

JOURNAL 1984

JAMES W. BEE

Goose Island State Park, Aransas Co., Texas.

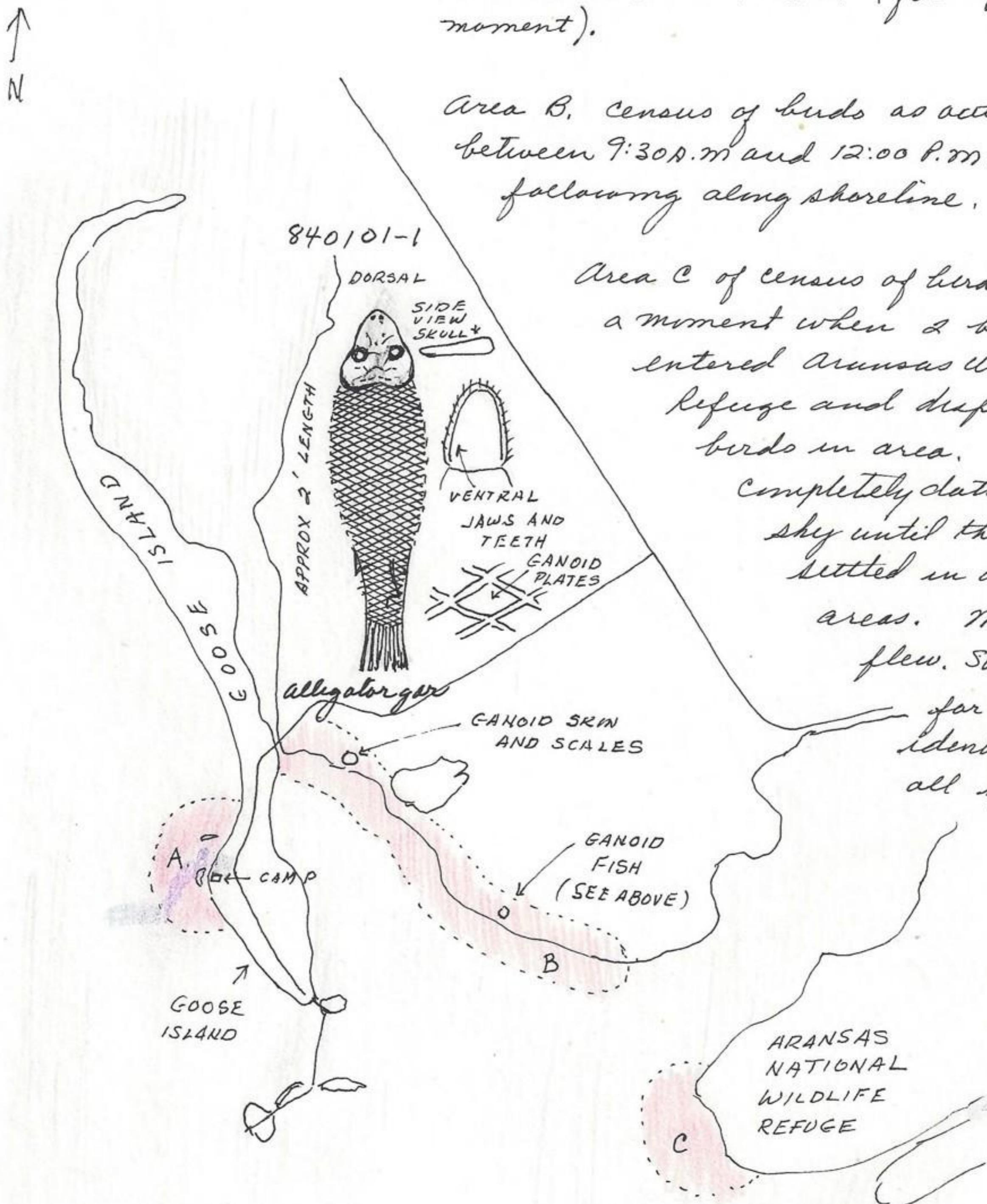
Jan. 1, 1983

	A	B		
RESEARCH AREA A				
ring-billed gull	6	28	veesper sparrow.	1
laughing gull	2	16	black-bellied tree duck	82
killdeer	3	19	fulvous tree duck	14
great blue heron	1	17	mourning dove	15
reddish egret	1	6	Common loon	1
coot	23	95	black-bellied plover.	11
pintail	55	85	eared grebe	18
snowy plover	1	12	spotted sandpiper	1
semipalmated plover	2	11	greater yellowlegs	6
ruddy turnstone	1	2	marbled godwit	5
dunlin	18	350	lesser yellowlegs	3
least sandpiper	12	40	shoreller	2
Forster tern	3	8	Caspian tern	5
double-crested cormorant		106	lesser yellowlegs	2
gadwall	1	36	common gallinule	1
green-winged teal	9	18	sanderling	33
sandhill crane		12	ruby-crowned kinglet	2
meadowlark		28	yellow shafted flicker	1
cardinal		4	white pelican	68
sparrow hawk		2	long-billed curlew	3
loggerhead shrike		2	gull tern	2
mockingbird		2	common goldeneye	2
white-tailed kite		1	redtail hawk	1
turkey vulture		18	brown thrasher	1
savanna sparrow		4	Canada goose	220
water pipit		2	ducks, Sp?	3000
common egret		6	royal tern	15
marsh hawk		2		
western sandpiper		55		
short-billed dowitcher		160		
green heron		2		
black-crowned night heron		1		
white ibis		1		
song sparrow		21		
Louisiana heron		1		
red-winged blackbird		45		

RESEARCH AREA B (cont.)

RESEARCH AREA C

Research Area A. Census of all birds in area outlined at 9:00 A.M. (for a particular moment).



Area B. Census of birds as outlined between 9:30 A.M. and 12:00 P.M. (by following along shoreline).

Area C of census of birds at a moment when 2 boats entered Aransas Wildlife refuge and displaced birds in area. They completely clattered the sky until they resettled in other areas. Most flew SW. To far to identify all all species

at pier (first island) a turkey vulture sailed 8' over 2 killdeer, 3 long-billed dowitchers and 3 least sandpipers. The shorebirds immediately left with haste.

at last island on pier measured a raccoon hind foot in mud at 105 mm. On pier there were 7 droppings^(normal amount) of the raccoon evenly spaced on pier. It must use pier to visit the islands for food.

Armadillo grubbing deeply thru dry sea grass on beach to get at food on beach level! It had effected approx 50' sq linear feet of dry grass.

Goose Island State Park, Aransas Co., Texas

Jan 2, 1984

Temp. 50°F. this A.M.

Left camp 778.8 at 9:00 A.M. Sparrow hawk. 781.4 sparrow hawk, 782.0 now on highway 35 going E, shrike. 782.2 2 mockingbirds. mesquite to SE dead because of change of water drainage by road. 783.2 redtail, sparrow hawk, meadowlark, 20 redwings, mockingbird. 784.6 last of road side development - stores, houses etc. (new in last few years). 785.1 ^{approx.} 100 redwings, redtail. 785.7 5 common egret, 2 snowy egret, 1 great blue heron in one small 10' diameter pond. Sparrow hawk. Boat-tailed grackle. 786.2 approx 150 boat-tailed grackles, 20 redwings and meadowlark & redtail. 786.3 80 boat-tailed grackles. 786.9 common egret. 787.3 sparrow hawk 787.6 sp. hawk 787.8 Cavasso Creek, 2 boat-tailed grackles, snowy egret. (census, as usual is 200' each side). 788.5 sp. hawk. 789.4 shrike. 789.5 redtail. 789.8 turkey vulture, sp. hawk. 790.1 redtail 790.7 t. vulture. 791.1 2 black vultures, 1 sp. hawk. 792.0 3 snowy! common egret. 792.2 marsh hawk, meadowlark. 793.7 redtail, T. vulture, 3 mourning doves. 794.9 ⁷⁷⁴ redtail. 795.0 4 redwings, sp. hawk. 795.7 turnoff to Aransas Refuge. 796.1 redtail. 796.2 2 turkey vultures, 15 meadowlark 796.5 sp. hawk 797.0 sp. hawk. 797.2 redtail, sp. hawk, kingfisher, 2 meadowlark. 798.1 turn road, 8 meadowlarks. 798.4 sp. hawk, meadowlark. 799.1 now S. 799.3 59 meadowlark. 799.9 sp. hawk. 800.2 sp. hawk. 800.7 sp. hawk. 800.9 sp. hawk 801.8 sp. hawk. 802.5 sp. hawk 803.1 sp. hawk. 803.7 sp. hawk, ⁵ turkey vulture. 805.2 now right to Aransas Refuge. 806.2 sp. hawk. 807.0 sp. hawk, 2 meadowlarks. 807.8 25 sandhill cranes, 7 snow geese. The geese occurred at random but nearer head of formation than elsewhere, group 2-3, sp. hawk. (At turn of road with lake on left. 8 turkey vultures feeding on armadillo killed this A.M. The armadillo measured. total length 720, tail 310, hind foot 95, ear 47 mm. Vultures fed from fractured on of carapace. (lower back and sides). 808.7 turkey vulture. 809.1 shrike. 809.2 2 mourning doves. 809.8 3 meadowlark. 810.1 turkey vulture, shrike, gophers all along way up to edge of pavement, shrike. 811.1 common egret, killdeer, killdeer. 811.4 Entrance gates to Aransas Refuge. 812.0 Visitor Center 11:10. Employee at desk reported sighting a mountain lion 2 1/2 mi. E of gates just off refuge Jan 1 at approx. 7:30 A.M. It approached road from N and as car approached turned back again. It had a long tail.

It was near the ranch E of gates and they fear the rancher might shoot the animal to protect the cattle. There has been no reports of deer kills by mt. lions.

5 tame deer on grounds. They come to anyone that approaches them. Alligator did not suffer from last freeze.

812.0 leaving visitor center. 8 blue-wing teal, 3 white-tailed deer, 1 common gallinule (moorhen), 2 pied-billed grebes, 2 ruby-crowned kinglets, 2 turkey vultures. 812.7 redtail, 12 ducks in bay to S but nothing else at 812.2 813.4 turkey vulture. 813.7 mockingbird. 814.5 mockingbird. Area with water in low areas, last spring they were dry. 815.3 a small + large white-tailed deer. 815.4 6^{white} turkey feeding in last year's barn. 815.6 4 large white-tailed deer. 816.7 Tower.

From Tower observed directly ~~2 whooping cranes.~~

2 whooping cranes to S in meadow NW of intercoastal canal. They moved about most of the time between 2 and 3:00 P.M. At one time they fed along canal (out of our sight). They are twice the size of common egret or pelican, at least broadside, but anterior-posterior they more equally compare with the other two. At one time a whooping crane chased temporarily a common egret.

324 Canadian gees fed to SE just off shore about $\frac{1}{10}$ mi.

10 common egret generally distributed

9 great blue heron.

150 royal tern on sandbar to S.

22 ringbilled gulls on sandbar to S

12 laughing gull with above

120 pintails

300 coot

80 dowitchers

8 killdeer

1 roseate spoonbill

40 godwicks

1500 ducks sp. ? Wedge lake

1 turkey vulture in 380°

with 18 x binoculars.

6 snowy egrets

4 Forster terns

alighted in shallow water and
one turkey vulture picked up a dead fish 8" long and dropped it. It repeated this act 4 times.

Left at 816.7 for loop drive. (4:15 P.M.) 816.8 approx 200 coot, 18 baldpate, 2 pied-billed grebes, 6 turkey vultures. 817.6 3 robins, 4 black-vultures in live oak trees. 819.3 shrike, song sparrow, t. vulture 821.6 1 white-tailed deer. 824.4 Heritage trail, turkey vulture, killdeer. 825.9 main rd. 215 vultures circled in compact formation, mainly holding position into wind from E. On basis of those I could identify nearest to me would say 80% turkey vultures, 20% black-vultures. This was an unexpected aggregation of vultures in an area a relatively few birds in general areas

826.6 15 black vultures in 2/10 mi. to N sailing with updraft winds from E. approx. 1500 ducks in bay to E, and generally distributed, redtail. 827.3 3 white-tailed deer. approx 3000 redwings flying S in one huge flight. 827.5 visitor center, killdeer and another flock of approx 800 redwings flying S. 828.0 Entrance gates, (5:16 P.m.) 831.3 Hoppers Landing. Camped here. Birds absent in bay to E and only one killdeer on beach which remained until late twilight.

In a comparison of numbers of sparrow hawks and redwings inside and outside Aransas Refuge;

- 7.3 sparrow hawks per mile (^{24 sp. hawks in} 33.8 miles from Goose Island to Aransas Refuge)
- sparrow hawks in refuge (16.4 miles in refuge)
- .28 redtails per mile (^{9 redtails in} 32.8 miles from Goose Island to Aransas Refuge)
- .06 redtails per mile (^{1 redtail in} 16.4 miles in refuge)

Hoppers Landing, Aransas Co., Texas
Jan 3, 1984

min temp approx 36°F. At 7:00 A.M. no birds in bay, 1 black-bellied plover, 1 killdeer, 2 sandpipers on beach. Other birds observed later were 2 turkey vultures, ^{megastaculus} 1 redtail, marsh hawk, ring-billed gull

at 7:22 A.M. a black mass of double-crested cormorant approached bay, flying a foot above the water from the SE. The flight was a series of from 40 to 200 birds in wave echelons as far as 18× binoculars could see. They formed a surf of birds. This endless flight ended at 7:45 A.M. when all birds were in the bay SE of Hopper's Landing. The flight ended without stragglers.

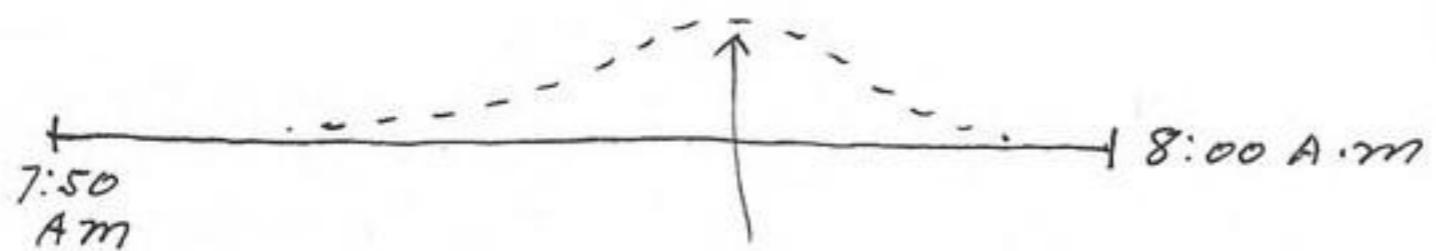
Each line averaged 60 birds (40-150) and includes 1 to 4 pelicans per line, average 1 pelican per 40 cormorant.

At 7:45 the flock was discrete in outline and birds evenly distributed 1 per every 3-4 feet. The pelicans arranged themselves on the periphery of the flock. There was no evidence of fishing nor organized movement.

At 7:50 AM they started to leave to the NE, passing outer rock pier by 8:00.

They left in single file or several single files combined (1-4' above water and lasted for 10 minutes to 8:00 A.M. (sun 1/2 hr above horizon and among clouds). At this time it was possible to accurately count (sometimes isolating by 10's) all the cormorant as they passed by along the same route which was 4200 cormorant, 112 pelicans, 5 ring-billed gulls.

The cormorant left as a single file with the line forming from across the raft of birds compact groups within rather than from the flock. The time distribution of pelicans thus: They formed as part of the file of cormorants



greatest number (cormorant numbers followed a similar frequency. per second

The average number of cormorants to pass by was 7 (4-15) I have never been so overwhelmed by such large numbers of cormorants. As the last cormorants were leaving noticed 5 solid black masses of birds flying just above water NE, about $\frac{1}{2}$ mile out in bay

If these were cormorants, which I judged them to be from what I had already witnessed, the number of cormorant observed this morning could be multiplied by 5 or 21,000 birds. If cormorants fly in compact groups as witnessed in the 5 groups above, it is postulated that if they decide to alight in a bay, they leave the compact group in much the same order as they leave a compact group, that is by leaving single file of individuals made from representatives of the entire mass rather than ^{the} ~~an~~ sections of the mass, their departure taking 10 minutes or so as the mass moves forward but ^{gradually} diminishing in number.

(3 10 total length, 160 wing, 160 tail
10 bill)

noted meadowlarks bathing in salt water of bay. Enroute to Aransas Refuge visitor center to see ranger. measured parague road kick $\frac{3}{10}$ mi. NE ^{Refuge entrance}

Left Hopper's Landing and drove to Goose Island to pick up fish observed Jan 1, 1984. Enroute found about same numbers of hawks, grackles etc as on route to Aransas Refuge. Returned E to junction to Aransas Wildlife Refuge where census was started. (junction $\frac{232}{774}$ to Awesell. In retrospect a white-tailed deer 5 mi SW of here on refuge along highway 35. 890.5 sparrow hawk. 891.4 mockingbird, sp. hawk.

