals (all males except 2 females), 30 tree sparrows + about 10 juncos, 3 titmice + 3 black capped chickadees. Drove to N end + because snow + ice on grade was obliged to return some way. At this point realized that there was no footage on reel so put in new tape and continued recording at meadow 28.2 at 10:55 A.M. Ringbill. 28.5 2 gulls, 17 tree sparrow 5 juncos 28.6 yellow shafted flicker. 28.7 7 ringbills on offshore rock projection. Only one car preceded me this A.M. 28.9 S end Longview. bluejay. 29.1 2 yellow-shafted flickers 29.7 leaving Park. 30.7 5 starling 31.4 sparrow hawk.

¹30.7 8 tree sparrows. 31.9 Ferguson Rd. 2 crows to east. ²32.9 red bellied woodpecker + 20 tree sparrows. 33.3 red tail on Walter's property. 34.4 starling. 34.9 turn off to Big Slough 35.8 entering Big Slough Park. 36.0 drainage. Roads in Parks melted of ice & snow sooner than county paved roads. 36.5 now to Left. 37.2 to boat ramp. At ramp one gull only in water. Returned to main road at 37.8. 38.1 of the ducks noted this Am. from dam 3/4 of them were now on lee side of Park and within 10 feet or so from shore (just W of S end of regular paved road. They gradually moved away from shore and then left to center of lake. 4 robins in junipers. 38.3 flock of about 10 juncos (slate colored) 25 tree sparrows, 2 black-capped chickadees, 3 titmice, 6 cardinals and 1 red-bellied woodpecker. The large numbers of birds are estimates unless indicated. 38.8 head of bay. 2 cardinals, 5 tree sparrows, ^{39.1} approx. 500 mallards ^{on and} along shore just S of the Gap Point Bay. ^{Some of} The males would stretch or extend their necks forward at or on the water level and increase their paddling speed 2 or 3 times, most commonly with a ♀ in sight but not always. Females were reacting by some maneuverism but with head ^{and neck} held higher and with slight movement of head up & down. Those ducks that could see me & the car became alerted and swam lakeward but these ducks did not pass on the alert information to the other ducks. They finally swam back to the main flock when they recognized no further movement of the car. This at about 150 feet away. Ducks are resting, preening feathers and playing and are not feeding. The sex ratio of 130 was 98 ♂ & 32 ♀. A horned grebe was associated with mallards. A flock of 28 slate colored juncos and 18 tree sparrows fed at edge of pavement where snow was ~~clear~~ melted. In the 20 minutes I watched these mallards, ~~8~~ 8 ring-billed gulls flew ^{past} along shoreline. 39.4 Gap Point at boat ramp at 12:00. On N side Gap Point good wave action although whitecaps were only occasionally observed. Air temp ^{30°} 38°F, water at 6" deep ^{Ice from woods splash zone} 43°F, (3° lower than Nov. 27) On S side Gap Point in main lake no whitecaps and waves not developed. 8 gulls ^{only} in lake area N of Gap Point. ^{no rookery} Left at 12:25. Trace of snow in air will return some way out of Park. 42.5 leaving Park. 42.7 tree sparrow ⁹² 43.4 Ferguson Rd. 44.9 Big Slough Creek, no gulls. 46.1 highway ⁵⁹. 47.1 SE corner Perry Res. area at 12:35 P.M. 49.8 highway 24. 51.6 leaving LeCompton Road and turning E to valley road. 54.5 at end of dead end road, 3000 mallards in a cut corn field about 1/10 mi. W of the Kaw River. There was considerable local flight of individual birds. 55.1 back on rd at point where road makes 201' jog & big cottonwood (1:10). 55.9 iron bridge. 58.6. highway 24, American roughleg along railroad track grade. 60.2 leaving highway now to S. 60.5 sparrow hawk. 61.7 12 meadowlarks along rd. 63.2 sparrow hawk flying 30 MPR. 65.0 red tail

65.2 highway 24. It would seem that hawks, at least the 2 observed, were near main thoroughfares and railroad tracks. Small birds were virtually absent in the river valley route. 1:35 P.M. Crossed Kaw by turnpike. 66.9 Kaw River, no ducks. 94068 mileage at 1:50 P.M. at 402 Yorkshire Drive, end of census. Temp 25°F.

Perry Reservoir, Jefferson Co., Kansas
 Dec. 1, 1974

Annette and I made trip to Perry Reservoir to check on birds. Left 402 Yorkshire Dr. ^{Lawrence, Kansas} at 9:45, 94079.0 mileage, overcast, wind from NW, snow on ground, temp 30°F. 82.9 Kasold and Peterson Rd. (stopped at Rustip before starting), 7 meadowlarks on one group on side of road. 83.9 Kasold & Leecompton Rd now W. 4 meadowlarks, 84.2 2 starling, redtail. 84.5 sparrow hawk, redtail. Ponds open, some 1/2 closed with ice. 86.0 meadowlark. Some snow drifts on cutbanks. 87.7 redtail on pole at pond. 89.7 12 horned larks. 89.9 N-S Leecompton Rd. 91.0 redtail. 92.0 sparrow hawk. 92.7 5 starling. 93.1 Leecompton Bridge & river down 1/2 foot & new sandbars exposed. wind from NW. 93.5 3 horned larks. 94.8 Union Pacific R.R. Crossing. 96.0 Delaware Riv. 96.3 starling. 98.0 highway 4. 99.3 Thompsonville Rd. approx. 100 mallards flying S & W over dam. 99.6 sparrow hawk 99.8 12 cardinals, 3 bluejays, 20 tree sparrows, 6 slate colored juncos in one flock. 2 fox squirrels in trees. 00.0 now north 40 mallards to W and 200 to east. From Overlook above W end dam estimate 7,000 mallards in 5 rafts plus one group of 2,000 (included in the 7,000) in a shallow bay SW point of Big Slough Park. 8 flocks of 150-400 arrowwing from S. Whitecaps one every 80-100 feet, some breaking thru flocks of ducks. Ducks are not controlling wave action. 2 ringbill gulls. Leaving Overlook at 11:00 A.M. 01.5 W end dam. The pond with trees cut by beaver is edged (1/4) with ice. 02.7 to peninsula, some blue sky & few sun spots on water. 03.7 18 ringbills at point. Crow arrowwing out from E side lake. 03.7 back to main rd. 03.4 Coyote into woods on hillside, considerable tracks in tall grasses at edge of deciduous forest. Continued N to bay, turned around and returned same way. Gulls congregated on points associated with wave action. 07.5 W end dam. Temp. 33°F

07.9 4 male & 1 female golden eye ducks 3 feet from edge of base of dam. Another group 2 ♀'s golden eye, 2 ♀ golden eye and another 50' beyond another ♀ golden eye. These ducks were all near shore feeding in wove action.

08.4 3 ♂ and 3 ♀ golden eye with 2 ruzbills following their feeding action. 48 mallards arriving from S

08.6 ♀ golden eye & ruzbill. 09.0 Adm building. wind on flag NW but waves from NNE. 11.0 highway 92.

11.6 Ferguson Rd. 12.2 2 reatails. 12.7 Big Slough Bridge. Water in waves out of Big Slough but water only with surface agitation W of causeway. 14.0 2 crows on road.

14.3 Big Slough Creek turnoff. 15.1 juncos. 15.2 entering Big Slough Park. 16.8 Gap Point. 69 ruzbills from

Gap Point to point to N. and they were confined to this stretch of water where they were feeding.