895.6 Guadalupe River. This river has made a valley with valley banks ~~|||||~~, sp. hawk. The river and drainage systems choked with hyacinths, some completely. One lake had shore lined with this plant. The hyacinth is brown in color 897.6 redtail, redtail, sp. hawk. 898.8 common egret and 10 snowy egrets. 899.2 Goff Bayou (just beyond to NE is NE side of valley. 900.4 redtail. 900.8 redtail. 901.1 junction to O'Connors 185. 902.2 boat-tailed grackle, 4 meadowlarks

903.4 sparrow hawk. 904.1 sp. hawk. 904.6 sparrow hawk.
 905.5 mockingbird. 40 redwings. 907.8 sp. hawk.
 910.3 shrike. 910.6 sp. hawk. 911.3 sp. hawk. 915.0
 south side of Lavaca Bay Bridge, 8 ring-billed gulls. at end
 of S fishing pier, good sandbar (no vegetation), ring-billed gull
 917.4 NE end bridge. 5 snowy egrets, 2 gull, 4 Cattle egrets.
 917.9 10 gulls, 3 pelicans. 919.6 shrike, redtail, sp. hawk..
 920.7 mourning dove, sp. hawk. 921.1 sp. hawk, shrike, mocking-
 bird, 4 m. doves. 922.0 red-shouldered hawk, shrike, 5
 mourning doves, black vulture. 922.7 redtail. 924.9 sp. hawk.
 925.2 Redtail. 926.1 110 redwings, 4 redwing 926.7⁴ mourn-
 ing doves, opossum road kill, shrike, Coranckhwa Bay
 E end. 928.2. no birds along bay on NE side.
 932.3 sp. hawk, g. b. heron, meadowlark. 935.7 58 boat-tailed
 grackles. 936.9 35 grackles, sp. hawk. 938.4 snowy egret.
 939.1 12 meadowlarks, sp. hawk. just past three Palacios.
 945.8 sp. hawk. 946.7 opossum road kill, mourning dove.
 947.6 521 S., sp. hawk. 948.4 redtail, shrike, shrike (there
 are loggerheads all the way), 2 meadowlarks, sparrow hawk.
 950.3 sp. hawk, shrike, 952.4 sp. hawk. 955.4 shrike.
 shrike. 956.3 60 Canada geese, sp. hawk. 958.4 sp. hawk.
 959.0 redtail, shrike, snowy egret, g.b. heron. 962.4 18 crows
 and first seen for a long time. 962.5 Colorado River, sp. hawk.
 964.6 sp. hawk. 967.0 ^{ab. others plowed} first green field. 968.4 sp. hawk, sp. hawk.
 969.2 sp. hawk. 970.2 sp. hawk, meadowlark, 30 redwings,
 shrike. 972.4 sp. hawk. 973.2 sp. hawk, 300 redwings. 974.8
 redtail, redtail, sp. hawk. 976.3 marsh hawk. 978.3 40 cattle
 egrets, sp. hawk. 980.2 sp. hawk. 982.4 beginning of prominent
 ant hills in fields (^{short}grass). 986.4 shrike, black vulture, 4 crows.
 Lights fading. Arrived Freeport (worst traffic in Texas so far (coming
 from Houston?)). Camped in church parking lot.

Brazoria Co.,
Freeport, ^{partly} Texas

1

Jan 4, 1984

Left. 021.3 at 7:35 A.M. 032.2 top of Intracoastal Canal.
 green heron, 30 ducks and 1 common heron 032.8 at beach.
 Approx. 500 gulls of 3 species. Herring, laughing, ringbilled.
 Some buildup on beach have been repaired, mainly new
 shingles and roofs, most completely damaged others undamaged.
 035.3 sp. hawk. most debris on NW side dunes. Dunes
 damage increasing as we go east.



water approx 5 feet higher than road.
see rather than blowing up over dunes.

036.7 half road washed away + repaired.

037.4 sp. hawk, sp. hawk. 038.2 sp.

hawk. 039.8 ♂ boat-tailed grackles.

040.4 common egret. 041.1 noted, a fire just beginning
on damaged home.



Debris settled on lee
gulf

debris ↑ break thru dunes
(this is where road
damage occurs.)

8:23 A.M. 041.1 noted, a fire just beginning

The fire had just been
started not 3-4 minutes
before. In 5 minutes

the flame was up ridge to top of structure. No one was in area
when we stopped, fire in conspicuous place, flame clear (no smoke).
If set by arson, fire would have been on other side of building
away from clear view, fire would have black smoke from oil or
gas, someone would have been seen in area.

041.8. sp. hawk. SE 968 Texas. First car parked, E of
^{stranded} fire at big boat on meadows lee of dunes, shrike. Beaches
are noticeable remodelled and are gently curved but other-
wise smooth to the edge of sand dunes. No debris or
dunes

irregularities
of sand on

beach. 041.6 road now along beach

some damage. Cement condominiums
held up but wind has blown thru from one front glass window
to rear windows, all disrupted, some completely blown out,
some with less than sever damage. 044.6 sp. hawk. 044.7
2 photo.

840104-1 dislodge boxes of stacked Condominium,

840104-2 " " " "

5 commn egrets, meadowlark. 046.1 Kingfisher.
Palm trees survived hurricane but freeze killed them. Some trees
have been pushed over at a slant

but none completely so. 046.9 top bridge, Cormorant, many shorebirds NE including

300 gulls, g.b. heron. 047.7 sp. hawk, meadowlark

056.3 Site A 20 at Thousand Trails (Galveston Island).

This afternoon photos of fish (840103-1):

840104-3 alligator gar, dorsal head. 830104-10 ganoid scales of longnose

840104-4 ganoid scales (dorsal)

830104-5 dorsal head plates

830104-6 tail

830104-7 tail and caudal fins

830104-8 ventral skull

830104-9 anterior rostrum, dorsal rays teeth.

This P.M. drove to E end Galveston Island. very little damage thru city but areas NE & E of dike are devastated, particularly one mobile home site where apparently they had many trailer stored in camp. Condominiums looked ok. at E end of Island photo 840104-12 of leaning gate house to Park.

" 840104-13 macadam road leading to NE end park damage Bush in background

840104-14 "

" " "

840104-15 "

" " "

840104-16 "

" " "

840104-17 "

" " "

Galveston Island Preserve, Thousand Trails, Texas

Jan 5, 1984

Birds in area of Preserve:

Long-billed curlew	7
coot	12
least grebe	2
ring-billed gull	18
Herring gull	7
laughing gull	2
little blue heron	2
marbled godwit	17
long-billed dowitcher	32
dunlin	42
western sandpiper	28
sandhill crane	6
marsh hawk	3
killdeer	3
ruddy duck	2
song sparrow	6
Forster tern	5
roseate spoonbill	1
meadowlark	8
redtail	2

raccoon track, front length, 59, width 39; hind foot length 187, width 43.
domestic goat. tracks 42 mm, 38 mm. ⑩

red-eared turtle. 15. These turtles when sunning allow coot to pass by at contact distance, some coot pick at back without reaction from turtle. When pecked in ^(white face) head the turtle will adjust body slightly as a reaction. Little blue heron at 1 foot away fished, scratched head and stretched wing & leg without reaction from turtle.

291.1 sparrow hawk and rest stop. Birds here: yellow-shafted flicker,
 red-bellied woodpecker, yellow-bellied sapsucker, slate colored juncos,
 myrtle warbler, turkey vulture. Area of pine, oak, juniper. 292.4
 2 turkey vulture. 293.0 3 turkey vultures. 307.3 turkey vulture, 6 crows.
 310.9 3 turkey vultures. 313.2 3 crows. 321.3 approx. 100 redwings
 in one flock. 336.7 shrike. 350.4 striped skunk rd. kill. 351.4
 turkey vulture, T. vulture. 353.4 3 turkey vultures. 355.5 striped
 skunk road kill. 357.1 10 crows. 359.2 turkey vulture at Redford,
 837 is 359.5. 363.4 meadowlark. 365.5 meadowlark, shrike. 367.6
 approx. 5000 redwings, some grackles, cowbirds & other birds mixed in flock,
 sp. hawk. 372.7 Athens City limit. 380.7 bluejay. 384.6 sp. hawk,
 387.1 6 turkey vultures 388.4 2 turkey vultures, 20 redwings, sp. hawk,
 391.3 redtail, sp. hawk. 402.7 sp. hawk 1 mile out of Canton on 64.
 409.5 mourning dove. no ducks in ponds today, 20 redwings, shrike.
 413.8 juncos 80 at Wills Point. Cotton grown in area. 418.3
 shrike. 419.5 redtail. 455.3 dam outlet of Lake Tawakoni, 24 great blue
 herons fed below outlet between road & dam, 2 mallards. Continued to
 Lake Tawakoni Preserve. marsh hawk there.

A marsh hawk darted ^{twice} at a redtail which was perched on top of a utility pole. The redtail did not react. When sandhill cranes fly overhead they look curiously by turning their heads from side to side. In the last 2 days, a single to a group of 5 sandhill cranes have flown over camp from NE to SW and return after periods of time for at least 15 times as if confused and uncertain about ^{outside} interference from traffic and people. This island is becoming too populated for these birds. At least 10 helicopters fly overhead at certainly the minimum height. One helicopter (army?) flew up and down beach (E side) at not over 30' high and at full speed and sound. Nearly all birds react to helicopters. Boat noise are common, trucks on road are continuously passing by from cleanup of last hurricane and rebuilding program. Three long-billed curlews in camp as compared to 7 yesterday P.M. Left 38102.2 Informants say of preserve: water 4' high, lost 100' of land bordering beach. Center of tornado at Alvan one could see 4 tugboats to hold 429' ship in position in Galveston harbor (near ferry) 2 hrs - stars and no wind. Left 12:23. 104.6 sp hawk. 105.6 Jamaica Beach 2 photos 840105-1 side damage of building, 840105-2 sign on building "Trespassers will be shot." Killdeer. 107.4 opossum rd field. 112.9 gull. 113.4 now on dike. 122.1 crossing high point intracoastal waterway bridge. 2 snowy egret. 124.6 17 gulls, 50 shorebirds, 100 gulls. 126.5 6 Canada geese, 4 Cormorant, 200 ducks. 138.5 sign damage. 142.8 Harris Co. line, 12 snowy. 144.2 epiphassa 1, sparrow hawk. 148.5 Helon marina and check boats in Nettie Harbor.

Conroe Lake Preserve, Thousand Trails, Montgomery Co., Texas
and animals
Birds in area:

red-eared turtle	15
great blue heron	6
crow	8
kingfisher	1
killdeer	5
meadowlark	2
song sparrow	1
cormorant	11
robin	13
pied-billed grebe	2
common egret	1
ring-billed gull	5
bat	4

black-capped chickadee
myrtle warbler
goldfinch
Carolina wren
snowy egret
yellow-bellied sapsucker
yellow-shafted flicker

Left Conroe preserve 232.8 now 45 N. 236.7 crow.
turkey vulture .239.2 3 turkey vultures .241.1
(Walton Co?)
Walton Co. 250.7 3 turkey vultures, crow. 252.5
turkey vulture 252.7 no on 19 259.8 3 crow,
turkey vulture. 266.4 turkey vulture. 269.2 Trinity
River, some hyacinths, 2 turkey vultures, 271.0 2 turkey vultures,

Lake Tawakoni Preserve, Thousand Trails, Llano Co., Texas
Jan. 7, 1984

min temp. 29°F., lowest this last cold spell was -6°F

Birds, mammals and reptiles on preserve: (9:00 - 12:00). Approx. nos.

Common loon	2	yellow-bellied sapsucker	2
horned grebe	15	downy woodpecker	2
eared grebe	10	horned lark	6
pied-billed grebe	32	bluejay	3
double-crested cormorant	18,000	American Crow	18
Canada geese	135	black-capped chickadee	25
mallard	1500	tufted titmouse	18
black duck	215	red-breasted nuthatch	4
pintail	1300	Carolina wren	2
gadwall	800	Mockingbird	1
American widgeon	120	brown thrasher	1
shoveller	80	American robin	8
blue-winged teal	35	golden-crowned Kinglet	15
green-winged teal	8	water pipit	1
Redhead duck	5000	wilson snipe	1
Canvasback	600	loggerhead shrike	1
ring-necked duck	2000	myrtle warbler (yellow-rumped warbler)	6
lesser scaup	7000	redwing blackbird	45
common goldeneye	2	meadowlark	12
hooded merganser	30	brown-headed cowbird	14
ruddy duck	12	northern cardinal	2
turkey vulture	1	brown creeper	4
marsh hawk	2	American goldfinch	8
redtail hawk	1	rufous-sided towhee	2
sparrow hawk	1	sovanna sparrow	3
great blue heron	18	slate-colored juncos	12
Killdeer	4	Oregon junco	15
spotted sandpiper	1	white-crowned sparrow	3
Herring gull	16	song sparrow	5
ring-billed gull	1800	field sparrow	4
Bonaparte gull	100	[66 species birds]	
Forster's tern	1	cottontail	2
mourning dove	68	beaver	1
Kingfisher	1	coyote (tracks)	2 sets
yellow-shafted flicker	2	raccoon (tracks)	10 sets
red-bellied woodpecker	1	red-eared turtle	8
		pond slider turtle	1

Presented list of birds & mammals to manager of preserve.
2:32 P.M.

Left 435.9 at highway 47 N, sparrow hawk.. 436.2 sp. hawk, shrike
2 meadowlarks. 437.6 58 meadowlarks, ^{shrike}³ meadowlarks, 438.5₁.
439.0 redtail, 45 meadowlarks, sp. hawk. 440.2 spotted skunk
road kill. 441.8 marsh hawk. 442.7 redtail, 4 turkey vulture.
443.9 sp. hawk. 444.5 Lone Oak. 448.9 W end Sabine River
Bridge, meadowlark. 450.1 8 meadowlarks, 451.5 shrike,
turkey vulture, striped skunk road kill, 2 meadowlarks, 8
meadowlarks. Junction 380 at 461.4. Now ^{continuing on} 69. 463.2
sp. hawk. 470.7 redtail. 473.2 Celeste at water tank.
475.2 meadowlark. 477.2 striped skunk rd. kill, sp. hawk.
478.1 redtail, sp. hawk, shrike. More cultivated green fields
than to S in Texas. Junction: 78-69 at Leonard. 480.6.
striped skunk road kill, 20 grackles sp.?, opossum rd. kill.
We have been travelling since last camp with definite
front of cloudy overhead (no sun) and blue sky to W. We have
just now arrived at contact. 484.5 sp. hawk, 489.6
Trenton. 501.9 2 meadowlarks, meadowlark 503.3 8
meadowlarks Junction 697 to Ida at 69 just W of Whitewright.
3 meadowlarks, meadowlark. 507.6 2 meadowlarks, redtail,
509.0 8 meadowlarks, 2 meadowlarks, 2 meadowlarks.
511.1 junction 82. 511.2 No W on 82.. Continued W on
82. 514.3 redtail. 518.2 redtail 520.7 3 roughleg hawks.
525.3 redtail, 526.1 redtail near Whitesboro. At this point
lights fading. Continued N on 377 for approx 12 miles to turnoff
for Lake Texoma Preserve arriving there at 546.5 P.M., having
travelled 110.6 miles this afternoon.

Lake Texoma, Grayson Co., Texas

Jan. 8, 1984

Left 548.7 no birds in preserve except 80 Canada geese that flew by.
549.7 mockingbird. 377 highway 549.9, meadowlark & redtail.
550.1 redtail, many junipers here, meadowlark. 552.8 S
side of Lake Texoma bridge, 12 gulls, banks a red sandy loam.
553.6 N end dam, roughleg. 554.2 Oklahoma, 2 sp. hawks.
redtail, sparrow hawk. 554.8 sparrow hawk. 556.2 striped
skunk rd. kill. 556.8 30 crows, 5 meadowlarks. 558.6
crow. 559.1 redtail, 12 crows. 560.3 yellow-shafted flicker and
2 redtails, 4 meadowlarks, sp. hawk. 561.7 sp. hawk. 562.4
redtail, marsh hawk. 563.0 2 redtails, 563.1 roughleg,
meadowlark 564.8 redtail, marsh hawk, and turkey vulture.

565.1 redtail. 565.5 redtail. 565.7 redtail. 566.2 redtail,
 5 meadowlarks. 566.8 roughleg, sp. hawk. 567.3 redtail,
 2 redtails. 568.1 turkey vulture. 570.5 madill. 574.1
 redtail, sp. hawk. 574.7 turkey vulture. 577.2 junction 12.
 577.5 Johnson Co., redtail, 578.7 redtail. 581.6 sp. hawk.
 582.5 redtail. 583.2 Carter Co. ice on ponds as well as
 last to camps. 586.4 Dickson and junction 177, now 71,
 at 12:23 P.M., turkey vulture. 588.5 3 crows. 589.8 Washita
 River, sp. hawk. Red is red as banks, 5 crows, 2 meadow-
 larks, one of which travelled 40 miles per hour. 593.3 red-
 tail, yellow-shafted flicker. 595.1 turkey vulture. 597.0
 Murray Co. 597.6 2 turkey vultures, meadowlark 599.5
 Nebo. 600.4 sp. hawk. 601.2 redtail. 601.5 series of
 approx. 12 symmetrical knobs with axis E.W. _____ etc
 (as a ridge), sparrow hawk. 602.0 now at ridge as listed above,
 2 redtails. (The above ridge probably a fault paralleling
 the Arkuckles. 603.6 Beckhorn Creek, bottoms of
 limestone. 605.7 turkey vulture, 4 meadowlarks. 609.5 Sulphur
 66°F here. 616.3 2 turkey vultures. now w on 7.
 616.7 turkey vulture. 619.5 meadowlark, meadowlark.
 622.9 Davis, now n. on 77, meadowlark road kill (only one I have
 seen). 624.6 redtail. 625.5 redtail, meadowlark. 626.1 redtail,
 626.4 sp. hawk. 626.9 redtail. 627.3 sparrow hawk, crow.
 629.4 sp. hawk. 629.5 sp. hawk, meadowlark. 631.6
 Earvin Co. 633.1 windwood. 633.8 sp. hawk, 2
 meadowlarks. 634.6 Washita River 435.2 sp. hawk
 635.6 sp. hawk. 637.1 mourning dove. 640.1 Falls Valley
 641.1 Rush Cr. 644.9 redtail, shrike. 645.2 sp. hawk,
 meadowlark. 647.4 sp. hawk. 648.0 sp. hawk. 649.9 sp.
 hawk. 650.9 sp. hawk. 652.0 McClain Co., sp. hawk.
 653.4 redtail. 654.6 redtail, meadowlark. 657.2 Percell,
 cotton grown in area. Temp 61°F. 679.0 redtail. 688.8
 E side S Canadian River Bridge. 4:30 P.M. 683.2 exit
 main street, Norman exit 109. 684.1 ^{Gaylor and Dorothy} Gillee's home in Norman

Cleveland Co.,

Norman, Oklahoma

Jan 9, 1983

Left Gillee's home after spending night in front of their home.
 Steven is to visit K.W. later this month. Left 696.2 at 11:29 AM
 713.8 redtail. 719.5 2 crows chasing a redtail. 730.1 4 meadowlarks.
 Has been raining since we left Norman. 739.4 7 meadowlarks.

River.

740.0 crow, crow. 741.3 4 crows. 747.0 Cimarron, Payne Co.
 30 ducks on river, water red. 757.4 crow. 760.8 4 crows
 764.6 redtail. 766.4 striped skunk rd kill. 767.8 redtail,
 771.1 redtail. 773.3 Bear Creek. Ponds & creeks are open.
 777.0 Stellwater-Tulsa turnoff, redtail. 778.4 redtail,
 778.5 roughleg, 8 meadowlarks 778.8 2 redtails. 779.2 redtail
 782.2 Red Rock Creek, striped skunk rd. kill. 784.6 roughleg,
 redtail. 786.4 redtail, redtail. 788.4 redtail. 789.1 roughleg,
 marsh hawk, redtail. 790.3 2 redtails (5 feet apart),
 790.8 redtail. 794.9 sp. hawk. 795.6 redtail. 803.4 snow
 drifts for first time. 809.8 redtail rd. kill. 813.0 redtail,
 918.1 striped skunk rd kill. 819.4 Kansas line 3:49 P.M.
 826.1 redtail. Plowed fields 50% wet (damp) 831.0 now w
 to Wellington at turnpike entrance. 841.3 Camped at
 KOA on 160.

~~Summer Co.~~
 Wellington, Kansas

Jan 10, 1984

min temp. 20°F.

Left and at 843.4 on overpass at Turnpike entrance and
 continuing E on 160. (10:00 A.M.) 851.6 2 meadowlarks.
 852.0 Oxford (middle of town). 160 E. River, E of town frozen.
 853.0 Cowley Co. 855.7 sparrow hawk, 12 redwing blackbirds.
 857.2 meadowlark. 861.5 middle of Walnut River (1/2 frozen).
 862.4 Middletown. 865.2 7 crows. 868.2 shrike (all shrikes
 are loggerheads), meadowlark. 871.4 redtail. 873.3 sp. hawk.
 875.2 now on 160 to no., redtail. 877.5 2 crows, bluejay,
 sp. hawk. 881.2 Burden, fox squirrel, crow, 2 horned larks,
 3 meadowlarks. Country more prairie land and rolling
 topography. 884.8 Gracile Creek. 889.3 15 rock posts made
 from local rock?, but look more like Cretaceous, 5 horned
 larks, marsh hawk. 893.9 2 roughleg hawks. 294.3 roughleg.
 895.0 Elk Co. Topography more bold than previous area
 we have passed through. (like Flint hills). All grassy land
 now. 898.3 redtail, and Cheyenne River. 901.5 2 crows
 902.4 marsh hawk, sp. hawk. 903.3 marsh hawk 904.9 rough-
 leg. 907.7 Moline. Mr & Mrs Glenn Campbell (parents of Dr.
 Edward Campbell) not at home. 909.6 now N on 160 out of Moline.
 913.4 redtail. 914.0 sp. hawk. 914.5 redtail. 916.1 redtail.
 917.4 Elk River. 918.1 Howard. 919.5 sp. hawk. 921.6
 sp. hawk. 922.5 2 redtails. 923.9 sp. hawk. 925.8 striped
 skunk rd. kill, sp. hawk, 4 crows. 928.0 Greenwood Co. line,

marsh hawk. 929.5 crow. 931.0 junction 96, continuing 99., meadowlark. 933.2 redtail, sp. hawk. 935.2 roughleg. 936.4 Otter Cr. 941.1 striped skunk rd. kill, redtail. 941.8 Fall River, redtail, crow. 944.2 now E on 54. 944.6 redtail. 945.8 roughleg. 947.7 now 99 N. 952.8 14 juncos, farm ponds frozen. 957.7 Hamilton. 959.9 marsh hawk 962.7 redtail. 965.4 redtail. 968.4 meadowlark. 969.3 sp. hawk (2:13 P.M.) 970.2 Veridgris River, crow. 971.9 Lynn Co., marsh hawk. 974.2 12 horned larks. 975.7 marsh hawk. 978.5 Olpe. 981.1 redtail, meadowlark, 8 meadowlarks. 986.7 first snow on open ground as we approached Emporia. 987.1 Cottonwood River. 997.2 check Ed Campbell and visited his home but he was hunting. Left Emporia and followed 35. 999.5 Neosho River. 39000 change on odometer. 008.7 redtail. winds here from S, in Oklahoma from N to cause drifts. 017.3 roughleg. 022.1 Osage Co., roughleg hawk. 022.7 roughleg. sun down approx. 5:25 P.M. 030.3 2 meadowlarks. 032.0 redtail. 034.1 Franklin Co. 038.3 roughleg. 042.1 redtail. 047.1 redtail 049.5 now 59 N at Ottawa. at 5:48 (end of bird census because of fading light. 077.2 Lawrence, Kansas. at 402 Yorkshire Dr. at 6:07 P.M. Entire trip this year is 18,642.0 (from Mar 18, 1983 to Jan 10, 1984, or approx 10 $\frac{1}{2}$ months,) at 11 miles per gal = 1685.2 gals and at usage \$1.00 per gal = 1685.2 for gas, or \$168.5 per month.

Lawrence, Douglas Co., Kansas

Jan. 20, 1984

At 7th & Massachusetts St. noted approx 100 cedar waxwings feeding on red berries of trees planted on Massachusetts and 7th bordering Douglas Co. Bank. (2:00 P.M.). The pavement beneath the trees were covered with the berries of these trees.

Jan 21, 1984

Two address:

Donald E Hahn
Natural History Books
Box 1004
Cottonwood, Arizona
86314 USA.

Pete Peterson
319 355-7051 - home
319 323-2520 - shop 1108 Jersey Ridge Rd
Davenport, Iowa
80 E - Hwy 61 S - 53rd St E (L) - 1st
stop sign at Jersey Ridge Rd to
end where T intersection.

Lawrence, Douglas Co., Kansas

Feb. 12, 1984

7 redtails and 2 sparrow hawks between Lawrence, Leavenworth, Perry, N. Topeka.

Lawrence, Douglas Co., Kansas

Feb 20, 1984

8 redtails, 2 sparrow hawks between Lawrence and Indian Springs (Kansas City, Kansas) via Highway 32.

Feb. 25, 1984

6 cedar waxwings at 402 Yorkshire, Lawrence, Kansas

Feb. 28, 1984

One adult bald eagle observed 2/10 mi. E of dam on Kaw river in Lawrence. It was flying down river directly overhead at approx 100'. An immature bald eagle observed 3/10 mi. up river from dam. It alighted in a cottonwood tree on W side of Kaw River along bank.

Feb 29, 1984

1 adult bald eagle and 1 immature bald eagle. 1 mi. up river from bridge over Kaw River in Lawrence. Observed 2 redtails copulating at Rattlesnake Point in the State Park at Clinton Reservoir. Approx 150 ring-billed gulls ^{generally} distributed while

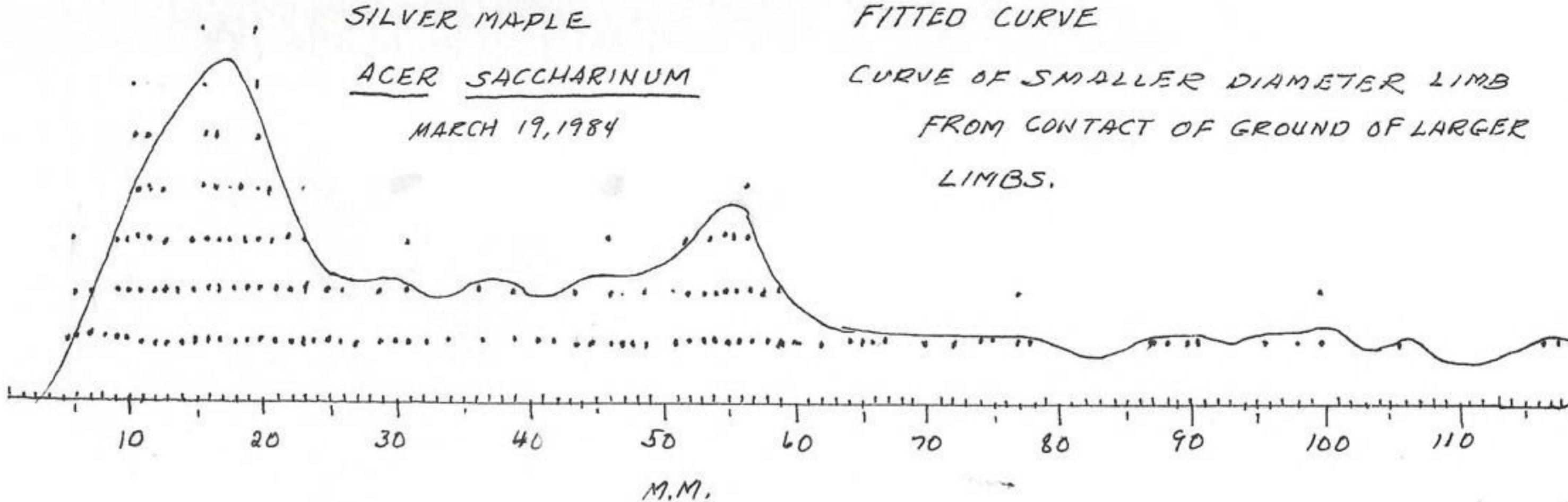
402 yorkshire Dr., Lawrence, Douglas Co., Kansas
March 19, 1984

Photographed archeological material in Calemet (35 mm Kodachrome)
This is a part of the collection to be sent to Brigham Young
University. made cabinet for this particular collection.

- 840319-1 tray of smallest points
- 840319-2 small point, awls, fetishes, spear points etc.
- 840319-3 beads, arrow points, spear points, awls, squaw knives etc.
- 840319-4 points, flat stones, loveliers, arrow straighteners, etc
- 840319-5 points, beads, fat scrapers, etc.
- 840319-6 points, beads, bone awls, needles, ceremonial obsidian points (29) ex.
- 840319-7 beads, points, awls, fat scrapers, pendants, lovelieres etc.
- 840319-8 pot sherds
- 840319-9 osteological specimens.
- 840319-10 " "
- 840319-11 " "
- 840319-12 3 examples of ceremonial obsidian points (see 840319-6)
- 840319-13 superior workmanship of arrow points.
- 840319-14 ceremonial points and fetishes
- 840319-15 squaw knife from Squaw Pass on Mt. Timpanogos
- 840319-16 pendants
- 840319-17 arrow straightener
- 840319-18 beads and pendant
- 840319-19 pipe
- 840319-20 potsherd
- 840319-21 initial whorl of clay pot.
- 840319-22 stone loon
- 840319-23 human skull, dorsal, Provo Bay
- 840319-24 " " " , frontal, " "
- 840319-25 clay pot.

Photographs (color) of the following numbers of above have
been inserted under date Nov. 22, 1934 in which volume are
included the catalogues and other information of most of the collection
of artifacts. The photo nos in the 1934 volume are: 840319-1 to
840319-11, 840319-16, 840319-19, and 840319-23 to 840319-25.

402 Yorkshire Dr., Lawrence, Douglas Co., Kansas
March 19, 1984 (cont.)



SMALLEST DIAMETER 4 MM

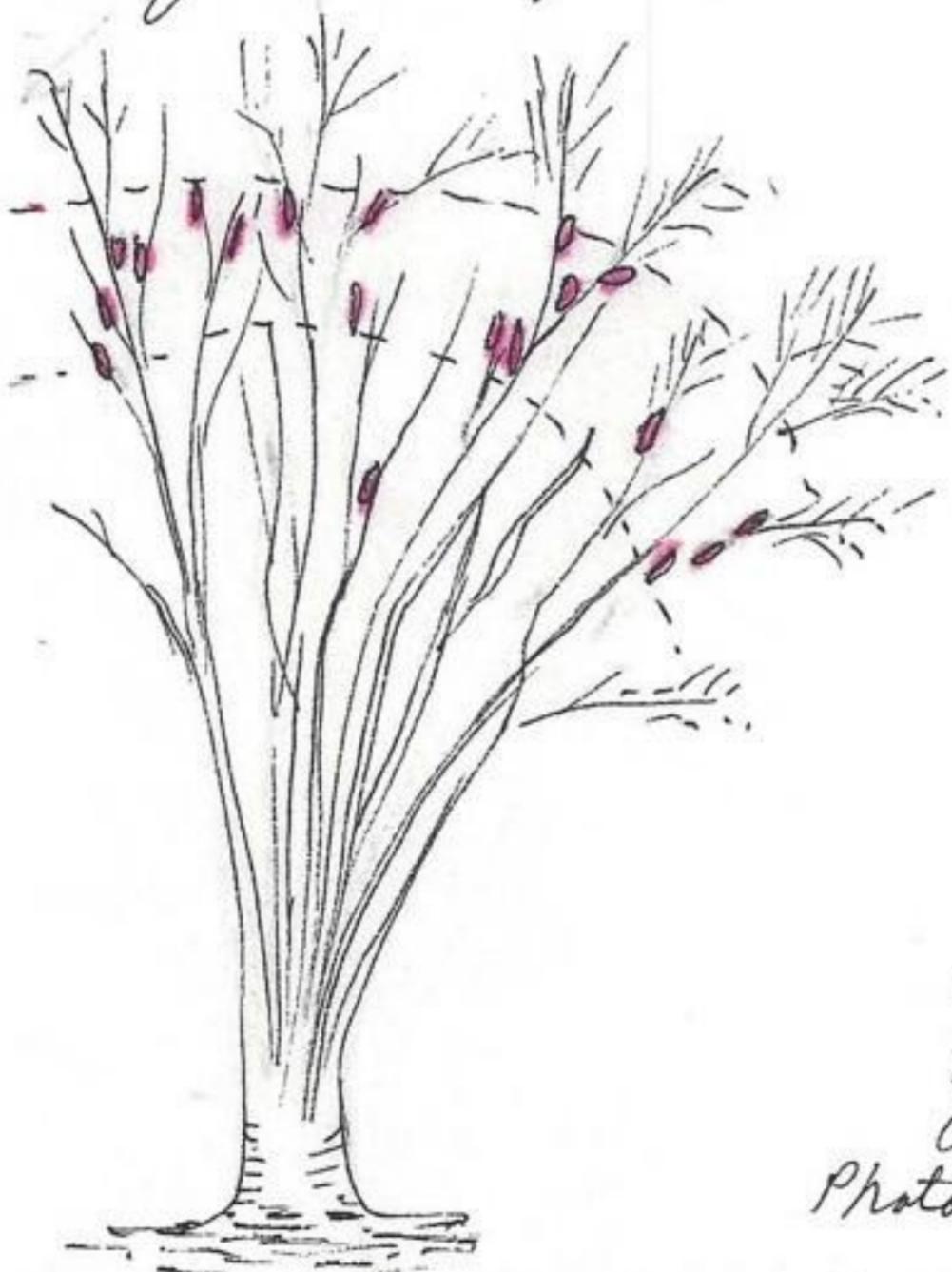
GREATEST DIAMETER 118 MM

AVERAGE SMALLEST CURVE 16 MM

AVERAGE GREATER DIA. CURVE 55 MM

PRUNING FOR ICE STORMS SHOULD BE LIMBS FROM 40 TO 118 MM.

The ice accumulation on vegetation occurred in extensive area of eastern Kansas wherever favorable conditions of temperature and rain occurred. In most cities, Kansas City, Topeka, Lawrence etc., breakage of tree limbs because of weight of ice was so extensive that city facilities were not adequate for removing damaged limbs and it was requested that individual property owners dispose of the material. Electric light power was out in many places for as long as 14 days. Limbs came mainly from the upper $\frac{6}{7}$ th of the height of tree and supported the uppermost limbs which had the greatest concentration of small limbs.



The trees from which the information was compiled is located NW across the street from above locality. Address on yorkshire is 413 yorkshire dr.