Of the 69 gulls 7 were Bonaparte gulls. Air temp 34°F, water 44°F

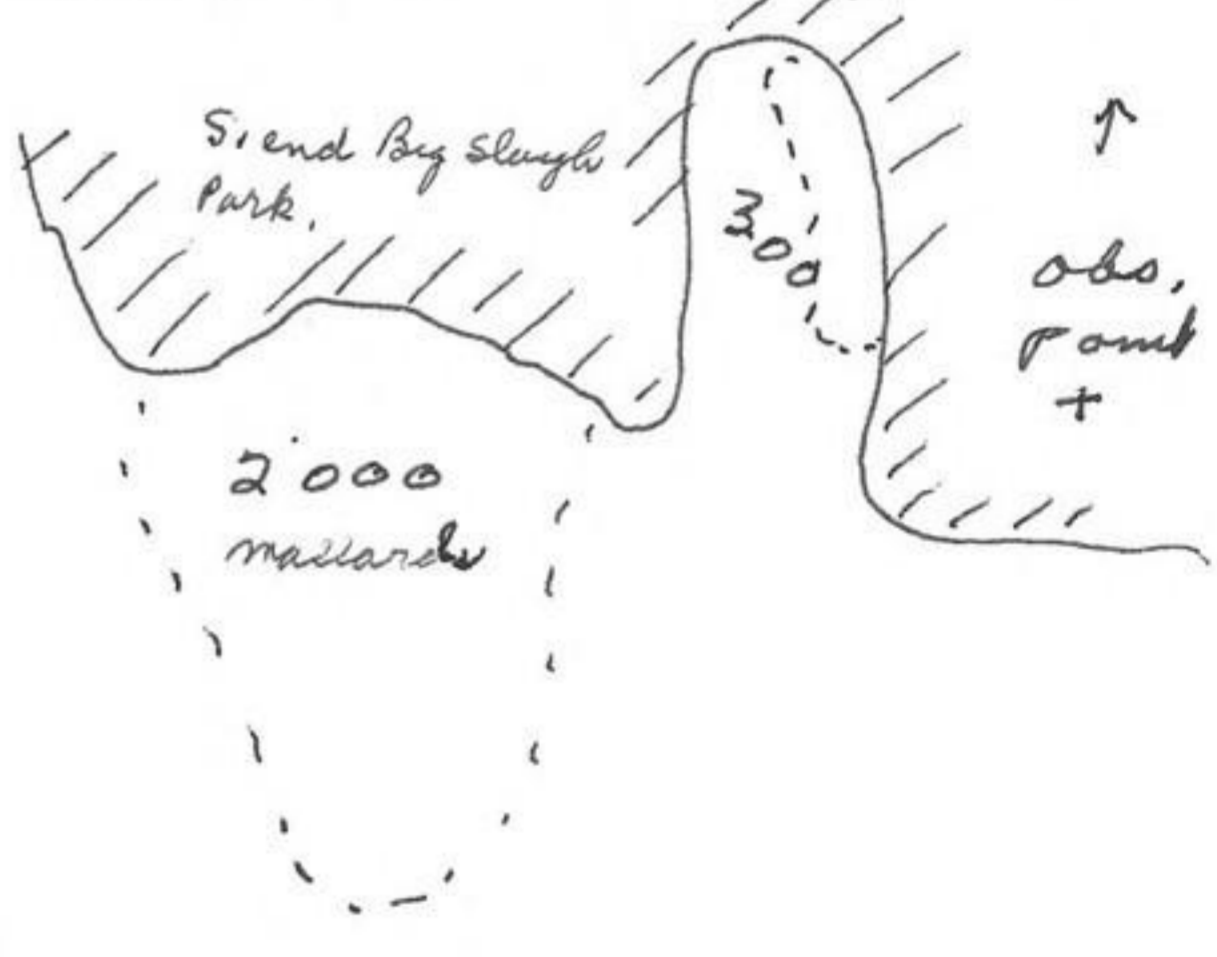
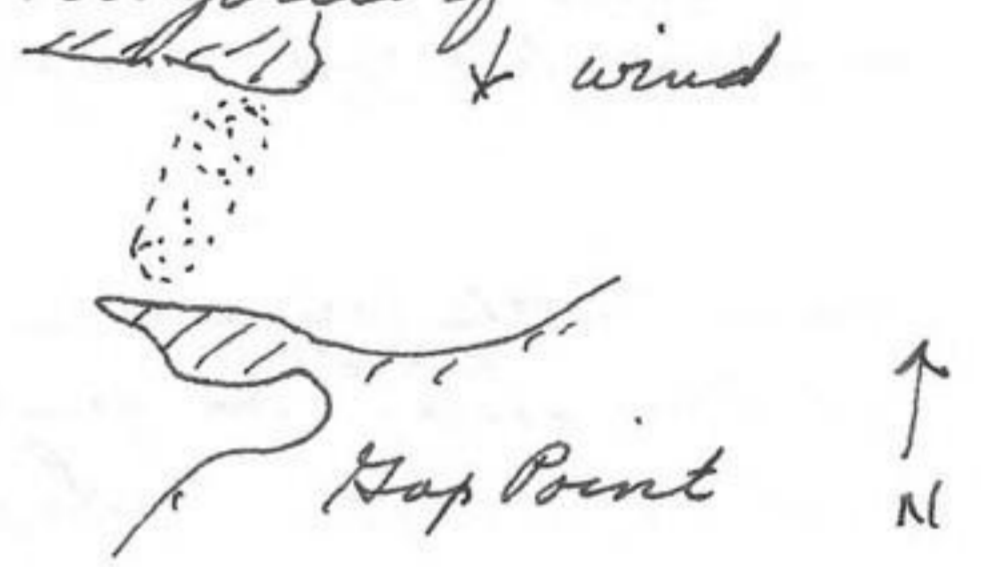
Some shad on beach. During the 20 minutes at the boat ramp the gulls fed in same area, only 2 flew by boat ramp. (12:25). Redtail on top of Gap Point. Left and continued S along shore. 19.2 3

mourning doves at camp point, which is the SE point of Park. At this point can see 300 mallards in large sheltered bay and 2000 in open bay.

Included in the open bay were 2 buffle-head ducks, 4 green-wing teal, 1 horned grebe and 5 golden eye ducks. These ducks were definitely taking advantage of the protection from wind. They bathed, courted and rested. Some were on the bank out of water. in trees on shore. (1:00 P.M).

A redbellied woodpecker deer in upper Big Slough Creek, got his limit of mallards in Delaware River below the dam yesterday and observed 80 snow geese S of the dam today.

09.5 now main road and returning clockwise thru Park again. 17 juncos & 18 tree sparrow, cardinal, chickadee. 20.5 head of bay, redtail. On SW point of Gap Point the fallen boulders look like rubber tire with snow on outer edges



Lawrence Air Port, Douglas Co., Kansas

Dec. 1, 1974

Merlin Tuttle (Museum Natural History) report a flock of 30,000-40,000 snow and blue geese, ^{at 4:00 P.M.} In flight the formations were 6 wide and as far as one could see in depth. They were flying north and attempting to alight in fields near the airport. Some were trending west. On the basis of only 80 snow geese observed at Perry Reservoir this A.M. would judge this massive flock of geese as maintaining its N-S movement across Kansas.

21.1 going up hill at Gap Point, bluejay 21.7 picnic point S of
 Gap Point 22.1 killdeer. 23.2 leaving Park. 24.1
 Ferguson Rd. 25.6 Big Slough Bridge, 1 ringbill gull. 26.8
 highway 92, 27.8 SE corner Perry Res. area. 30.4
 highway 24. 2 starting, starting, numerous (150)
 Eng. sparrows at elevator ^{at Perry} 33.1 Leecompton bridge. 33.9 now to
 E. on lower river rd. 35.5 2 am. roughlegs. 35.7 cardinal.
 37.1 railroad track, sparrow hawk. 37.5 3 bluejay.
 40.1 Leecompton - Lake View road, some redtail in tree.
 41.8 9 meadowlarks. 41.9 Kasold & Leecompton Rd &
 Continuing E. 34.7 towhee, redtail. 43.7 pond now
 5/7 in weeds. 94144.0 home at 402 Yorkshire at 2:00
 P.M. Sky clearing and 1/4 now in blue and equivalent
 sun.

Lawrence, Douglas Co., Kansas
 Dec. 2, 1974

2 trees or 1 percent of trees with golden leaves. All others
 leafless and ^{or} without color as viewed from 7th floor of
 museum looking NNW over stadium. at marks jewelry
 on mass. noted a single robin in small bush planted in
 rear of building. This tree is isolated from the residential
 trees. also heard a robin sing from top of tree on
 Campus. ~~to~~ this afternoon (4:40 P.M.).

Dec 3, 1974

noted 2 English sparrows inspecting ~~on~~ a shallow nest
 approx 30' ^{high} in elm tree immediately in front of the
 museum of natural history at 4:40 when there was
 good light in skies and sun still about 25 minutes above the horizon.
 One of the two individuals settled in the cup of the nest and faced toward
 the outer limits of the tree where it remained, as far as I could determine,
 for the night. The second bird left and did not return.

This morning at 8:40 AM a robin sang for 15 minutes from the top of the
 large elm tree ^{immediately} W of the Union building. It was about 100' from where the
 robin was singing yesterday evening and presumably the same bird.

a report was received that on Tuesday morning (Dec. 2) 2 hunters killed
 10 snow geese in the Big Slough Arm of Perry Reservoir. 80 snow geese were
 observed south of the dam on Dec. 1.

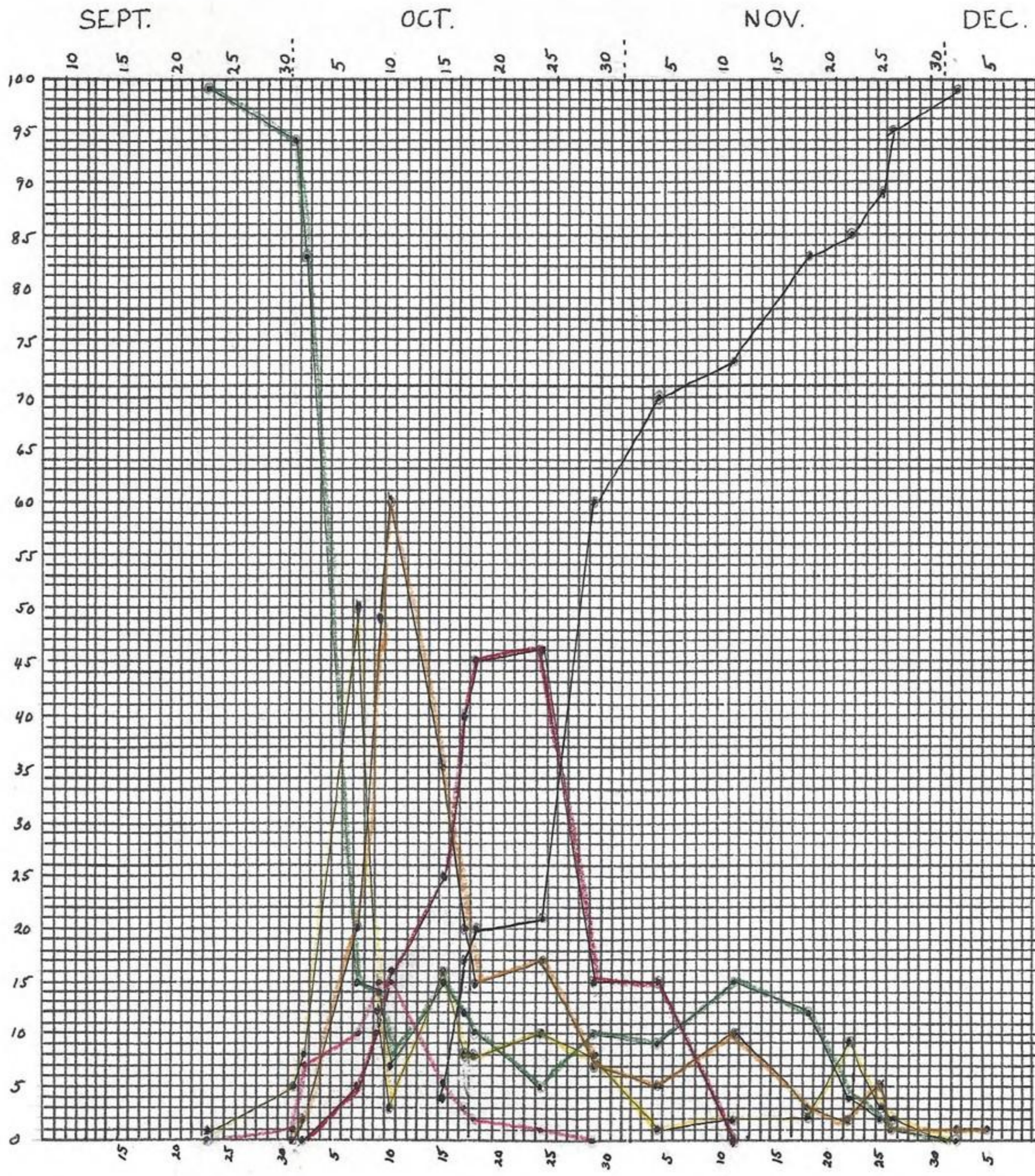
measured a sunflower stalk (with 1 1/2 inch heads) that was
 15 1/2 feet high and 40 mm in diameter at 3 inches above the ground.

This plant was in the 9th street area of Mississippi Street. (from Perry Res. area)

Dr. Mc Gregor of the Biological Survey identified the plant, that
 grows to maturity after native grasses are cut. It blooms late
 and is the only plant in fields. It is common in all counties in
 Kansas & prairie land in general. *Kuhnia eupatorioides* L. (a Compositae)
 Common name, Boreaset.

ASPECTION OF COLOR CHANGE OF AUTUMN LEAVES

741203-141



Color in graph represents color of leaves and not kinds of trees, however there is some correlation (some trees have red leaves, other species of trees have yellow leaves).


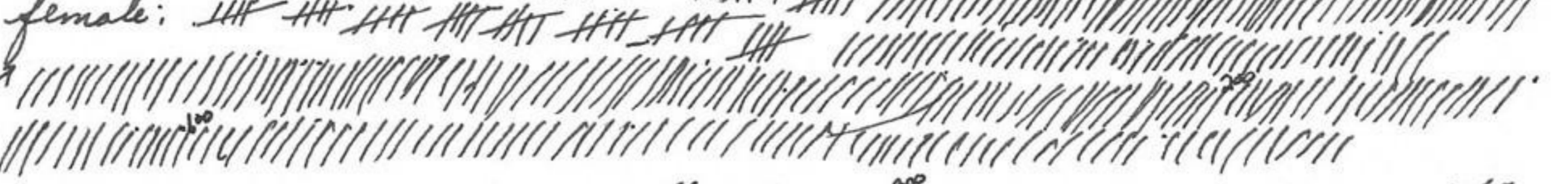
There is considerable movement of small groups (2-20) from one part of the bay to another especially short flights from the dam to the north as the wind blows them to the S. The snow geese maintain pure stand with mallards on peripheral areas to the raft of geese. I have never seen such an even and general distribution of mallards ^{on} a body of water. White-cop waves breaking in flock of geese and on mallards. The geese reacted to 4 planes that flew overhead and on each occasion flew & circled for 2 or 3 minutes to return to some general area. One Cessna plane flew about 30' above water from east part of lake to west side and the geese left water but could not gain sufficient altitude to evade plane so dove down to water level, being separated by the plane. The geese circled in compact flock when the two separated groups rejoined and then circled at about 400 feet as if they were leaving the area but finally they returned to W side of lake and alighted again in compact flock. This group behaviorism was serious and return to water slow & deliberate in contrast to flights from being disturbed by planes just flying overhead at 500 or 600 feet elevation. In the latter case they circled with a great amount of freedom and play, wheeling in unison, rising upward and gliding more abruptly to a landing. The movement of turns, ^{glides} descents or elevations were made in perfect synchrony and the behavior can not be explain on sight, or voice but must be based on learned maneuver like the performance of well trained ice partners who have developed and perfected certain skating routines. ^{and which has become reflexive.} The perfect performance of the blue and snow geese would indicate a very close, ^{specific} relationship as no two unrelated species could not perform so perfectly together. 8, ^{single} ringbill gulls hunted the area of geese & ducks but were not directly concerned with the geese or ducks as occasionally the case with a raft of ducks.


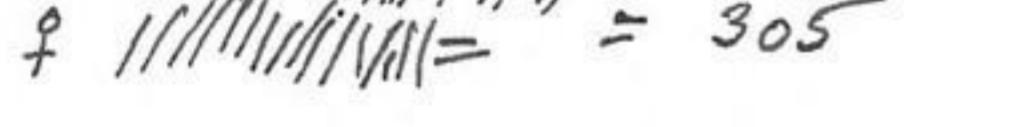
Will check raising of wings of the geese while in flock formation on the water. = 25 in 5 min. period.

Between my arrival and 10:45 the snow & blue geese have moved N against the wind the length of the raft or about 200 feet. Continued to prom peninsula on W side and on the NE corner and out 200' were 26 ringbilled gulls floating on water with white caps. Gulls have always preferred this point either on shore or in water. ^{Left 10:45 and} at junction with main road 2 red tails, 2 blue jays & 10 tree sparrows. Continued ^E to dam arriving at 93.2. ^{at W end} A double crested cormorant stood on limb in water with wings outstretched.

In flight the flock of geese is much larger than when in raft on water. When they return to water this flock always assumed the same size.

Of one group of mallards the sex ratio is as follows.

male:  378 ♂
 female:  305 ♀

♂  = 378 ♂
 ♀  = 305 ♀

many isolated pairs are male and female..

Left to N at 11:38 A.M. 9:37 red-tail ~~94.4~~ 94.4 now E to peninsula
 94.9 NE point of peninsula. 26 ring-bills swimming in waves
 150' NE of here. This point has always been a favorite place
 for gulls either for resting on beach or on water just N or NNE
 of point. 4 gulls fed or hunted in bay to N & W. In prot-
 ected bay water shimmering but no waves. Left and
 returned to main road at 95.4. now S. In one group of
 male and female mallards there was one large male mallard
 1/3 or more larger than the other mallards and was slightly
 lighter in color. It swam with head up and twice as fast
 as the other mallards in the group. 96.7 west end of dam
 97.1 2 golden eye ducks. 97.2 5 golden eyes. There were
 at edge of base of dam some 3 feet out from edge of dam.
 98.2 Adm. building at 12:12 P.M. 99.6 highway 92 via marina.
 99.7 bluejay. 00.2 Ferguson Rd. 01.3 Big Slough Arm bridge. 1
 ring-billed gull. Some parts of shore on lee side smooth. 02.9 Big
 Slough Park turnoff. 03.7 entering Big Slough Park 03.9 drawage
 04.5 now to left. 04.7 robin. 05.1 by passing boat ramp area.
 04.8 3 tree sparrows. 06.1 head of bay. 06.5 82 mallards in
 bay just S Gap Point. Cardinal. 06.8 Gap Point at boat ramp.
 Approx. 6,000 mallards from Gap Point to point N of lake. 5
 gulls in area. The water at boat ramp is about 10' of muddy
 water. One line of muddy water extends out into lake for 100'. Water
 to W along shore clear. 2 pied-bill grebes off Gap Point.
 1000 mallards on E side of bay: Temp 42°F of air, water
 temp at 6" deep is 42°F. Wind causing good waves on
 beach.

There is continuous movement of mallards in bay N of Gap Point

most of them flying from water level to 60 or so feet. Well
 keep record of mallards flying by ^{E-W, W-E just n of that ramp} per unit of time. (10x binoculars)
 1:02 to 1:09. 4-1-2-3-1-2-1-2-3-2-11-1-4-5-3-6-1-5-1-2-1-2-3-
 1- (a crow flew W across lake just above water) -1-3-3-1-1-1 = or 77 per 7 min
 1:17 to 1:22. 8-1-7-2-2-3-8-1-1-4-1-8-24-50-40-2-8-4-7-1-1-4-8-
 4-1-3-2-1-1-3-1-4-3-4-5-2-2-1 = ³² 24~~4~~ per 5 mins:

In this same period of time 5 ^{individual} ring-billed gulls flew E above
 shoreline searching for food, twice picking up from waves. At
 1:25 a crow flew W to E across lake as as the other about 2 feet above
 the water. 1:26 left Gap Point. wind increasing well return by
 shore. 1:50 mallards in pond E of submerged road + equal
 number in bay S of Gap Point. 17.2 3 juncos. 17.5 head of
 bay. It is surprising that mallards do not use this bay which is
 well protected from wind, but I have never seen ducks here. 08.5
 3 crows. 09.2 back to main road. 09.8 leaving part. 10.8
 Ferguson Rd. 12.2 Big Slough Arm bridge. 6 ringbill in
 water to E. 13.4 highway 92. 14.4 SE corner of reservoir area,
 at 1:43 P.M. 17.1 highway 24. 17.7 4 starling. 19.7 Leecompton
 bridge. 20.5 now E on low river rd. 22.7 17 tree sparrow
 & 4 juncos. 25.3 meadowlark 27.0 Lake View Causeway.
 29.8 3 tree sp. 4 juncos, 2 starling. 4330.3 at 2:15 ^{P.M.} at 402
 Yorkshire Dr, Lawrence.