Photos taken same day showing ice of vegetation are:

840319-31 pond N/W home, near cattails

840319-32 ice on bud.

840319-33 ice & snow on yucca

840319-34 ice on limb.

840319-26 ice on maple limb

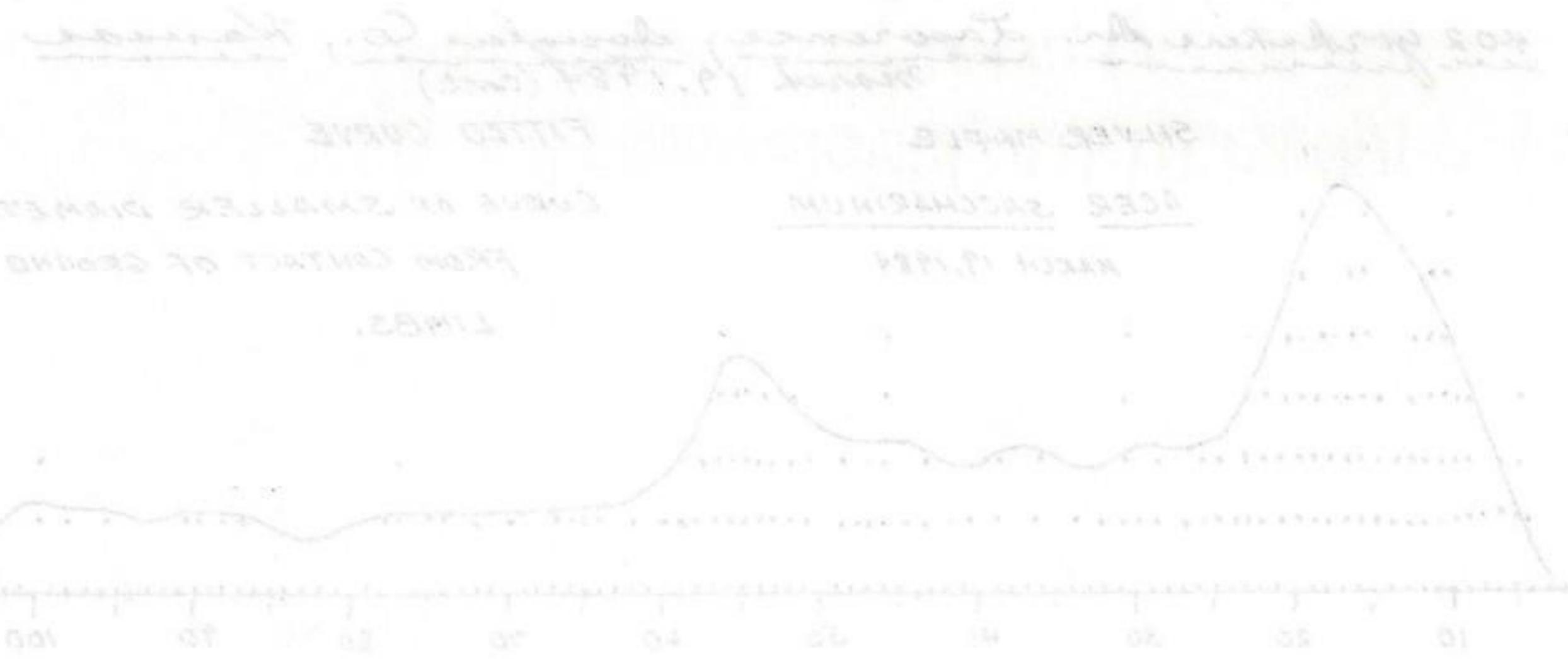
840319-27 ice on tree shrub

840319-28 ice on tree

840319-29 scarp on pond NW home

940319-30 ice on Conifer tree

84-011078



and bottom terrace.

on 840503-1

840503-2

840503-3

840503-4

Lawrence, Douglas Co., Kansas
May 3, 1984

Took 5 photos of archeological related material:

840503-1 Cabinet housing specimens. Case made in Utah years ago. at height of archeological collecting. adjustable runners

840503-2 2 drawers of specimens. Trays covered with glass tops.

840503-3 ibid

840503-4 specimens packed. (see May 4, 1984 for measurements - weight,

840503-5 metate + manos (79-1)



All broken ends with
calipers. see notes above
all broken off broken
wood ends with teeth
see in following or next slide



front edge seen. 840503-8

bottom edge seen. 840503-8

left edge seen. 840503-8

right edge seen. 840503-8

Lawrence, Douglas Co., Utah.

March 19, 1984 (cont.)

Made trip to Kansas City, Kansas via 32 Highway. Observed 10 redtails and 14 sparrow hawks which is an increase of 8 more redtails and 3 sparrow hawks of 2 trips to Kansas City in the previous month. This also applies to numbers observed between Lawrence and Topeka. There was also an increase in crows, six observed today, grackles and redwings. At the mouth of the Kaw River at a point where Lewis and Clark camped observed 8 flocks of grackles and redwings, each flock averaging 80 birds, flying N along Missouri River (evening). The complex arrangement of bridges over the mouth of the Kaw did not seem to interfere with the traditional migration of these birds. Photo 840319-35 3rd or 4th generation in table on Annette's side of the family.

402 Yorkshire Dr., Lawrence, Kansas

March 20, 1984

At 6:20 P.M., a flock of grackles and redwings flew SE by house for approx. a 2 minute period.

Lawrence, Douglas Co., Kansas

April 12, 1984

Professor Donald Forsyth of Brigham Young University, Anthropology Department called by phone. His first call was in March of 1983 to discuss disposition of archeological collection. Today we set up May 4 for transferring collection to Brigham Young where it will be appraised for value. His Univ. phone is 801-378-3488 and his home is 801-224-6920.

May 3, 1984

Prof. Donald Forsyth and graduate student Mike Hall arrived and estimate was made of transportation requirements for shipping archeological collection to Provo. We had a ton truck without overhead protection (see opposite page)

May 4, 1984

Today we loaded archeological material into truck. The shipment consisted of cabinet, 1/2 cubic yards, 52" high, boxes, 1.5 cubic yards, or total of 2 cubic yards. Boxes approx 45 sq. feet (cubic) and averaged 40 lbs per box.

Lawrence, Kansas

June 20, 1984

Since last date Mary talked to John L Sorenson, Head Dept. Anthropology 774 SWRT - 378-6108 and to Mark Heckman Chairman School Family Home and Social Sciences (990-SWKT. 378-1608). Both individuals will provide office space in either Anthropology or Kean Life Sciences museum. Prof Forsyth called later and asked if an Endowment could be set up for me. Also mailed today excavation of sites 11A, 13B, 13 and report of George Pedy of levelling a mound where William Peoy Homestead was built.

- This afternoon photos of back yard at 402 Yorkshire Dr.
and interior of house
840620-1 rock border E side, strawberries, ^{Annette new camera} Artemesia.
840620-2 rock border E side, marigolds (butterfly collector site)
840620-3 rock SE
840620-4 JW Bee at home
840620-5 ibid
840620-6 ibid
840620-7 " testing motion & flash
840620-8 backyard, reflection pool, decoys.
840620-9 S side house & rock garden.
840620-10 front yard & Barth
840620-11 JW Bee in Barth.
840620-12 JW Bee in Barth, flash stops Rubie cube in air
840620-13 Annette on Jay's motorcycle

Weight of boxes of artefacts 1800 lbs. Cabinet approx 200 lbs
bringing total weight to one ton (2000 lbs).

402 Yorkshire Dr., Lawrence, Douglas Co., Kansas
May 20, 1984.

James Robert Bee collected large moth, 840520-1 from trunk
of red maple in front yard. Evening. Prepared as specimen.

May 27, 1984

mailed map (large of Provo Bay and adjacent areas showing
composite sections, maps (fig 2, 3, sections 1-17; locality
map numbers, Catalogue of specimens and sites;
cross-references of sites and map numbers. Duplates
or rather originals in journal, 1934.

May 28, 1984

mailed excavation of site 11; reconstruction of dwelling
of site 11; profile and areal of site 11. Yesterday Mary
(Provo) talked to Forsyth and Wilmer Tanner about
collection and related problems.

June 20, 1984 (see opposite this page)

Lawrence, Kansas

June 22, 1984

Took Annette and Mrs. Orent to airport in St. Louis,
Missouri for their trip to Europe. Left Lawrence at
milege 40708.2 at 11:30 A.M. Followed Interstate 70
to Arrow Rock Historical Site where we camped. 157
miles from Lawrence.

Arrow Rock Historical Site, Missouri,

June 23, 1984

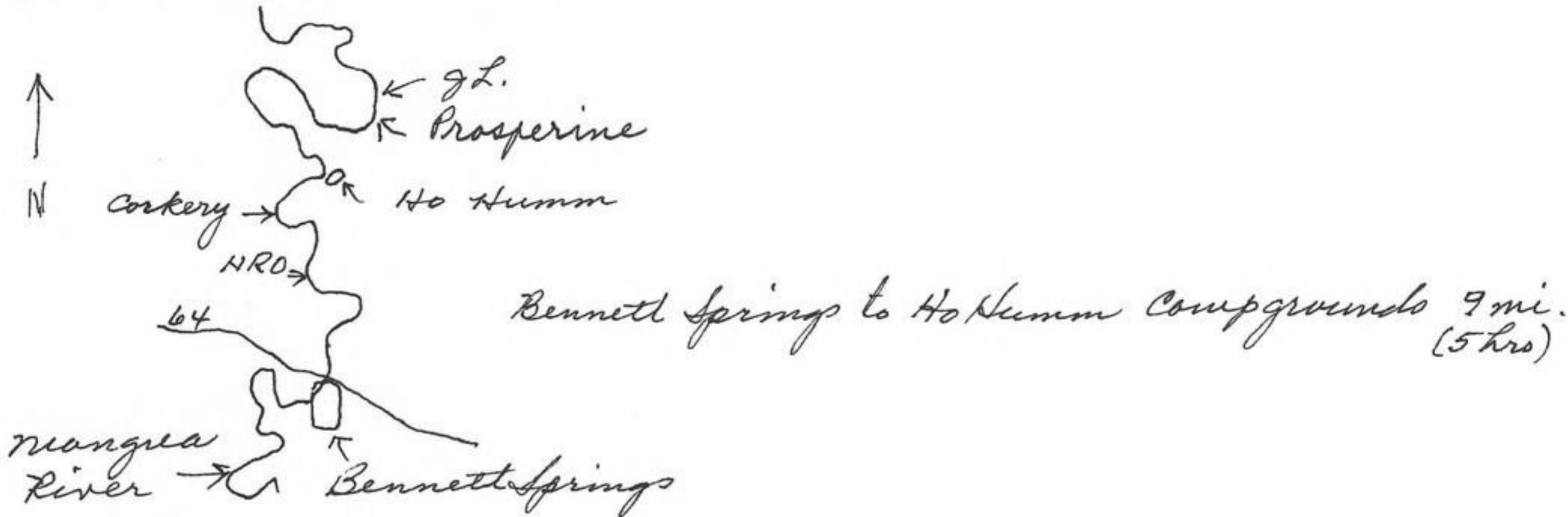
Checked birds in area this A.M.: 3 robins, 2 redheaded wood-
peckers, 6 eastern meadowlarks, 4 yellow billed cuckoos,
1 duckcussel, 3 chimney swifts, 1 pileated woodpecker, 1
red-bellied woodpecker, 6 brown headed cowbirds, 2 killdeer,
6 barn swallows, 8 eastern kingbirds, 1 blue jay.

Visited the town of Arrow Rock including Bingham's
early home where he painted western scenes. Left
and drove 70 to St. Louis where Annette & Orent boarded
British Caledonian plane for Amsterdam. From St. Louis
drove to Meramac State Park where I camped.

Meramac State Park, Missouri..

June 24, 1984

This park has some excellent deciduous forests and river bottomlands. Continued SW on highway 44 to Bennett Springs where I met James R. Bee. We canoed from Bennett Springs down the Niangua to Ho Humm take-out. where the owner drove us back to Bennett Springs. Canoe and shuttle = \$19.00.



The Niangua River is no 1 (difficult in degree) and except for 2 riffles that go into 90° bank or turns is negotiable. About 8 stretches of riffles between smooth water could be portaged by beginners if needed. Slow stretches need paddling unless you have unlimited time or if wind is against you. Good trout fishing entire route. Bird life in middle of day uncommon. No hawks but observed 4 turkey-vultures. This Sunday there were almost continuous groups of canoeists on river. Week day a decided drop in use of river.

James R left in evening and I remained at Bennett Springs for the night. Trout fishermen were almost all guaranteed the limit of 5. Black ant popular. Also the less trouts use a foam-like bobber about 5' from hook and instead of retrieving entire line to rear and then casting as is usual procedure, they draw pole length of line and then throw a loop forward that picks up the bobber and extends the fly forward. Fishermen clean fish and throw entrails back into stream which becomes an insatiable spat in the river. They should be required to clean fish on land and dispose of fish refuse.

Bennett Springs, Niangua River, Missouri.

June 25, 1984

Temp to 55°F last night. Left and drove back to Lawrence.

mainly W & N along county roads. Left 41245.3 at 7:30 A.M.
 arrived Lawrence 41462.0 at 3:00 P.M. or 217 miles
 today. Entire trip to St. Louis and return 754 miles.
 In review of the animal life on this trip: First crow as
 we approached St. Louis airport; 9 crows between St. Louis
 airport and Bennett Springs; first turkey vulture on trip at
 Meramac State Park, at Bennett Springs 6 turkey-vultures.
 At Ho Hunn Campgrounds on Niangua, owner reported black bear
 in area, bobcats increasing. He stated the U.S. Govern-
 ment (Environmental Agency) is the only authority that can
 control problems in Missouri such as trash on highways
 getting into rivers and underground (thru caves) pollution from
 surface.

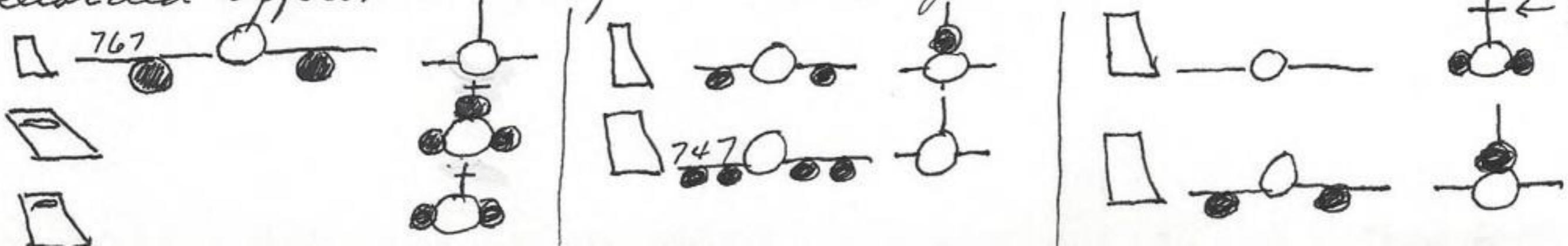
Lawrence, Kansas

July 7, 1984

Left for St. Louis airport to pick up Annette and Mrs. Orient.
 mileage 41510.8 at home. Left 10:00 A.M. Rained all
 morning. Followed Sedalia, Jefferson City and 94 beyond to
 airport. At 12:00 reached highway 71. First sparrow
 hawk at Lone Jack, redtail 10 miles W Sedalia, Portland
 2 turkey vultures. From Jefferson City took 94 on N side
 Missouri River, a beautiful drive along N side of valley with
 cliffs supporting virgin timber. Occasionally road left river valley
 and traversed hill country to N and then returned to river valley.
 Missouri River had flooded fields in the past days and many
 lakes remained, especially in areas not protected by dikes.
 Along 94 counted 7 striped skunk road kills which was a
 decided increase over elsewhere on trip. Camped 1 mi. E of
 Augusta on edge of river (Missouri) which was just a few
 feet below flood stage. Debris floating down river. Mileage
 here 41804.9 or 294 miles from Lawrence.

1 mi. E Augusta, along Missouri River, Missouri.
 July 8, 1984

Left 7:30 A.M. Some water on road from flooded Missouri.
 Arrived airport 41838.1 at 8:30 A.M. Annette's plane
 was scheduled for 12:50 P.M. but did not arrive until 4:30 P.M.
 Recorded different kinds of commercial planes:



Lawrence, Kansas

July 11, 1984

mailed additional archeological material to Forsyth.

Lawrence, Douglas Co., Kansas

July 20, 1984

Collected a Tiger Swallowtail Butterfly at 402 yorkshire.
Prepared as specimen no. 840720-1. Papilio glaucus.

July 21, 1984

James Robert Bee collected a Cottonwood Borer at
402 yorkshire. The beetle, Plectrodora scalaris is
specimen no 840721-1. also a Cottonwood beetle from limb
of a Cottonwood tree. no 840721-2

July 27, 1984

5 Photos 840729-1 to 840729-5 of three the roof
adaptor for fire-place in Barth, showing top, side and
close-up of plug.

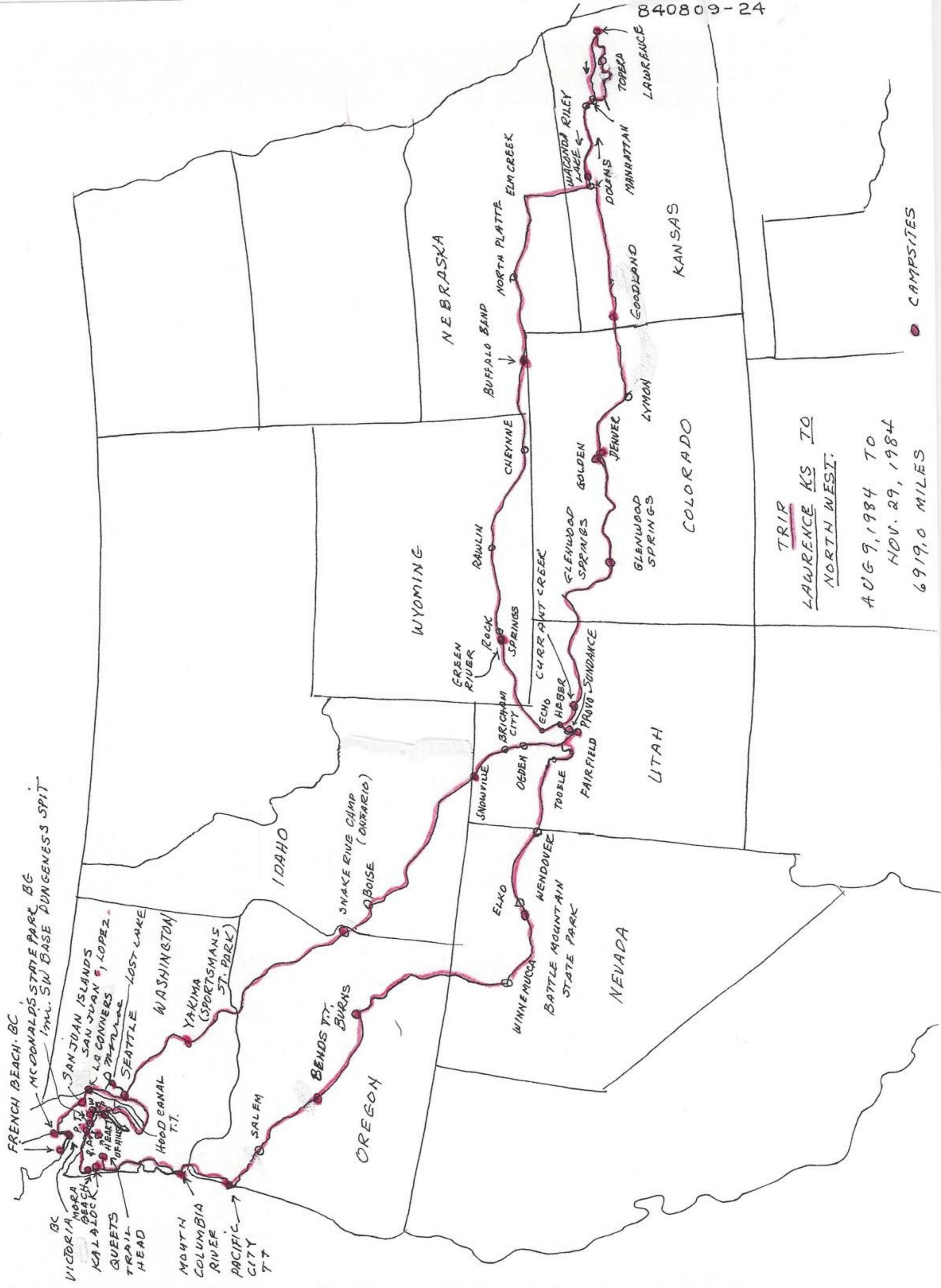
Lawrence, Douglas Co., Kansas

Aug. 9 1984

(see next page for map)

Left home at 42551.8 at 2:00 P.M. for Seattle, Washington.
Will travel Lecompton, 24 to Manhattan and beyond.
Sky 85% in clouds. 554.6 fox squirrel road kill.
will record, as usual, all sightings of raptures and those
noteworthy observations along the way. Complete censuses
will be identified. Temp. 98° F. 600.0 prairie land on
slopes to N. with savannas and open areas. Only birds
observed so far are 3 mourning doves, 5 deckersels.
Country has been green all the way and ponds W of Topeka
are full. 603.1 Pottawatomie Co. 609.7 badger road
kill. 611.4 raccoon road kill. Birds scarce along
route today. 614.9 Vermilion River with sandy channel.
6:00 P.M. more birds (mainly mourning doves) along road than
during the middle of the day. These mourning doves come to
roads to feed in the late afternoon. Also an occasional
western kingbird was observed. 678.2 first flock of young
pheasants. 687.6 Cloud Co. at 6:35 P.M. First nighthawk.
691.2 first meadowlark and Killdeer. 702.4 3rd group
of 3 nighthawks since first one was observed. First red-
headed woodpecker. 710.3 second red-headed woodpecker.

840809-24



Arrived Waconda Lake State Park at 744.4 at 8:00 P.m.

Wacondo Lake State Park, Mitchell Co., Kansas

Aug. 10, 1984 Sun up 6:50 A.M. by lake Temp 65°F

Left at 42744.4. Camp was S of marina at point. Left at 9:40 A.M. Birds in area of camp.

10 Killdeer per 1/10 lakeshore beach.

18 ring-billed gulls. (3 juveniles included)

Approx 8000 grackles (10% starling) flew E from 6:20 to 8:00 A.M. Some fed in field enroute. Both grackles and starling fed young.

pectoral sandpiper 1 per 1/10 mile shoreline

Baird's sandpiper 2 " " "

barn swallow, groups 5-10 occasionally observed over water.
cliff swallows, less frequent than barn swallows.

1 meadowlark

3 E. Kingbird

8 brown cowbirds

2 snowy heron

2 brown thrasher

4 3/4 grown ring-necked pheasants.

2 robins

bullfrog calling

2 mourning doves.

Left and at 748.8 at Granite Creek water low and beach profile showed 18 regular recessional lines. One debris pile 1 1/2 feet above high water line. 755.4 Osborne Co.

Bay E of here (2/10 mi), great blue heron was flying with curved neck until it crossed the highway at which time it straightened out and then after crossing recurred its neck. As it approached dead trees along edge of bay, it again stretched its neck out straight before landing. The largest group of barn swallows along the road is 13 individuals. 781.9 striped skunk road kill on bridge, at Gaylord. First sign of deer so far (white-tailed), 796.7 Keween. Red-headed woodpecker. 803.2 striped skunk.

Road kill, 807.0 Glade now n 11:25. First whirl-wind at Glade. 832.0 Harlan Co line and Nebraska. Lunch at S side of causeway of Harlan Lake, at 837.5. Left at 1:25 P.M.

At west end lake in emergent vegetation were 18 ring-necked gulls generally distributed. One great blue heron, 1 goldfinch. Wind from E producing white caps. 1 redwing blackbird and 2 brown-headed cowbirds. 838.1 Republican River,

874.9 prairie dog town on 183, right side road. no live animals observed. 878.7 Buffalo Co., 879.6 Platte River. 880.4 Interstate 80 now w at 2:35 P.M. 906.5 Lexington. 967.5 N. Platte at 5:45 P.M. 995.8 mt. time. As one passes w in Nebraska the valley sides become higher and knolllike. 43035.2 first hawk, a red-tailed hawk, observed since Lawrence, Kansas. 835.9 Exit 107 to Big Springs. Arrived Buffalo Bend 3 mi E Potter, Neb. at 109.1.

Buffalo Bend, Cheyenne Co., Nebraska

Aug 11, 1984

Sunup. 6:20 A.M. temp 60°F, sky clear. Left 109.2 at 8:40 A.M. 112.0 Potter. now back on Interstate 80. 124.6 antelope road kill. 152.2 Wyoming at 9:59 A.M. Many sunflowers^w beyond Pine Bluffs! 195.5 W side Cheyenne, striped skunk road kill. 226.5 5 antelope. all praireland is green. No birds or mammals up over Pole mt. 219.2 Albany Co., grasses grazed to roots. Stopped top Pole mt (w side) for lunch. Observed, Citellus lateralis, and a young marmot on top of mt. Searched horizon^{21x binocular}, but did not see golden eagles. Limber pine dominant at overlook point where we had lunch. 247.4 Laramie. More water in river and ponds than usual for this time of year. 252.7 mounds of prairie dog. Prairie grass green. 253.5 5 antelope 259.1 at Lake, 2 Canada geese & 40 ducks. 260.7 Another small lake, 12 ducks. alkali across valley and alkali tolerant^{red} plant. First Brewers blackbirds. 267.3 3 antelope. 269.4 Badger road kill & one live Citellus. There have been several ponds along way and most of them have 2 or 3 ducks. Fresh jackrabbit road kill. 275.3 antelope. 276.6 jackrabbit road kill. 279.3 Carbon Co. 280.0 first raven. 291.1 antelope, small colony of Citellus holes (20 mounds). Up until now not much evidence of Citellus or prairie dog. More Citellus here than in Laramie Plains. 297.7 3 crows. Brewers blackbirds most frequently seen on edge of black macadam. They walk down shoulder of road as we pass. 325.5 Valeatt. 331.8 N. Platte River, feed, and slightly discolored but not muddy. 333.6 antelope road kill, 338.6 10 antelope at entrance to E. Sinclair. 342.9 4 antelope

344.6 Lake E Rawlins, 50% reduced, antelope at edge of water and ⁱⁿ aquatic weeds, few ducks, but not as many as usually seen here. 353.9 3 antelope. More Brewer blackbirds E of Wolcott than W of Wolcott. To n greener (359.1) on slopes & hills than in previous years. 362.0 Sweetwater Co. first flock (20) brown-headed cowbirds. 367.4 2 antelope. 368.4 15 antelope. 268.8 3 antelope. 370.4 3 antelope. 371.5 8 horned lark 377.1 2 antelope. Introduced plants in right-of-way are almost all contained within same. 380 extensive colony Cetellus mounds, no live animals. 391.4 8 antelope; red-tailed hawk. 393.8 ferruginous hawk. 395.3 red desert. 408.1 antelope, watched 4 dogs at a distance ^{10 min} before it moved on. 2 golden eagles soaring 300,400' above. 431.5 first sparrow hawk since Lawrence. 466.5 first magpie w of Rock Springs 476.2 Green River (river). 480.0 Camp along Green River. at 8:30 P.M.

Green River Camp, Sweetwater Co., Wyoming,
Aug 12, 1984

Left 8:50 A.M. 482.2 on old highway w of Green River City, 2 antelope. 483.5 young antelope road kill. 496.1 white-tailed prairie dog setting on side of road. 499.0 Little America, left 9:55 511.1 Clintah Co. 512.5 for indeterminate length will make complete census of road kills and birds: (rabbits by consecutive numbers)

4-5-6-78-10-15, 514.1 prairie dog, Cetellus, Cetellus, 517.6 2 antelope, 519.7, exit 48, (more snow on Clintah than usual for August), 2 horned larks, 529.3 3 antelope, 533.6 overpass exit 34 to Fort Bridger, End of census or 21.1 miles jackrabbits mainly on uplands at first of census and not in river valley, as one leaves river valley a gains uplands to W there is an increase in jackrabbit road-kills. 536.8 3 antelope. 538.4 3 antelope. 538.7 4 antelope 541.4 7 antelope. 2 mourning doves only birds seen since last complete census, 550.2 15 antelope. 555.1 mule deer road kill. 557.0 4 antelope. 563.8 5 side Evanston. 568.8 Utah. 576.7 more Brewer blackbirds beyond Evanston in canyons than across Wyoming. 593.5 antelope road kill. 594.6 mule deer road kill. 599.0 Echo dam, lake full, first quail at

Colville. 4 magpies thru this area, 619.3 golden eagle. 619.4 overpass on highway 40 622.7 striped skunk road kill worked by 2 magpies. 629.4 marmot road kill beyond Kletley, 630.4 near midway striped skunk road kill. 641.4 Homestead at 2:25 thinking that Mary & Son might be there. Deer Creek Lake up to base of Charleston road. Down lake the island now had a broad connection of water. Unusual amount of water over Bridalveil falls. Provo River has more water than usual. 670.1 Provo at 3:30 P.M. 675.1 Mary & Sons home. Spent night at cabin at Sundance.

Sundance, mt. Timpanogos, Utah Co., Utah.

Aug. 13, 1984

Returned to Provo. Received word that Sally was to be in Seattle so we left for Seattle at 43675.3 at 10:30 A.M. Small patch of snow on eyebrows of Timpanogos. Some pockets of snow on Cascade 2,000 from top as there were also in gullies on Mt. Timp from old snowslides. Green above timberline on Cascades. Turned back from Pleasant Grove. Left second time from Mary at 12:25. 766.2 first gull since Provo 793.8 mule deer road kill on Interstate 15, just S of Willard. 784.6 is ept 354 to Willard. 796.5 30 avacet and 5 black-necked stilt in saline pond by road. 3 snowy egret flew overhead. 10 pelicans. at 5:30 P.M. 854.4 arrived Snowville.

Snowville, Utah.

Aug. 14, 1984

Camped in parking lot of LDS church. Left 854.4 at 8:00 A.M. A robin, barn swallow hawking over fields and 2 mourning doves, ^{and night hawk} only birds in Snowville. 43861.7 Idaho at 8:20 A.M. Idaho is the beginning of the flat-topped junipers, red-tailed hawk, meadowlark, 2 mourning doves associated with juniper trees. Few dead junipers. Junipers grow on an elevated bench of sand dune? strip which also permitted these junipers to grow down into the more recent exposed valley. A warning sign of severe wind storms just beyond junipers would also suggest sand dune formation at one time. Vegetation (grasses) grow to base of trunk of juniper. 869.7 raven. Valley is sagebrush. Derrides are more extensively

used than are the valley slopes. 2 small snow cornices on high ridge to W. Valley is soils except some gravel outcrops. 808.0 Sweetzer Summit. approx. 5800 ft. no road kills along this route. 903.3 Raft River. 905.0 longest and straightest road we have seen so far. Birds rare. Ranchers have left small patches of artemisia for no apparent reason. 917.0 now on 84 west. (continuation). 922.1 Snake River, clear and high. 959.1 sparrow hawk. 011.2 Bridge crosses Snake River. The benchland on S side is twice as high as on N side.



5
111
1111

N

117.5 Snake.

River, second crossing.
well defined benchland
2/3 down canyon wall.

022.3 on bench land $\frac{3}{4}$ down, one $\frac{1}{2}$ way down slope then a major one and the last on along river, 4 m all, many areas of long long slope from $\frac{3}{4}$ to $\frac{1}{4}$ down canyon slope, no benchlands. On field had regularly spaced tufts of yellow grass (1'diameter). Time 1:25 P.M., night hawk flew by. Sky 95% clear, temp warm. 031.2 extensive fire to N and gopher holes or piles of dirt completely cover entire area. (sand) only 2 or 3' apart. A farmer could have not done a better job of turning the soil over with a plow. 036.7 whirlwind over burn area with base 150' wide. This fire extends N & to mountains. Gopher hole vary from place to place. Road (Interstate) poor, mainly from trucks. Some surfaces, even cement! are forming washboard profiles. Intersection or exit 99 shows end of fire area. Boulders to 9" are generally distributed over the burnt area, (average space 6'(2-10')). 057.1 marmot road kill, seems there is no favorable habitat for marmots here. 150.8 Snake River, above normal water level. 150.9 Oregon. At Ontario 152.9, first magpie since recorded back on route. 183.0 at State Park on Snake River at Ontario.

State Park on Snake River, Ontario, Oregon.
Aug. 15, 1984

motor boats continually harassed Canada geese and ducks on Snake River. Mts to E show scars of off-road vehicles. Left 9:38 A.M. Birds in area. 200 Canada geese, 400 ducks, 2 Caspian terns, gulls⁽⁸⁾, great blue heron(2) barn swallows 40.

2 magpies at exit 340 at Rye Valley. 203.5 first ponderosa pine, Cowbirds along side of road. 207.1 80 brown-headed cowbirds. Rye Valley has the greatest number of Cowbirds observed so far, no Brewers. 3 mourning doves but nothing else. 215.8 2 ravens, small cowbird flocks. 222.7 raven, 229.0 flock 90 Cowbirds. mt to N has 6 dots of snow at top.
 2 flocks cowbirds n Baker. These brown-headed cowbirds are about the only birds on route, 252.2 45th parallel. Odometer test (our odometer gain $\frac{1}{2}$ of $\frac{1}{10}$ mile in 5 miles). 271.4 crow. (all magpies, crows, raven have been listed on trip). At La Grande settling ponds as we approached city, approx. 500 ducks. 303.2 red-tailed hawk at exit 234. 348.1 red-tailed hawk, 349.4 red-tailed hawk and striped skunk road kill. now N on 395 (351.9) 366.6 Washington on Columbia River, at Umitilla. no birds across mt except 1 horned lark half way across. A whirlwind moved to an open barn door and stopped forward movement for 20" before moving on. 409.1 Yakima River at 4:30 P.M. 435.2 first magpie in Yakima Valley. Arrived Sportsmans State Park at 460.1 at 6:30 P.M.