Perry Reservoir, Jefferson Co., Kansas
 Dec. 8, 1974

Trip to Perry Reservoir to check on birds. Left at 8:15 A.M
 94330.7 mileage, sky clear, temp 12°F. wind from NW. 30.4
 mockingbird with 30 Eng. sparrows. 30.8 6 juncos, 4 tree sparrows
 31.4 Kasold and Continuing ^W E. 31.9 Martin Park 32.4 12
 juncos, 4 cardinal, 2 b.c. chickadee, 32.7 2 cardinals, 8 juncos
 33.3 four corners, ^{continue W} water in creeks frozen in pools and open in
 fast moving water, 34.5 30 slate-colored juncos, 3 cardinals and 2
 Titmice in one flock. 35.6 Crossing turnpike, 5 lesser scaup
 in pond where 12 were seen yesterday. 35.8 Leecompton Rd and ^{continue N.}
 37.6 single tree sparrow. 37.7 30 tree sparrows. 38.2 tree sparrow
 38.4 20 tree sparrows. 39.1 2 crows. some ponds close and some
 open. 39.5 cardinal, 4 juncos. 39.7 Leecompton Rd. 40.7 Leecompton
 Bridge 43.5 Delaware River. 44.0 redwing blackbird on
 side of road near brush where it retreated. 45.5 highway 24.
 46.8 Thompsonville Rd, 30 tree sparrows. 47.3 2 bluejays
 47.4 sparrow hawk. 47.6 now to R. 48.4 Overlook. From
 here can see some number of snow & blue geese as observed

yesterday and in same position N of dam. The mallard, perhaps 20,000 less than yesterday, except for 3 or 4 small groups of 20 or so, in protected areas on W and S side of Big Slough Park. The waves were in whitecaps about every 25 feet. Geese left, circled once & returned. ^{at 9:12 A.M.} Lines of steam on lake. ^{749.0} ~~750~~ W end of dam and now N. Lines of steam on lake. ⁵ ~~40.2~~ 30 mallards in protected bay, 18 juncos. 50.2 now to peninsula: 20 gulls so far. 50.7 E end peninsula. Fog lines in lake up to 150' of shore. no ringbills in usual spot NE of peninsula. Approx. 30 Eng sparrows in one group. They are uncommon elsewhere in area and not in many areas where they nest in the summer near areas of human occupancy. 51.2 back to main road. 51.3 2 redtails in tree ~~feet~~ feet apart (the hawks), 18 tree sparrows. 51.8 turned around and returning to W end dam. ³ 51.9 W end dam. 9:30 A.M. 54.1 goldeneye 3 feet out in water N of dam. First ^{ringbill.} gull observed today. ⁴ 53.3 3 goldeneyes. ringbill gull. 54.5 goldeneye. 54.7 bufflehead duck. 55.2 ringbill. 55.4 Adm. building. 56.2 SE corner reservoir area & now S. 58.6 30 Starling 58.9 highway 24. & continuing S and at 60.6 now left along river valley rd, 3 horned larks. 63.0 20 horned larks & redtail. 63.4 9 meadowlark. 63.9 iron bridge. 64.3 fox squirrel. 66.5 highway 24. 67.2 now to S. 69.2 Lawrence landfill and from dike can see 160 ringbill gulls and 2 herring gulls flying over or resting on ice or water in ponds. 12 mallards arrived. 10 meadowlarks flew over ponds. 69.4 6 meadowlarks. 69.6 2 meadowlarks 70.1 fox squirrel in field 100' from isolated tree. 70.6 fresh gopher activity. 72.5 more active gopher. 72.9 highway 24. 74.6 Kaw River bridge in Lawrence at 9:45 A.M. 94377.4 at 402 Yorkshire Dr in Lawrence. and end of census.

Perry Reservoir, Jefferson Co., Kansas
~~in~~ ~~in~~ ~~in~~ ~~in~~
 Dec 14, 1934

Left 10:15 A.M., temp at 8:00 A.M. 32°F, temp at 10:00 A.M. 36°F. Front moved in with abrupt edge from the south and although this front was at least 5 mi. N of the power plant the smoke was blowing S. This front ran into a clear blue sky. At 10:00 started to rain but cleared in about 10:30 it stopped. 94538.6 mileage at Kasold and Peterson Road. At this point a redtail was sitting on top of an old windmill and an American roughleg hovered in field

approx. 200' to the NW. wind gradually changing to (from) east.
 rainbow to north. 39.6 Kasold and Leecompton ^{road,} 40.1
 meadowlark. 40.2 3 starling. 41.2 tree sparrow. Ponds
 open. wind now from ESE. most ponds with ripples from
 wind but some smooth where protected from wind. 43.4
 at pond, 4 male lesser scaup ranging from pure white on sides
 to grayish, 2 ♀s. diving once per 30 seconds. no red tail.
 44.7 10:30 sky overcast, dark but clouds still formed.
 45.6 71-5 Leecompton Road. Really getting dark. 47.7 3
 starling. 48.9 Leecompton Bridge. water getting lower and
 sand bars now make river look as if it were intermittent,
 mileages are at center of bridge or at edges if so specified.
 50.5 Union Pacific R.R. tracks, 50.9 5 starling. 51.6
 highway 24. 54.2 SE corner of reservoir area at 10:50 A.M.
 Continuing N. 55.2 Ferguson Rd. 56.3 Big Slough Arm of
 Perry Reservoir is equal to Big Slough Creek or Bridge. ~~no~~
 one gull (ringbill) and no white caps. 57.0 bluejay.
 57.9 Big Slough Park turnoff 58.8 entering Park, mocking-
 bird. 59.5 to left. 60.7 ringbill gull, now raining.
 60.1 continuing on event rd. 61.4 S end Park road. white-
 cap Copes in lake. The mallards are on W side of lake
 from dam in linear rows to 3/4 way to peninsula to north.
 I would estimate that there is 20,000 mallards and
 about some number of blues & snows as previously
 observed. Wind from S. One flock 20 tree sparrows.
 8 juncos and 4 cardinals. Water greenish to N and
 bluish grey to west. 62.0 head of bay. 62.8 8 mallards 200
 feet from shore. 4 juncos (slate-colored) 62.5 water on old
 county road same all autumn. 62.7 Gap Point at boat
 ramp. water ruffled but no whitecaps N of Gap Point.
 15 mallards only in bay to N. Rain increasing and
 cannot see Ozawie but only point on east side beyond
 bay. Wind moves over Gap Point lowland at boat ramp
 with gusts that drop down on water beyond the boat ramp
 in a fanlike shape causing high ripples as it advances.
 Left at 11:20 for W side of lake via dam. A 2 foot
 log has washed up on boat ramp and is 2 feet higher
 than the present level. Air temp 40°F and water temp
 41°F A rain on the bay smooths out the ripples and
 small waves on the water of the bay N of Gap Point. For
 the 10 minutes I was at Gap Point observed 2 ringbill gulls
 pass the boat ramp. 64.3 leaving Park

Noted several instances of ♂ & ♀ swimming together thru other ducks and also isolated pair in a nuptial performance.

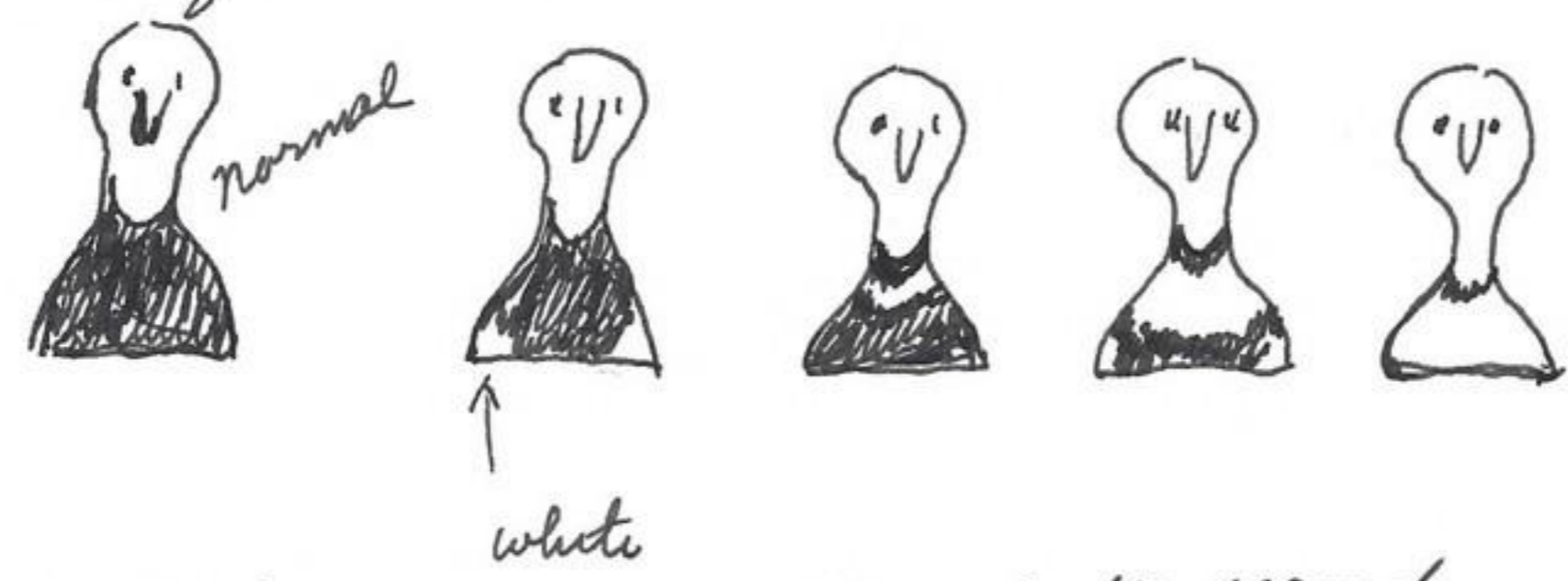
Sex ratio of mallards is : m f m f f f m m m m m f f f m f f m m m f f m m m m f f m m f f m f m m m .
at this moment something spooked them away from the area. 1:25 now mallards swimming thru roost of geese in all direction while the geese are maintaining their position which is into the wind. There is no coaction between the mallards and the geese.