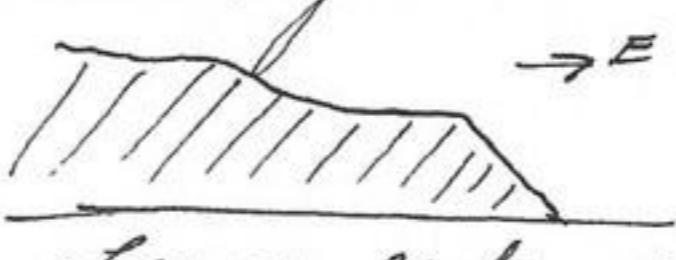
Sportsmans State Park, Washington.

Aug 16, 1984

Left 8:00 A.M. Robins only birds in park. 477.0 15 mallard ducks in flight. at exit 26 Canyon Road at 477.1 504.4 overpass at Interstate 90. 10:00. Flock of 12 Brewer blackbirds. 574.1 6 crows, 574.4 Linnkam Rd 34619.6 Chris & Steven's home in Seattle at 1:50 P.M.

Ed.
Aug 26, 1984
201231 E. Lost Lake, Snohomish Co., Washington

Aug 26, 1984

visited property of Steve and Annette. Collected 20 of the conspicuous plants in the area from second growth of cedar and Douglas fir. Understory dense and junglelike. Property slopes to E.  and consists of Pleistocene outwash gravels, sands and erratic boulders. Large cedar and fir stumps show original condition of the original forest. A logging trail, now grown to alder and other small trees traverses the property.

Leaves of dominant plants are:

840826-1

840826-2 Thuja heterophylla - Western Hemlock

840826-3 Sward fern

840826-4 Thuja plicata western red-cedar.

840826-5

840826-6

840826-7

840826-8

840826-9

840826-10 Vaccinium parvifolium - red huckleberry

840826-11

840826-12 Populus trichocarpa Black cottonwood.

840826-13 Acer macrophyllum - Big-leaf maple

840826-14 Acer glabrum - Vine maple.

840826-15

840826-16

840826-17 Berberis (sp?) Oregon grape

840826-18

840826-19

840826-20 Rubus laciniatus - cut-leaf blackberry

Birds noted were: feather (tail) of band-tailed pigeon, song sparrow, red-shafted flicker, 1 crow, robin nest, swallow (sp.?)

A burrow of the mountain beaver along cut bank of roadway.

Photos:

840826-21 JWB at E Lost Lake

840826-22 Annette in Chris' car.

840826-23 Chris in Barth.

840826-24 Mathew, Lubie Sube & JWB

840826-25 Chris in Barth

840826-26 Steve

840826-27 Steve, Mathew + Chris

840826-32

840826-1



840826-2



840826-3



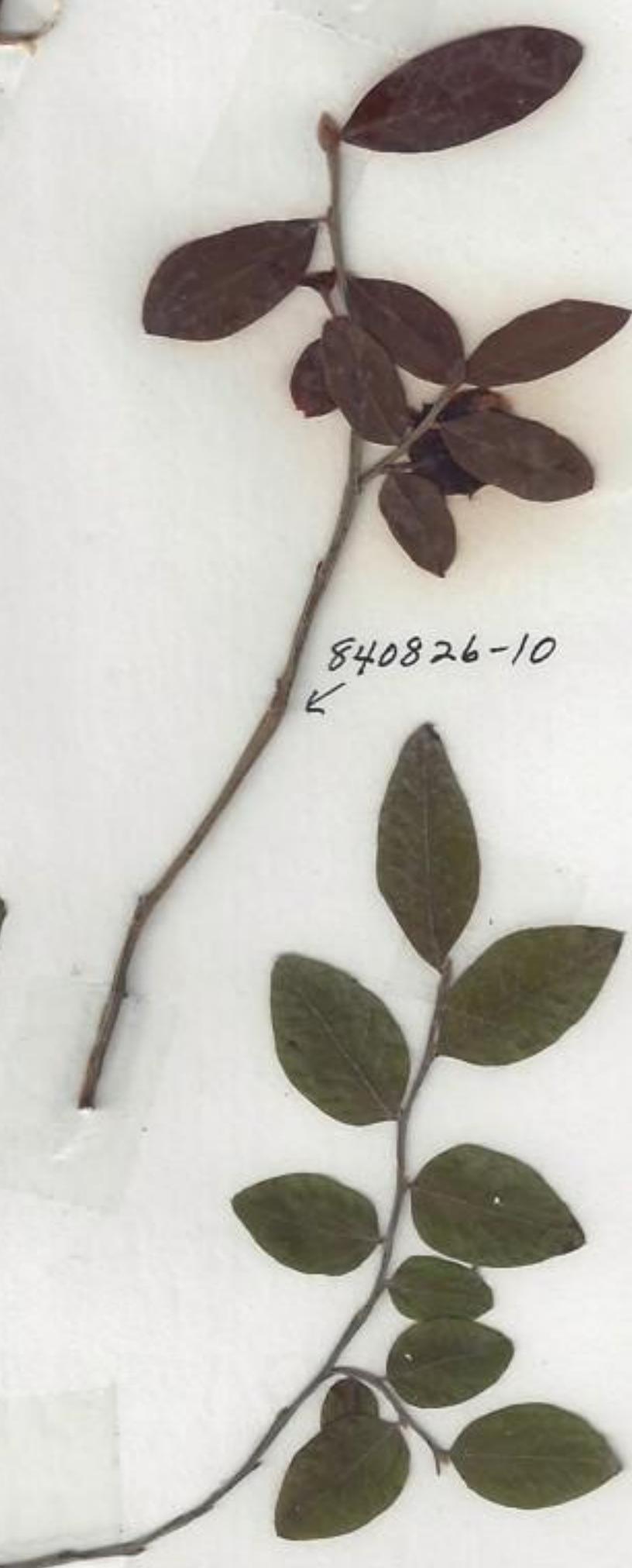
840826-4



840826-5



840826-10



840826-6

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840826-8

840826-9



840826-11



840826-12



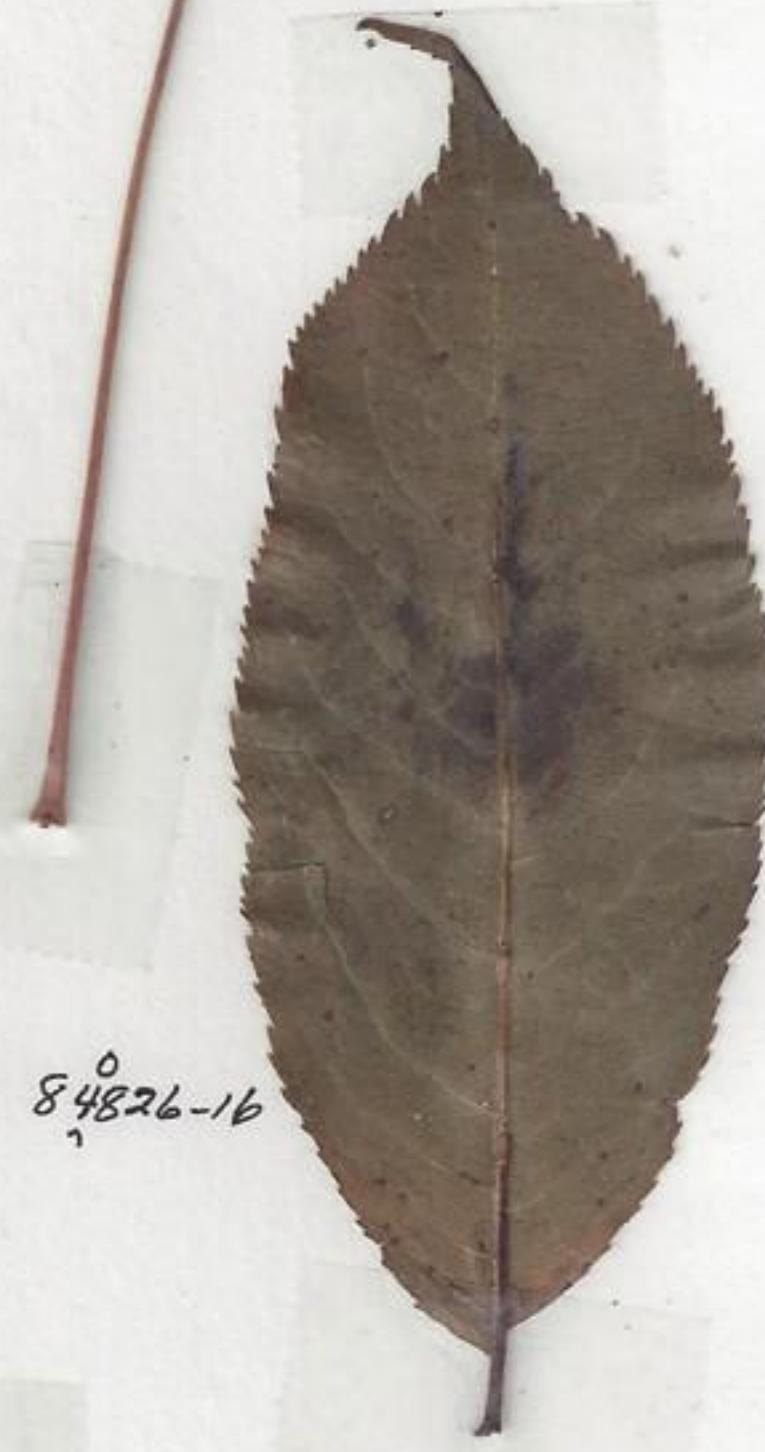
840826-13



840826-14



840826-15



840826-16



840826-17



840826-18



840826-19



840826-20

10814 55 ave So, Seattle, Washington

Aug. 27, 1984

Photos of Chris and matthew, (negatives in Chris file) except
840827-1 Chris and matthew 840827-6

840827-2 matthew in arms of Chris

840827-3 Closeup of head of matthew

840827-4 Closeup mouth, eyes matthew

840827-5 Stella.

840827-6 Annette

Skykomish River, Snohomish Co., Washington
Aug 28, 1984

James R and I canoed Skykomish River from Crystal Creek to Sultan, approx. 9 miles in 2 1/2 hrs. River rated as no 2 difficulty. This river is wide and although water is relatively low the water is fast and dynamic. At least for the first half of river, the rapids occupy at least 50% of river. One long wide ripple 1/10 mile long.

Birds observed

5 Kingfishers

2 water ouzels

8 spotted sandpipers

8 crows

2 gulls (sp.?)

1 song sparrow

Photos:

840828-1 James R and James at put-in.

840828-2 Chris James Robert and first rapids

840828-3 " " " dark background

840828-4 ibid. (no neg.)

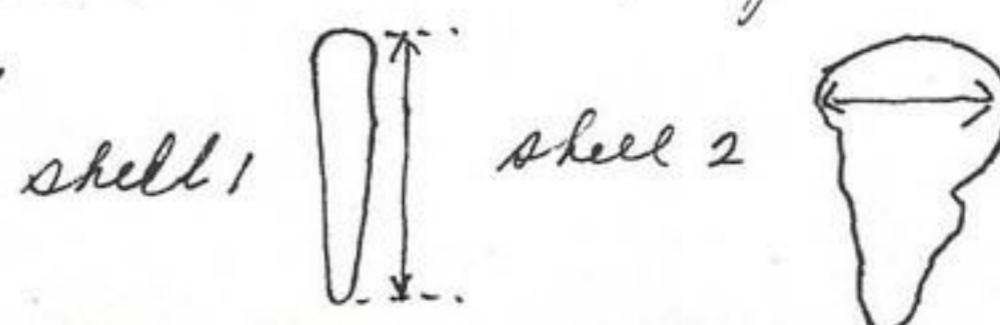
840828-5 James R. and shot looking down river. (no neg.)

Hood Canal Reserve, Olympic Co., Washington
Aug. 31, 1984

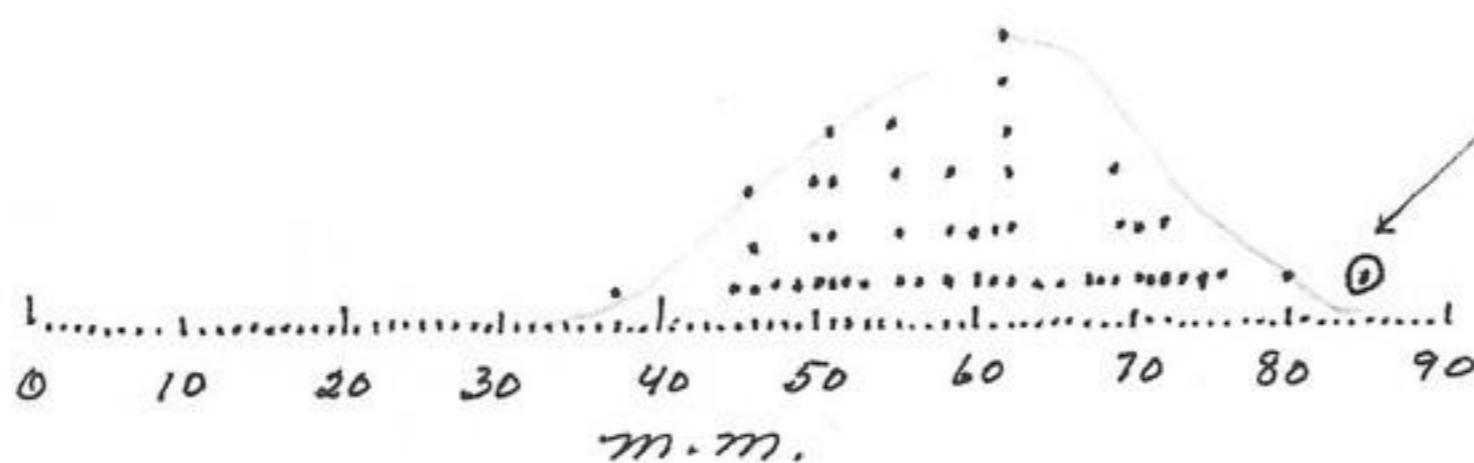
Enroute last night observed 4 mule deer. Chris, Steve, matthew.

Sept. 1, 1984

Collected largest and widest oyster shell on beach below Thousand Trails Beach preserve: greatest length 191 mm ($57\frac{mm}{1}$ of some shells $\frac{57}{57}$) greatest width at 90° axis; greatest width 90 mm (90° from axis) (same shell 161 mm greatest length).



measured mule deer tracks in T.T (lateral of sewage disposal). Some area a census of previous year.



elk print? from mt jupiter
ridge, taken by Steve.
(Sept 2, 1984)

Steve and Chris observed 1 spike mule deer and one doe on preserve. also 4 otter observed on dike between pond and sound below ridge (sundown). Raccoon track (hind foot) 106 mm.

Measured large alder leaf as 265 total length, 155 mm width.

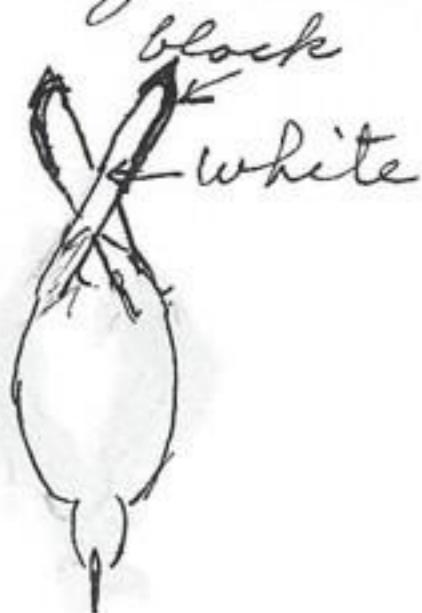
List of birds and mammals: (on preserve).

- | | |
|-----------------------------|---|
| 3 robin and old nest | 1 yellow-rumped warbler. |
| 2 northwestern crow | 1 Brewer blackbird |
| 2 marbled murrelet. | 1 Am. goldfinch |
| 3 band-tailed pigeon | 2 black-throated gray warbler. |
| 1 pileated woodpecker | 3 red-shafted flicker (common flicker) |
| 2 Swanson thrush | 2 fox sparrow |
| 13 glaucous winged gull | 1 winter wren. |
| 2 kingfisher | 4 song sparrow. |
| 6 blue grouse. | 1 western screech owl |
| 4 Stellers jay | |
| 8 Bonaparte gull | |
| 1 osprey | |
| 1 red-throated loon | |
| 1 double-crested cormorant. | |
| 3 Canada goose | 5 Townsend chipmunk |
| 1 herring gull | 1 chickaree |
| 1 ring-billed gull | 6 mule deer. (black-tailed) |
| 1 rufous hummingbird | 4 sea otter (sp.?) |
| 1 yellow-bellied sapsucker | 2 dusky shrew |
| 1 downy woodpecker. | 1 California red-backed vole. |
| 1 barn swallow | 2 seal (sp.?) |
| 1 chestnut-sided chickadee | 2 snowshoe hare |
| 1 red-breasted nuthatch | 1 raccoon. |
| 1 brown creeper | |
| 1 varied thrush | |
| 1 golden-crowned Kinglet | northern alligator lizard. 1 per
every 20' on logs on beach. |

Thousand Trail informant (Jim) reports:

Observed black bear at Quileute. but neither the bear or mt. lion are on preserve. Bald eagle occasionally seen along beach area. Pileated woodpecker observed 2 or 3 times per week. they pick insects off trees. Seals in sound here but no porpoises. Bobcats increasing. Coyotes common.