At 11:30 P.M the geese returned to the lobe in two major groups and about the same time. when dropping down into the lake there are two tumbling zones, one at about 400-500 feet and another at about 100'. The blues seem to do more ^{eratic} diving than the snaws. The first group of the two arrivals partly alighted and then took off again, including the 52 geese on the water. They circled once and then all geese of the two flocks alighted again. Five minutes after alighting they were calling about 5 calls per second. After 5 minutes since landing the roost is 1/10 smaller than when originally formed upon landing.

In bathing some geese will turn over on their backs, others paddling on their sides with their wings.

When groups of 3-6 blues are followed, it will be found that the individuals will gradually mix at random with the other snaws & blues.

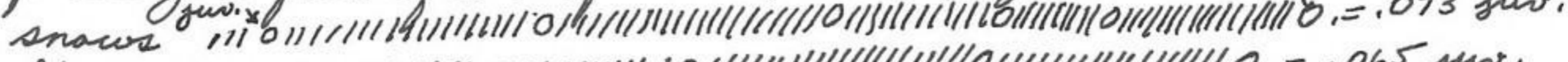
Noted 20 instances of hybridization in the blue geese and this was concerned with the region of the black of the neck.

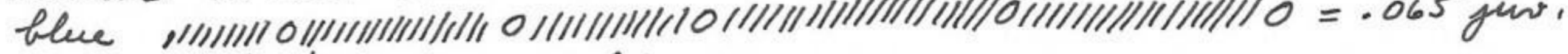


2:00 calls of geese are now approx 2 per second. Airplanes under various conditions cause geese to all come to alert with necks stretched upwards or causes them to take flight from a local adjustment on the lake to leaving the area. Planes passing overhead above clouds and out of sight will put geese into the air and range in size from small paper cuts to large jets if by chance they are flying lower than usual. Planes that are

harassing geese or ducks should be reported and fined. An article in local Kansas newspapers would also help to alleviate this harassing of waterbirds.

Percentage of young to adults: (at such distances it is difficult to ascertain the difference but even in good light a near position of raft the young are of a very small percentage of the adults).

snows ^{juv.}  = .073 juv.

blue  = .065 juv.

Raft now ^{reled and} is $\frac{1}{3}$ of the ^{usual} original size and was caused by a plane that circled the lake to the north. At this smaller size the geese are alert, all geese faced the plane although counter to wind. Sun on lake and 7 ring-bill gulls immediately became conspicuous. Geese stood ^{more prominently} out, but mallards fade with sunlight.

The juvenile of the blue goose seems to ride higher and have a longer, thinner neck and smaller head than the ~~two~~ juvenile snow goose.

Left 2:30 P.M. 73.2 W end dam, redtail. 73.0 Overlook.
 73.6 back to W end dam. Only 3 goldeneye ducks and 3 ring-bill gulls along ^{dam}.
 75.2 Adm. building 75.6 redtail top of pole. 76.0 SE corner
 Perry Reservoir area, row 5. 76.5 redtail 78.6 highway 24. 81.4
 LeCompton bridge 82.2 row 7 on lower road, redtail. 82.5 2
 bluejays. 83.1 shrike, 83.9 2 goldfinch & 2 bluebirds. 84.1 7
 tree sparrows. 86.1 2 starling, 12 starling. 86.5 redtail. 86.8 starling
 temp. 49°F. 89.0 2 starling. 89.6 sparrow hawk. 89.8 LeCompton-
 Lakeview Road. Wind now from SW. 90.2 LeCompton-Kassold Rds.
 94592.1 at 3:45 P.M. at 40 Yorkshire Dr., Lawrence.

Perry Reservoir, Jefferson Co., Kansas.

Dec 15, 1974

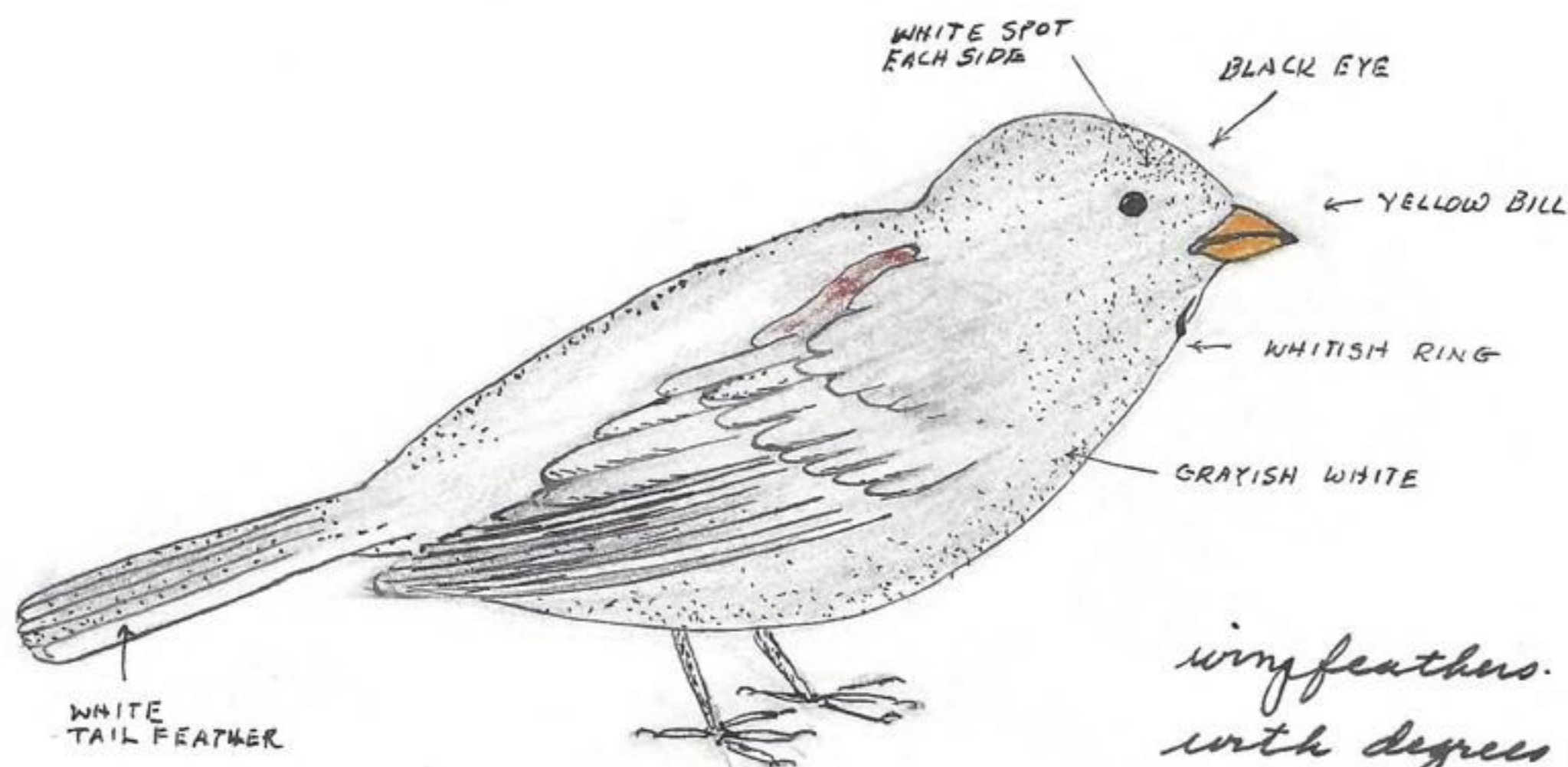
Left 8:45, 94595.2 mileage, wind from ^NW, temp. 33.5°F.
 96.2 3 crows, 1 starling. 96.6 2 crows. 97.0 Kassold & LeCompton Rd.
 2 starling 99.0 sparrow hawk. 00.7 pond with 6 ♀ and 4 ♂
 lesser scaup. 02.7 redtail. 02.9 N-S LeCompton Rd. 03.2 2
 bluejays. 06.2 LeCompton Bridge. Water in Kaw clear with bottoms
 of sand visible. In deep channels water bluishgreen. River channels
 shallow and most of channel in sand. 2 tree sparrows. Sky
^{over} overcast completely but clouds formed. 08.3 19 starling
 09.0 Delaware River Bridge W of Perry. 11.0 highway 24. 11.1
 prairie falcon flew across road and continued W for $\frac{2}{10}$ mile about
 1 foot above but corn field. A flock of about 150 horned larks left
 as the falcon approached but a second group of horned larks gave up

one bird which was consumed on the ground. The flight of this
 falcon was direct for the 2/10 miles. 11.9 sparrow hawk. 12.3
 Thompsonville Road. 13.0 now N. 13.8 Overlook. at 9:40 A.M.,
 counted snow-blue geese as: ^{by tens} HHT HHT HHT HHT HHT HHT HHT HHT HHT HHT is
 half of flock so total numbers is = 1000 birds. Estimate 6000
 mallards. Left and 14.2 to N. 15.2 turnoff to peninsula 15.4
 5 mallards on beach on lee side peninsula. 15.6 E end peninsula and
 whitecaps every 20 feet. 18 ringbills hunting on waves area.
 14.1 back to main rd & now S. at 10:15 plane passed over and geese left,
 circled and after circling once returned and alighted 2/10 mile to north.
 The lone injured snow goose started to swim to flock and arrived
 5 minutes later and took position at rear of flock (lee side). 17.3
 at 10:24 left. 4 gulls (ringbills) 17.6 west end of dam (this is
 the convergence of the N and dam roads. Goldeneye duck & gull
 here. 17.8 golden eye. 17.9 golden eye. 18.0 golden eye.
 18.1 golden eye. 18.3 outlet gate. 18.7 12 mallards on shore.
 good wave action on rock. 18.9 4 mallards along shore. 19.0
 1 mallard on shore which is the point where water leaves base of dam.
 19.2 Adm. buildings. 19.3 main rd & now W. 20.2 outlet,
 sparrow hawk. Mass on apron and only 2-3 inches of water on
 apron. 21.2 back to Adm. Wind from NW. KA 175 FD
 is number of large sailboat. 2 gulls at marina in bay.
 10:55 plane displaced geese which flew to Bay Slough Bay w/ of
 bridge & then returned. Geese in air seem to be more than
 when on water by 1 to 4. 22.5 on circuit NE of marina. 23.7
 ringbill. 24.3 bald eagle on winds on N edge of park area.
 remained almost stationary against the wind but gradually
 moved west along shore about 150' above the trees. 80 mallards
 on N side lake. 24.6 12 tree sparrow & 6 juncos. 25.8
 back to main road. 26.4 highway 92 now S. 26.8 SE corner
 res. area. 11:15 weather same all morning Temp 39°F
 30.1 redtail. 30.7 redtail. 32.1 Leempton Bridge. 34
 32.9 now to N. on lower road. Red-bellied woodpecker. 33.9
 starling. 35.2 2 crows. 35.8 redtail wind WNW. 39.4
 Lake View Causeway. 40.2 sparrow hawk. 40.4 Leempton Rd.
 40.5 sparrow hawk. 44.2 redtail. 94647.6 at 402
 Yorkshire Dr. at 11:47 A.M.