I watch Bonaparte gulls feed on insects on water. Their feeding activity is agile and aggressive at the moment of pursuit of the insects. Wing primaries carried high and appear long when bird is on water



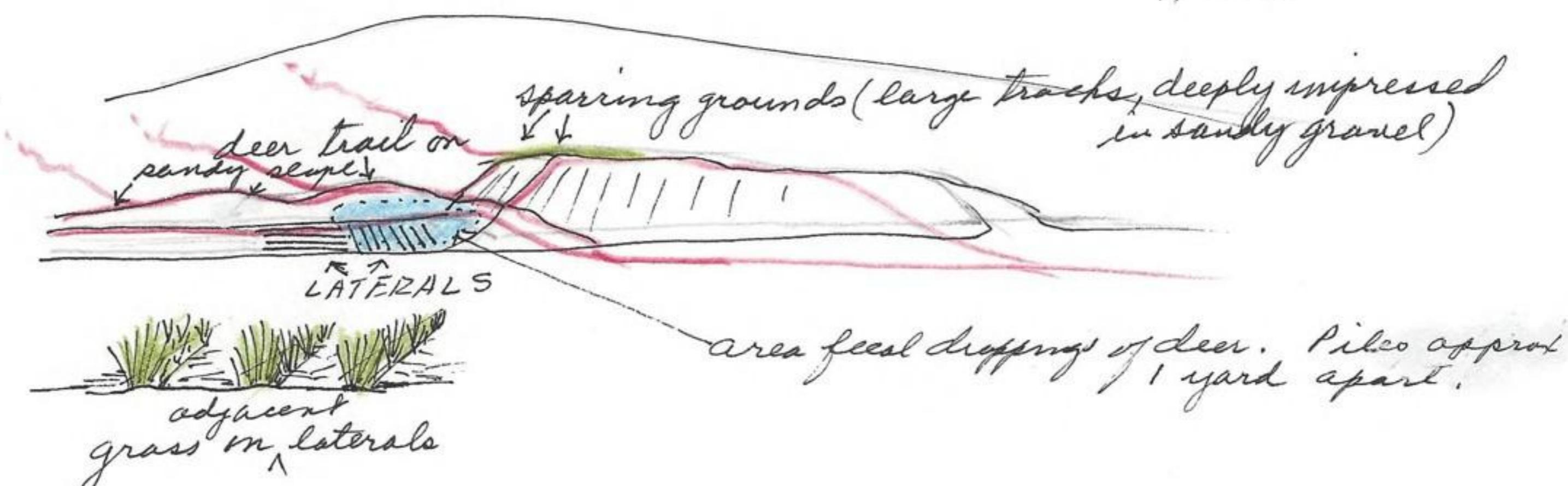
Hood Canal Preserve, Thousand Trails, Olympia Co., Washington
Sept 2, 1984

Steve to Jupiter mt. measure mule deer track on first knoll of ridge above clearing.

Sept. 3, 1984

min-temp. 46°F
checked trails and beach, adding black-throated gray warbler, red-shafted flicker and fox sparrow. Collected western white pine. Douglas fir and cedar + hemlock in area. Compiled list of birds and mammals and presented to manager of camp (dated Sept 2).

N →



At lodge, water along beach moving E 15' per minute at 11:45 A.M. Vegetation fragments being carried along. a Bonaparte gull fled thru debris as it moved along. marbled murrelet profile like pied-billed grebe with bill up 45°. Fox sparred at evergreen huckleberries, whirlwind in camp road. marbled murrelet

caught fish 3" long. At approx 4:00 tide water to w at point at 2' per minute.

Photos at lodge area:

840903-1 from lodge to w with beach.

840903-2 ibid.

840903-3 base of hill below lodge of pond and Hood Canal beyond. Olympics in background.

840903-4 ibid and variations of foreground

840903-5 "

840903-6 Pond to n of beach

840903-7 along beach with logs in foreground, alegrita lizards common on these logs at this time of day.

840903-8 Closeups of oyster shell deposited by wave action, from 20 minutes before sundown to ^{at least} sundown,

glaucous winged gulls flew S along Hood Canal but not out of bay area to NW of here, approx. 20 gulls per minute.

Photo 840903-9 starfish, above, ventral aspect ^{Pycnopodia}
^{helianthoides}-
" sunflower star.

" 840903-10 mts and Jupiter Ridge to right after sundown.

Photo 840903-11 from base of hill below lodge and pond & canal to w after sundown.

On way back to camp. 3 robins fed in forest road at late twilight, very agile as they jumped into the air for insects. Three of them remained together.

At last bend of upper trail to lodge noted an Oregon white oak, *Quercus garryana*.

Sept. 4, 1984

Left Hood Canal Preserve for Port Townsend. Camped Fort Worden State Park.

Fort Worden State Park, Jefferson Co., Washington

Sept. 5, 1984

min. temp. 54°F. Rain last night up to 11:10 A.M. Birds in general area.

1 Great blue heron, Common Crow, NW crow, Common ¹⁸, glaucous-winged gulls,
2 Herring gull, 1 Imm. sp. ?, 24 Heermann's gulls both adults and immatures.

Old Fort Townsend State Park, Jefferson Co., Washington

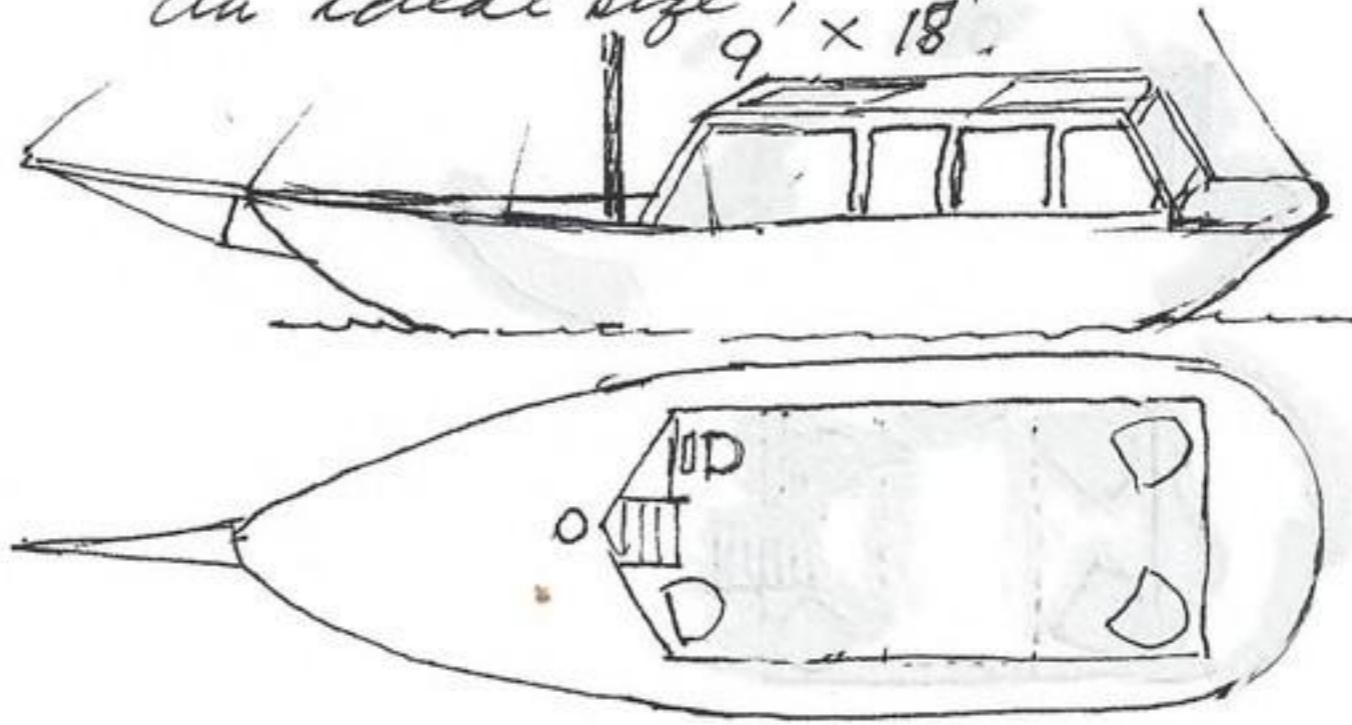
Sept. 6, 1984

^{for}
Tamiasciurus douglasii at camp. no birds. Left Port Townsend 9:30 AM

Point Hudson, Port Townsend, Jefferson Co., Washington.

Sept. 7th and 8th 1984

yesterday arrived at this camp, and will remain today and morning. Camp site B at water edge just n of inlet to marina. We stayed the first 2 days of the Wooden Boat Show. Observed all activity from camp site. Most impressive was the large schooners that pass by as close as 200' from shore. It is a pleasure to see a 40-50 ft schooner speed by at an abrupt list and unbelievable speed and managed by an elderly man and his wife. Perfection is evident on all sides. Other boats of similar size with 5-6 people aboard flounder with management of the boat and seemly never have time to enjoy their efforts. Their were many sail boats with pilot house adequate for list aboard. and these of the large boats ranging from 35' to 60'. 35' seems to be the lower limit in size. Most of the best sail boats had modified pilot houses. An ideal size 9' x 18' is thus



Birds in area: (2 hr observation)

savanna sparrow.	1
glaucous-winged gull	30
Bonaparte's gull	8
Heermann's gull	18
common murre	20
cormorant (sp.?)	6
great blue heron	3
barn swallow	12
surf scoter	3
northwestern crow	8
starling	17
Forster tern	7
kingfisher	1
american crow.	3

Sept 8, 1984

Mr. Jack Ewing, a permanent resident next to us to N (site no. 5). reports a killer whale in bay this A.M. The sea lions come into area a breeding (several hundred). Photo 840908-1 of Mr. Ewing and gull being fed scraps of two salmon he caught today. 840708-2 ibid.

840908-3 of glaucous-wng gulls fight for scraps of the salmon. They eat entire fins. Left by ferry for Keystone. Photo 840908-4 of a schooner? passing by camp as we passed by on ferry. Continued to Keystone Ferry, thence N. at

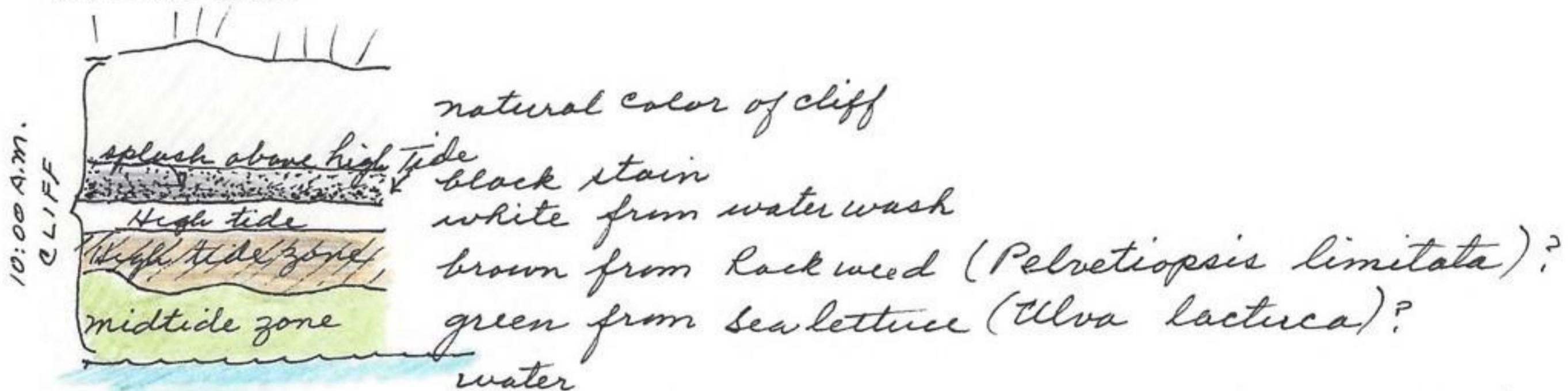
Couperville noted approx. 400 common crows in one large group. Continued to Deception Pass, thence to La Conner, thence to La Conner's Preserve. Camped in site 131. At sundown photo 840908-5, 840908-6, 840908-7 from camp to west.

La Conner Preserve, Thousand Trails, Skagit Co., Washington
Sept 9, 1984

Birds in area: (4 hr. observation but no duplications).

kingfisher	2	flew by over sound
glaucous winged gull	18	one ate a whole crab.
ring-billed gull	16	feeding with Am Crow on low tidal lands
great blue heron	4	along edge sound at low tide
cormorant (sp.?)	8	flew by as singles
American crow	32	1/3 smaller than ring-billed gull and fed with them,
western grebes	18	middle sound to W. in one group
common loon	5	3 singles, + pair on E side sound.
rakin	2	forest
yellow rumped warbler (Audubon race)	1	forest
black scoter	80	sound to W.
northwestern crow	4	feeding on low tidal lands.

From Lone tree point (sw) observed cliff pattern on W side sound as:



There is the first sign of fall colors, especially reds of maples.
additional birds:

purple finch. 2 (?)
black scoter 2
surf scoter 64
white-winged scoter 42 Sept. 10, 1984

Chris and Matthew spent day and night at camp. We visited La Conner.

Sept 11, 1984 new arrivals in last 3 days,

This A.M. observed 26 new gulls at S point of Lone Tree Island as well as 5 Caspian tern (4 adult, 1 immature). Nearly all new gulls showed white in primaries when the gulls were resting. One was black when resting but showed white when stretched. Legs more greenish yellow than ring-billed gulls, but some have yellow legs like ring-billed

3 hooded mergansers fed and captured 2-3" fish in bay between Lone tree (Douglas fir) Island and mainland. A glaucous-winged gull attempted to capture the fish but merganser would dive and come up 10' beyond. The hooded merganser did not resemble the usual plumage of the species. Probably immatures of the year.

At Indian part of island 5 sand sharks on beach that had been released from gill nets. One (largest was 40" long, the smallest 20" long. These sharks were not being eaten by gulls or crows, maybe because they were too fresh! 

12 robin observed and may be passing thru
Indians placed gill net in water at point yesterday.
Today net 80% on land at low tide with one silver salmon only
and rapidly spoiling.

Photo 840911-1 Lone tree island (Douglas fir). TT Lodge to E

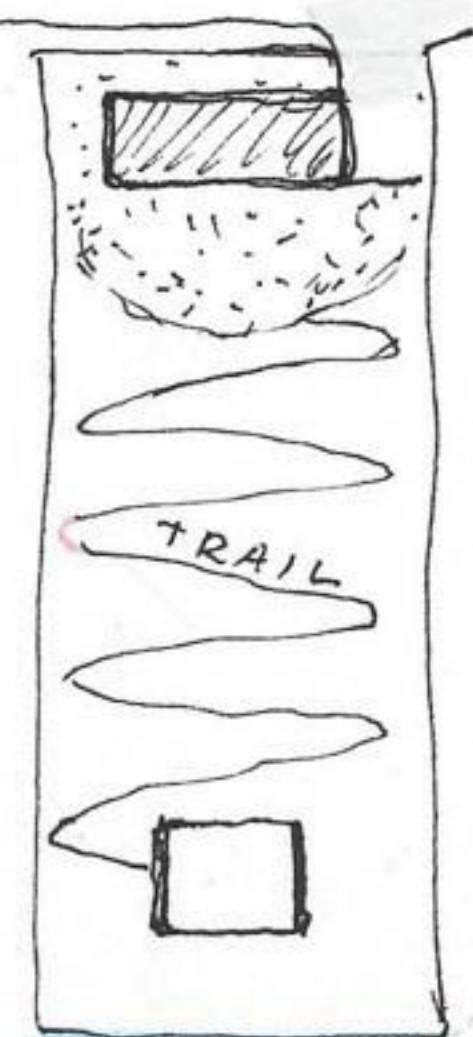
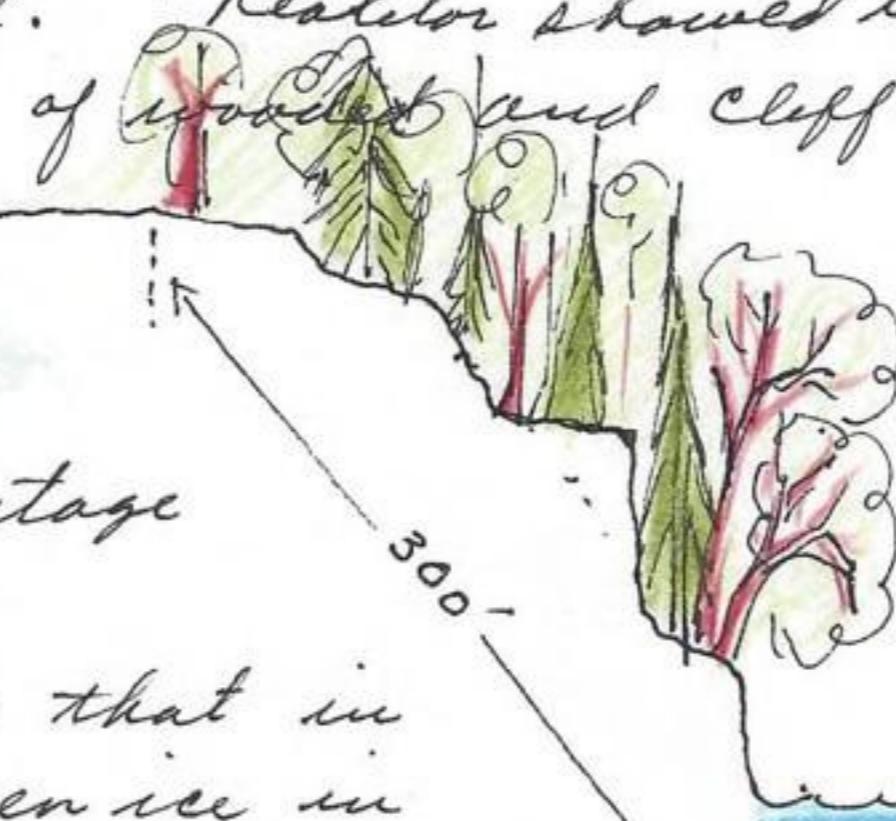
Photo 840911-2 " " " " " " " " to W.