402 Yorkshire Dr. Lawrence, Douglas Co., Kansas
~~Lawrence, Douglas Co., Kansas~~

Dec. 15, 1974

In a group of approx 300 Eng. sparrows at feeder there are 3 deviation of plumage, one as below with pure white and grayish white in plumage; one with black wings^(right and left); and one with outer tail and



wing feathers. There are others with degrees of white in plumage. The amount of albinism seems relatively high. The drawing above shows a yellow bill which is distinctive when the bird is mixed with normal colored birds and the overall whiteness is conspicuous. The whitest is in secondaries and tertiaries and back; the scapulars show the only reddish brown in the plumage. The eye is black. This bird defends itself from males and is followed by females, otherwise its behaviorism and acceptance is the same as the normal birds. One cowbird feeds with this flock. The red bellied, bluejay and Cardinals feed at some post. At about 4:00 P.M. the sparrows gain high positions in trees before leaving while others fly up to about 100 feet and then fly horizontally to roosting sites.

Perry Reservoir, Jefferson Co., Kansas
~~Perry Reservoir, Jefferson Co., Kansas~~

Dec. 21, 1974

Checked birds at Perry Reservoir. Left from home at 8:07 A.M., mileage 94887.6, sunrise 8:00 A.M., temp 20°F, wind from ^NE. and gently with smoke going up almost 300 feet before going west. 87.7 4 juncos, 1 bluejay. 88.0 15 bobwhite. 88.4 2 meadowlarks. 88.9 2 starling. 89.3 Kasald-Leecompton Rd. Sky with high cirrus clouds, 90.4 19 starling, 2 meadowlarks, ponds frozen and good frost on vegetation, no snow. 91.3 7 starling. 92.2 opossum rd. hill. 92.6 sparrow hawk. 94.5 crow flying ^N and another 2/10 farther W. 95.3 N-S Leecompton Rd at turnpike. 96.5 cardinal. 98.5 Leecompton bridge, more fog in valley than uplands. 99.2 meadowlark. 00.1 Union Pacific

503 blues and 946 snows.
 or 35% blues and 65% snows.
 One group of 23, ^{snows and 10 blues} of the above swam to shore and climbed out
 on rocks at edge of water.
 The main flock has now decreased in overall size (not number)
 to 1/3 less, and all swimming toward shore.
 9:25 or 15 minutes after alighting the calls are 1-3 per second.
 At 9:30 a ^{high jet} plane flew over and the geese left, first those on land and
 then those in water, circled once and alighted again. Upon alighting
 the flock formed to 1/5 ^{area} its usual size in 5 minutes.
 One group of 11 blues in flock became diluted in
 3 minutes by random dispersal and snows move into aggregate.
 One group of 3 blues & 2 snows swimming rapidly thru other geese.
 4 snows and 2 blues now on shore and isolated from flock
 by 1/2 miles 1 1/2 blocks.
 Can pick out 3 blues that have just a trace of black on
 neck with rest of head & neck and breast and sides white.
 One blue has only white on head,
 but with long black and
 white scapulars.



Coactions include snows chase snows; snows chase blues,
 blues chase snows; blues chase blues.

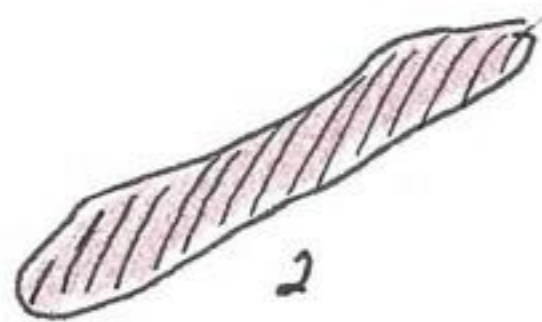
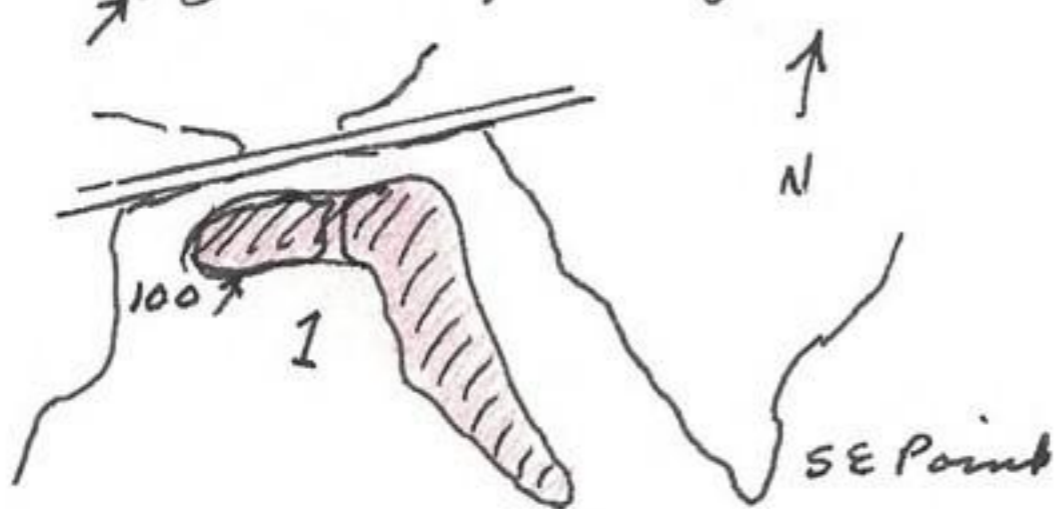
Can see 7 gulls in lake N of dam.

Two hikers walking along dam created greater number of
 calls from geese. The 6 geese on shore left and attempted 4 times
 to land again on shore & succeeded the 5th time ^{by alighting directly on rocks}. The main roft
 did not leave but became alert. Small planes flying ^{high} N-S
 do not cause geese to leave from water. Lower planes and some
 high E-W jets do cause geese to leave & then after circling once or
 several times depending on nearness of plane, return to about
 the same area in lake. Planes harassing geese cause geese to leave area.

9:55 geese up by plane. when alighting the calls are loud and continuous, then after 20 seconds very few if any and then 3-6 per second for another minute & then to 1-3 per second. The geese on the rocks did not leave but the main flock did, & then after circling returned. Flock now 1/5 of usual size.

Left 10:00 A.M. Temp 35°F. 06.2 8 juncos, 06.8 W end dam now N. 07.2 lake 1/2 mirror & 1/2 ripple, slight, sky 100 blue but hazy in distance. no ice in main lake but thin ice in some parts of protected bays. 08.0 ♂ + ♀ mallard in bay. 08.1 to peninsula. 30 mallards at point to S. bay. 08.4 8 mallards in bay to NW, 30 to north in lake, 20 on point to N and 60 at NE end point of peninsula on shore. 82 ringbills at this same point. Approx 100 other mallards are on shore and other point on lake. They are generally distributed and are on land today. 30 on Day Point. Can see many gulls and water birds near Lock Creek bridge and will check them out later.

Wind from south. Water deep beautiful blue. 08.9 thin ice in bay to right. 8 juncos. 09.1 back to main road 09.6 52 Am. mergansers flying 1 foot above water & travelling S. 10.1 bay area, 8 mallard at point across bay. 10.6 head bay. 10.7 redtail. Lake mirrorlike in places. 11.3 now up hill to W. 12.3 main road. Continued to Lock Creek bridge and there are two groups of ^{american} mergansers.



In first group⁽¹⁾ are 820 and in the second group⁽²⁾ are 5000. There are 48 ringbills and 5 herring gulls associated with the first group and 140 gulls (can only determine as gulls but probably proportional numbers of ringbills and herring gulls) in second group. Another group of 100 ringbills and 3 herring at SE Point and another group of 70 ringbills and 8 herring gulls on thin ice N of bridge in bay. (2 adults and 4 immatures). Of one group of 100 Am merganser at bridge there are 26 ringbills and 2 herring gulls. The gulls are either on water among the mergansers or flying above the mergansers and when a merganser surfaces with a fish, the gulls will anticipate the moment when the merganser surfaces or chases the merganser and making physical contact with the merganser for the fish. The mergansers usual surface paddle for

four or 5 feet to escape or less commonly dive to evade the gull. The fish are from 1 1/2" to 3" long. When fish are loose in water the gulls will ^{with a splash} dive but in no case did I see them the gulls immerse below the surface.

When the gulls & 20 mergansers left the area I because of car passing over causeway, the gulls moved along with the mergansers at the same speed & level of flight as if a part of the flock but actually were chasing the merganser as if the mergansers all had fish in their bills.

At the time I left the gulls on the ice had increased to 130 ringbills and 6 immatures & 2 adult herring gulls.

Left bridge at 11:05 at mileage 13.9 14.0 Rock Creek Bridge. Uppermost bay to N open but main bay to bridge with thin ice. Open S of bridge 15.9 redtail. 07.5 blue jay & 12 tree sparrow, 18.9 bluejay 20.5 main Ozawkie Rd now E 22.1 Ozawkie, now S to submerged road (old) 22.3 redtail. Approx 100 tree sparrows and 5 goldfinch in weeds in area near lake. These weeds have always been used by tree sparrows. 22.5 end submerged road. 50 ring-bills on thin ice SE of point of submerged road and if there had not been ice these gulls would probably be using this point as usual. Ice just S of causeway but open to S. 12 mallards on point to SW. 22.9 now at causeway bridge over Delaware River E of Ozawkie. Thin ice to N. but occasional open spots. One group of birds ^{on line} on ice 1/10 mi. N + E of bridge are: ♀ mallard, ♂ mallard, ♀ mallard, ♀ mallard, ♂ mallard, ♂ mallard, ♂ mallard, ♀ mallard, ♂ mallard, ♂ mallard, ♀ mallard, Canada goose, Canada goose, ♂ mallard, Canada goose, ♀ pintail, ♀ mallard, Coot, Canada goose, Canada goose, Canada goose, Canada goose, Canada goose, ♂ mallard, Canada goose, Canada goose, ♂ mallard, Canada goose, Canada goose, ♀ mallard, Canada goose, ♀ pintail. The geese were resting and heads under wings and had gone thru thin ice & were on water. The mallards were either on ice or dropping thru ice as they walked on ice. 15 ringbills on ice and generally distributed (isolated) between here and Paradise Point. No mallards or other ducks beyond here. Left 11:45. 23.3 gull flying along NE shore. Some evidence of shifting ice. 24.8 entrenched 4 corners now S on Ferguson Rd. 25.5 Little Slough Creek bridge, Creek in ice. Upper part of bay ice & some covered with snow. 27.0 3 tree sparrows.

28.6 yellow-shafted flicker. 29.1 blue jay. 29.9 now to Big Slough Park. 30.5 sparrow hawk, 30.8 entering Park. 31.0 drainage. 31.5 now to left. 32.2 to boat ramp. 32.4 boat ramp. 2 mallards head of bay, 120 mallards mouth of main bay, 46 on point and one goldeneye. 32.9 300 mallard off shore to S. 33.6 2600 mallards along and on shore, especially the point. 34.0 2 mallards mouth of bay. 34.2 road at head of bay. No ice in bay. 34.5 8 tree sparrow, 4 juncos. Pond at Gap Point half open. Gap Point at boat ramp at 12:15 A.M. 34.9: Water temp 38°F, water temp 39°F. To N you see 100 mallards generally distributed, especially to N.W. The American Mergansers have now moved to NW Gap Point. There are 40 gull (roughbill?) near soil boat club to N.

Left 12:30 & returning same way thru Park. 37.9 leaving Park. ~~38.8~~^{38.8}(?) Ferguson road, now S. 40.2 Big Slough Creek bridge. open to left 50%, to west open, 2 ^{roughbill} gulls. 41.4 highway 92. 42.4 SE corner reservoir area at 12:42, blue jay. 44.1 5 tree sparrows. 45.0 highway 24. 46.2 railroad tracks. 47.7 LeCompton bldg. Smog along lee (W side of valley) in river channel and on uplands to E from Coop Plant in Lawrence. 48.5 now lower rd to N. 49.2 blue jay rd. kill. 49.7 roughleg hawk. 50.2 2 tree sparrows. 51.8 2 crows, flicker. 53.6 23 tree sparrows. 54.0 sparrow hawk. 54.9 Lake View Causeway. Seed in completely. 55.7 sparrow hawk. 56.0 redtail. Smog on N side of ridges. from Coop, and not the power plant (KPL). 57.4 Kasald & Peterson Rd. Wind from south. Home ~~94~~ (402 Yorkshire Dr, Lawrence) at 94958.3 mileage at 1:10, P.M. mockingbird at feeder. End of Census.

Lawrence, Douglas Co., Kansas

Dec. 27, 1974

At 402 Yorkshire Dr. checked food consumption of English sparrows at feeder. At 9:00 A.M. placed 2000 grams of bird seed on feeder. At 1:00 P.M. the food was gone. An average of 125 (100-200) Eng sparrow maintained constant feeding with the usual 1/2 to 4 min interruptions. Assuming the average wt. of the birds is 26 gms and each bird ate 16 gms in the four hours of feeding, the food eaten is 62 per cent of body wt. In the normal feeding period of 7 hours the birds would consume the equivalent body wt. The marked sparrows (albinism) would indicate ^{some} change of flock composition from hour to hour.

Lawrence, Douglas Co., Kansas

Dec. 29, 1974

Trip to Mexico with Annette & Chris. Left with mileage at 95171.3 at 7:30 A.M. Temp 36°F, wind from N and sky overcast. The intention was to determine numbers and distribution of raptors thru Kansas, Oklahoma and Texas but recorder malfunctioned to end of turnpike near Oklahoma border. On the basis of an estimation would say that there was a decided increase in redtail hawks and American roughleg hawks ~~with~~ over previous censuses and that the roughlegs constituted approx. 30% percent of the redtail-roughleg population. There was an increase in roughlegs as one travelled across Kansas, especially noticeable S of Emporia. The sparrow hawk seemed to be about the same in number or perhaps fewer than usual. meadowlarks uncommon until southern part of Kansas. Crows were decidedly uncommon and as I recall only 2 were observed between Lawrence & Emporia. From the southern end of turnpike on highway 35 will continue with regular census for the remainder of the trip, including all rapores and crows and other noteworthy observations.

953⁵²25.6 end of turnpike. 53.6 redtail. 54.5 redtail, 56.4 redtail. 57.3 redtail. 58.4 redtail. 59.6 roughleg. 61.7 roughleg. 63.1 redtail 63.4 redtail. 64.3 at milepost 7. 65.8 redtail. 67.7 2 meadowlarks. 67.9 4 crows since those observed near Emporia. 68.4 redtail. 69.5 redtail. 71.3 Oklahoma at 4:20 P.M. 77.4 Chickasaw River. 77.9 roughleg. 78.4 redtail. 78.7 sparrow hawk. 79.8 redtail. 80.3 redtail. 82.0 redtail. 82.3 redtail. 83.5 redtail. 83.7 redtail. 84.4 redtail. 85.1 redtail. 85.7 redtail. 87.0 redtail. 4:30 sun behind clouds 89.1 redtail. 90.0 redtail. 91.2 redtail. 94.0 redtail. 95.5 redtail. 95401.3 redtail. 03.2 2 redtails. 05.9 redtail. 06.8 Red Rock Creek 14.5 redtail. (Red Rock Creek seems to be the beginning of the typical red soils of Oklahoma). 15.5 Black Bear Creek. 17.6 redtail. 95422.1 at 5:15 P.M. (sundown but cloudy to west). (End census) 5:20 sun just touching horizon. 40.1 Cimarron River and beginning of junipers. Because of light fading will discontinue census. Arrived Norman, Oklahoma at 95500.0 at 7:15 P.M. Stayed at Graces and Gillies in Norman. Dorathia reported 4 snowy owls had been reported in Oklahoma, one of which was killed by a car in Norman area. The cardinal, tree sparrow chickadee, mockingbird, nuthatch, juncos are regular visitors to her feeder in Norman.

Norman, Oklahoma

Dec. 30, 1974

Left Norman at mileage 95500 at 9:00 A.M. Will follow 35 highway to San Antonio via Fort Worth. Min. temp last night was 38°F, slept in trailer in front of Gillis residence. Sky partly cloudy. 506.6 redtail. 09.6 first field of cotton harvest. 14.0 redtail. 16.1 redtail. 19.3 redtail. 19.6 first mistle and then common beyond. 19.7 redtail, sparrow hawk. Temp 2°C. 25.4 redtail. 25.7 sparrow hawk. 26.3 redtail. 30.3 redtail. 31.1 2 crows. 32.0 redtail. 36.9 Washita River, wind from NE. redtail. 38.7 redtail. 39.1 redtail. 41.5 redtail. 42.3 4 crows, 1 redtail. 43.0 Crow. 44.1 redtail. 44.5 redtail. 44.0 Crow. 47.0 redtail. 49.0 redtail, redtail. 49.8 redtail. 58.8 redtail. 66.2 marsh hawk. 68.2 redtail. (across Kansas there were no road hills, across Oklahoma to above mileage were 3 opossums, 1 raccoon, 3 striped skunk). 68.8 4 crows. 72.2 along lake but no ducks or gulls. 75.3 redtail. 82.6 2 crows. 82.8 Ardmore Turnoff. 84.3 redtail, 2 crows. 85.4 Harlow hawk. 85.3 sparrow hawk. 87.0 redtail. 88.1 2 redtails. 90.2 redtail. 92.2 4 redtails & 1 Crow. 93.2 redtail. 93.8 redtail. 95.0 2 redtails. 95.9 redtails. 97.2 2 redtails. 97.8 redtail, sparrow hawk. 98.5 redtail. 99.5 2 crows. 95600.3 first turkey vulture. 00.5 4 turkey vulture. 01.0 Crow. 01.7 redtail. 02.0 redtail. 02.7 redtail. 03.0 3 crows. 03.3 25 crows in one group. 03.7 turkey vulture. 04.4 40 crows in loose flock. 04.9 turkey vultures and 4 crows. 05.5 2 turkey vultures, 1 marsh hawk. 07.7 2 sparrow hawk and 1 turkey vulture. 08.8 2 turkey vultures. 09.2 crow. First rain of trip but localized. 10.2 4 crows. 12.4 Red River on Texas border at 11:20 A.M. 22.0 sparrow hawk, first large group of blackbirds (300 common grackles, Brewers?, redwings & cowbirds) This is the 3rd flock observed since Lawrence and these 3 near Texas border. 23.1 redtail. 24.0 sparrow hawk. 25.6 sp hawk. 27.5 sp hawk. 28.1 sp hawk. 28.2 sp hawk. 28.3 sp hawk. 33.2 marsh hawk. 34.4 marsh hawk. 36.3 sp hawk. 39.5 crow. 40.3 redtail. 40.7 turkey vulture. 46.0 redtail. 51.0 redtail (now on 35W) 53.1 redtail. 54.0 redtail. 55.8 sp hawk. 56.4 redtail. 61.4 2 crows, 40 common grackles. 62.7 Crow. 63.4 crows. 63.9 2 redtails 1 1/2 foot apart. 64.2 3 crows. 65.3 sp hawk. 65.9 Crow. 66.2 redtail. 67.2 redtail. 67.8 redtail, 2 sp hawks. 68.2 redtail. 70.2 redtail, sp hawk. 71.2 redtail. 79.9 Trinity River. 97.5 Burleson.

95702.6 redtail 05.2 2 crows. 13.3 sparrow hawk 14.0 sp
 hawk. 16.2 sp. hawk. 19.5 5,000 mixed blackbirds and
 starling, striped skunk road kill. 20.8 striped sk. rd^{kill} 21.3 redtail.
 21.4 redtail. 22.2 striped skunk road kill. 24.4 marsh hawk.
 26.2 crow. 27.5 redtail. 32.0 now regular 35 highway at
 1:50 P.M. 33.9 redtail. 36.3 redtail. 50.1 sp. hawk. 50.7
 sp. hawk. 56.1 redtail 95778.4 visibility about 2/10
 mile. 82.7 sp. hawk. 91.9 redtail, sp. hawk. 92.3 ducks in
 pond, crow. 92.5 sp. hawk. 94.2 sp. hawk. 97.5 redtail.
 98.1 sp. hawk. 95805.6 sp. hawk 811.3 first good exposure of
 evergreen forests and all green in contrast to generally leafless
 trees farther north. 12.6 mockingbird first observed. 13.9
 sp. hawk (in notes this refers to sparrow hawk). 15.0 sparrow hawk.
 17.7 sp. hawk. 19.2 at 4:25 P.M. 21.1 redtail. 25.2 sp hawk.
 30.1 sp. hawk. 37.0 sp. hawk. 38.1 4 crows. 38.9 m saw
 Gabriel River. 40.4. 5 San Gabriel River. 84.6.4 Round
~~Rock~~ at 5:00 P.M. 67.0 Colorado River at 5:30 P.M.
 Austin is official end of census for 95898.3 at
 San Marcos Camp Ground. at 5:30 P.M. The route today
 has been along relatively continuous habitation and
 commercialization say in contrast to Kansas.

San Marcos, Texas

Dec. 31, 1974

Left 8:00 AM. Rained last night and this morning.
 Min temp. 48°F. 95900.5 San Marcos River. Boat tailed
 grackle in San Marcos. San Antonio 9:20 AM 95948.5
 visited the Alamo, Plaza Del Rio and other points of interest.
 Rain stopped just long enough to visit this city. Left at 11:45 AM
 57.2 striped skunk road kill. 994.2 Atascos River in
 Pleasanton. Will ~~now~~^{not} keep list of raptors + crows at 12:50 P.M.
 At 96013.6 at Campbellton at 1:20 P.M. Will keep census
 of raptors and crows. 16.4 2 black vultures + 1 redtail.
 18.6 redtail. 23.7 redtail. 24.0 sp. hawk. 26.4 black +
 turkey vulture 30.6 junction 281-9 at 2:40 32.0 3
 turkey vultures. 36.1 sp. hawk, killdeer. 36.6 sp. hawk.
 37.2 sp. hawk. 42.7 sp. hawk. 42.9 sp. hawk. 45.0
 George West. 46.6 sp. hawk. 50.5 T. vulture. 63.8 redtail.
 68.9 first Harris hawk 72.6 redtail. 72.8 redtail. 80.7
 redtail. 88.4 sp. hawk. 91.4 sp. hawk. 96.0 sp. hawk. 97.2
 Harris hawk. 97.8 Harris hawk. 98.0 Harris hawk 98.4
 turnoff to Kingsville and will follow this route, Turkey vulture.
 (Hirony 141)

98.5 Harris hawk. 96100.3 Harris hawk. 00.9 Harris hawk
 hawk 01.9 2 Harris hawks, 02.3 turkey vulture, 2 Harris
 hawks. 03.7 3 Harris hawks. 04.7 2 Harris hawks. 04.8
 Harris hawk. 05.4 Harris hawk 05.6² Harris hawks, Harris
 hawk. 06.0 2 Harris hawks 06.1 Harris hawk. 06.2
 Harris hawk, Harris hawk. 06.4 Harris hawk. 06.5
 Harris hawk. 06.7 2 Harris hawks. 07.0 2 cormorants.
 07.2 Harris hawk. 07.9 2 Harris hawks. 08.0 Harris hawk.
 (most Harris hawks w/ oed shoreline)
 08.1 redtail. 09.2 sparrow hawk. 09.4 redtail. 09.7
 Harris hawk. 09.9 redtail. 10.3 redtail. 11.3 Harris
 hawk. Highway 141 at 6th street at Kingsville at mileage
 96112.5 at ³4:45 P.M. 16.7 sparrow hawk. 17.1 sparrow
 hawk. 17.4 sparrow hawk. 19.5 sp. hawk. 22.9 sp. hawk.
 23.1 Harris hawk. 24.5 turkey vulture. 24.7 redtail. 25.3
 Harris hawk. ^{morning} doves more numerous here than I have
 and are flying from E to W.
 observed so far. 26.0 Harris hawk. 27.1 sp. hawk. 28.6
 Riviera at 4:05 P.M. 31.1 15 black vultures on utility line to
 E. This line parallels the route and is included in the census
 area. 33.7 Cormorant, pelican, pintail, bluewing teal in
 lake. 34.9 Harris hawk. Lakes & ponds now supporting
 waterbirds and herons & egrets for the first time. 36.7 4
 turkey vulture & sp. hawk. 36.9² sp. hawk. Temp. 56°F. E-
 W sand dunes covered with live oak? trees. Gophers
 completely excavating some ~~sp~~ slopes of the sand dunes and
 are also all along the sides of the road. 36.9 Harris hawk. 39.7
 sp. hawk. 40.8 Harris hawk, redtail. 43.3 redtail.
 43.9 redtail. 46.2 black vulture, sp. hawk. 46.8 Harris
 hawk. 48.7 redtail. 49.9 redtail. 52.6 Harris hawk.
 53.1 redtail. 53.6 sp. hawk, 5 black vultures, 2 turkey
 vultures. 54.1 Armstrong. 56.0 redtail, Harris
 hawk. 56.7 sp. hawk. 57.6 Caspian tern & Harris hawk,
 many ducks. 58.1 turkey vulture at 4:40 P.M., 59.6
 sp. hawk. 60.4 Ferruginous rangle leg? 60.5¹ Harris hawk
 60.9 turkey vulture & ²Harris hawks 61.7 Harris hawk and
 red-shouldered hawk. 61.7 turkey vulture. 61.9 3 black
 vultures and Harris hawk, redtail. 62.3 redtail. 62.6
 15 black vultures (most larger groups of vultures are on top beam
 of high utility lines to E. 63.0 redtail. 63.3 redtail. Boat-
 tail grackles, Brewers, common grackles in flocks and common.
 64.7 Harris hawk. 65.0 redtail. 65.2 sp. hawk. 66.9 Harris
 hawk. 67.0 redtail. 67.1 Harris hawk, redtail. 67.5 redtail.

67.5 Harris hawk. 67.9 redtail. 68.4 2 Harris hawks, sparrow hawk, am. cont. 69.4 redtail. 69.7 Harris hawk. 70.1 Harris hawk. 70.8 Harris hawk, 11 black vultures, 1 turkey vulture. 72.1 sparrow hawk. 75.6 Harris hawk, 12 black vultures, sparrow hawk. 77.0 Harris hawk. 79.0 sparrow hawk. 79.4 2 Harris hawks. 80.1 Harris hawk, sparrow hawk 80.5 Harris hawk. 80.7 2 Harris hawks. Arrived junction 1762 and 77 just N of Raymondville at mileage 96182.8 at 5:08 P.M. and end of Census. at Ed. Carey Drive at 96207.7 in the Harlingen - San Benito area. at 219.4 Harris hawk at Olmita. This hawk is the only hawk, except 5 sparrow hawks, observed since 96182.8. Arrived Brownsville at Customs building at 6:15 P.M. at mileage 96231.5 or 1060.2 miles from Lawrence. Used 144 gals gas at \$78.02 or 7.4 miles per gallon.

This evening walked across the international bridge (5¢ each) and visited the shopping area of Matamoros but could not locate the market place. The main difference is faster traffic, a disregard for intersection lights and dusty streets, even though paved. Returned to Brownsville via Am. Customs. The sequence is: pay bridge toll, pass Mexican Customs (no questions asked), 5¢ charge on return over bridge, Am. Customs (no questions asked). Left the Brownsville Municipal Parking lot NE 1 block from Customs and drove to near Olmita where we camped for the night. There was not much evidence of New Year's evening activity at either Brownsville or Matamoros.

[Brownsville, Texas

Jan. 1, 1975
(Continued in 1975 journal)]