Sept. 12th, 1984

Check with Paul Post, owner of Chamiai motorsailer charters, Box 1026, La Conner, WA 98257 (206) 466-3841. He own a 30 ft Rawson Pilothouse Sloop, an ocean going vessel. Can travel 50 miles per day. Most of Alaska ^{islands} waters are not adequately mapped and movement thru them is slow and exploratory. Weather and other factors will delay progress. 28 days from here to Juneau. Can carry food for week and a half. Navigation by maps and charts. Emergency pickup good. Mr Post is a sociologist and has been employed by government agencies to work on social problems in Alaska, especially remote villages. \$75-\$150 per day. Food choice depends on last deferentials.

Sept 13, 1984

Checked with Realtor Agency in Anacortes and also had fire-place chimney welded. Realtor showed us a site on Guemes Island  of wooded and cliff slope 88' x 300'.

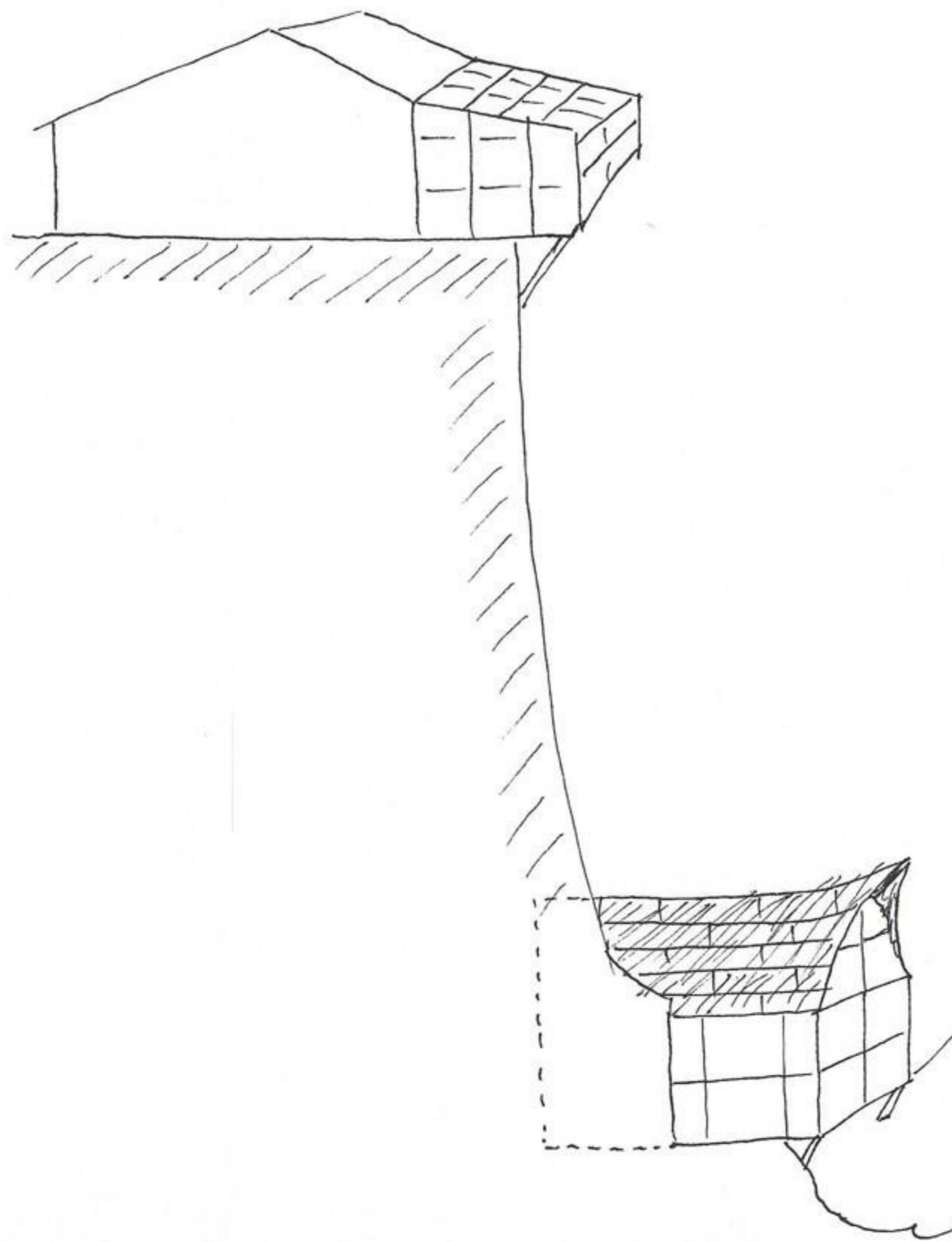
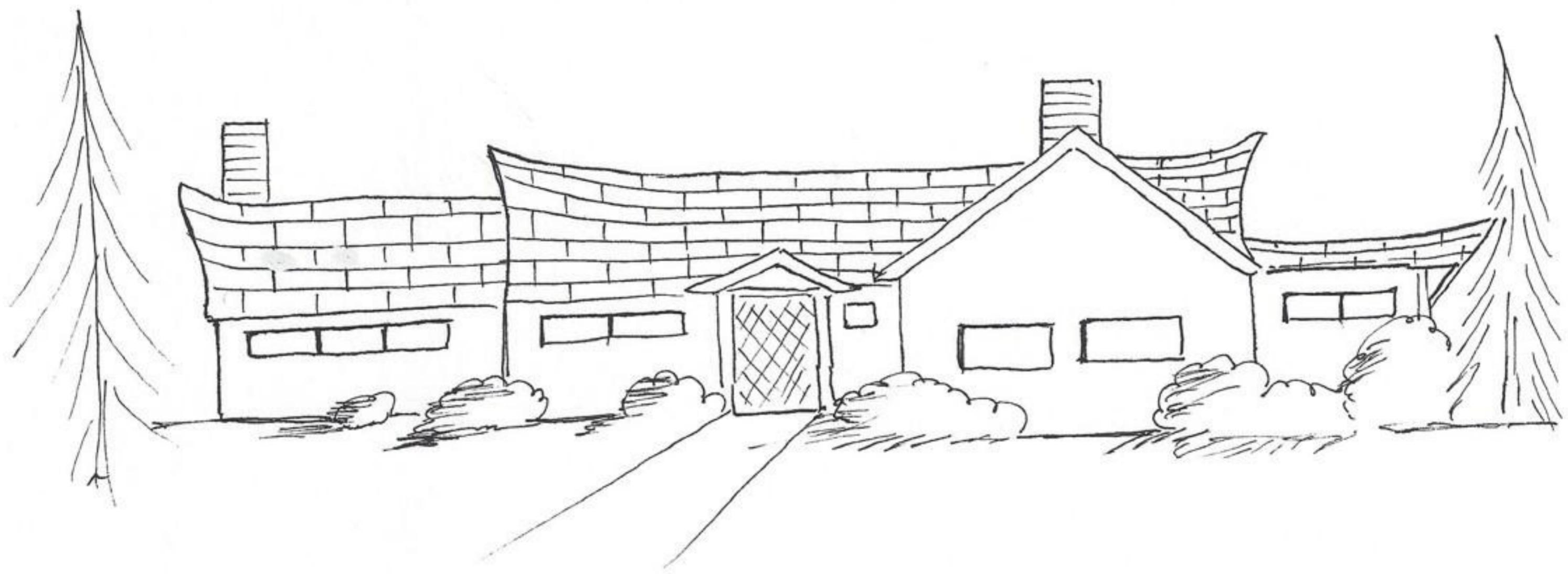


Shown by American Heritage
by. Gale O'Neil

Mr. O'Neil informed us that in 7 years he has not seen ice in Anacortes. Old timers remember winters with occasional ice on streets and on limbs of trees.

Property on Del Mar on Marine Drive, Anacortes, Washington

Sept 13, 1984



La Conner's Preserve, Skagit Co., Washington

Sept 13, 1984

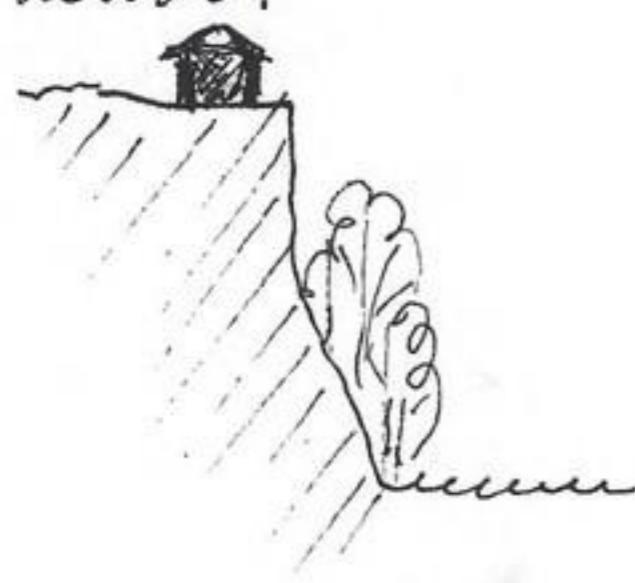
Visited general area Photos 840913-1 and 840913-2 of slash burning
on Wedberg Island just S of Deception Pass.

Sept. 14, 1984

Plan to visit Anacortes. Bonaparte gull dive and completely submerge in water like terns. noted 2 caspian terns ride on a log on flood tide for approx. 1 mile. Checked home on High Cliff in Del Mar on Marine Drive

drive. Beach rights to low tide. Association rights ^{page} beach on restricted area. \$75 per year, (see previous note)

At La Conner Preserve noted 23 Arctic Tern, 2 Killdeer, 4 Barn Swallows, one Calif. Gull (? sp), savanna sparrow, white-crowned sparrow.



Sept 15, 1984

Checked Craft Festival in La Conner.

Sept 16, 1984

Chris and Steve spent day with us. Checked house on Marine Drive and found cliff of unconsolidated sands, pebbles and lower level of clay. no basal rocks for quarter mile to N and a half mile S. Only area now left is to the S between here and Deception Pass.

at La Conner Preserve, noted 3 harbor seal. They extend nose to eyes above water and then slowly withdraw backward, a behaviorism showing extreme persecution by shooting. noted white-crowned sparrow at point (Lone Tree Point)

While on top Mt. Erie took several photos:

(840916-1) to S showing island in Lake Campbell and sound to S
840916-2 ibid.

840916-3 Chris, Steve and Mathew

840916-4 Chris and Mathew

(840916-5) Steve " "

840916-6 Steve

(840916-7) Chris Arthur

(840916-8) Chris

840916-9 Annette + Mathew

840916-10 " " "

840916-11 Chris. 840916-12

(840916-15) JWB + Steve in Barth.

840916-16 JWB in Barth.

840916-17 Mathew in Barth

at La Conner Preserve photos;

840916-12 Annette + Douglas for on Lone Tree Point

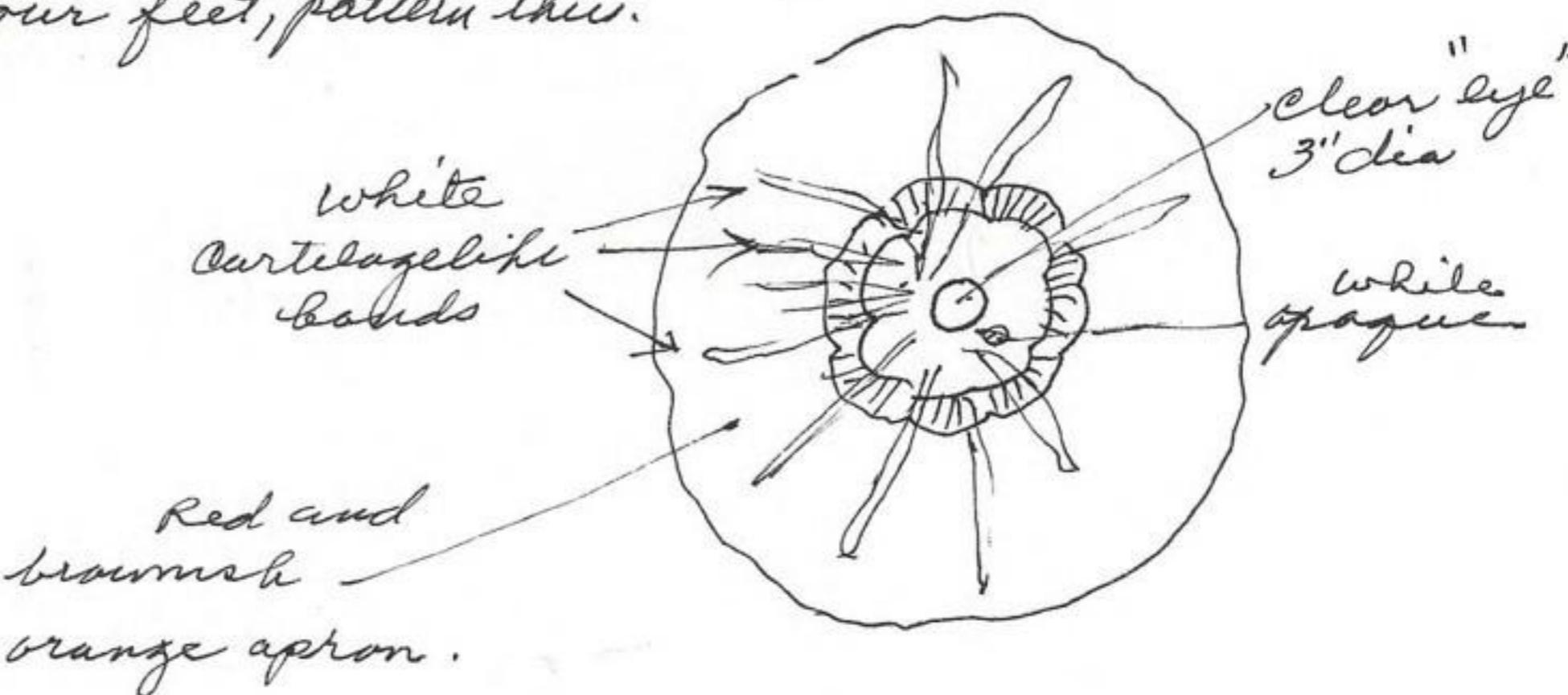
840916-13 glaciated rock (n.s.) and gravels & sands overlain. Point to E.T.T.

Have noted at Preserve that ring-billed gulls are most frequently

840916-14 Self portrait against trunk of tree on Longtree Point!

seen swimming actively and feeding on aquatic organism from a few feet out from shore to 50' whereas the glaucous wing gulls feed on the shoreline and inland on tidal slope. Ringed billed gulls are more gregarious than glaucous wing gulls but only loosely as compared to flocks of mew gulls. The Bonaparte gull feeds out over water and dives for prey like a tern, many times completely submerging itself in water. The double crested cormorant flies close to water (1 foot) and holds neck ~~out~~^{upward} head at an angle. Measured a jellyfish on beach at Lone Tree Point at four feet, pattern thus.

The organism disappeared the following high tide. Two other small jellyfish of the same shape and species (?) was on the beach at next low tide.



Red and
brownish
orange apron.

The fall colors have advanced slightly since we arrived at La Conner's Preserve, especially reds but some yellows. These colors are just suggestive and restricted. The full intensity of color is to come later.

La Conner's Preserve, Skagit Co., Washington.

Sept. 17, 1984

checked flight of gulls and cormorant starting at 8:30 A.M. Flight up and down channel between here and Hope Island.
8:30 A.M. 9 gulls W, 18 gulls E, 2 cormorants W, 2 cormorant E.
8:40 A.M. 3 " W, 5 gulls E, 0 cormorants W, 3 " E.
8:50 A.M. 6 " W, 7 gulls E, 0 " " 0 " "

9:00 A.M. census end. Assured 1 black oystercatcher and 2 ~~glaucous~~^{harassing} hawks. Spent day in Anacortes. Saw home near Big Point ^{opposite} ~~opposite~~ tree

This evening met a Mr & Mrs Carl Nelson, 6208 Palatine ave. N. Seattle, Wa 98103. Mrs. Nelson (marit) run a Scandinavian Hospitality, Bed & Breakfast. (206) 782-7900. Mr. Nelson works at Boeing no 2 as Engineer. His records of birds in Preserve area include (for this season): red-tailed hawk, sparrow hawk, 15 oyster catchers in one close group (not solitary), ruddy turnstone,

Birds and mammals in La Conner Preserve, T.T., Skagit Co., Washington for the period Sept. 9, 1984 to Sept 16, 1984 by James W Bee, museum natural history, University of Kansas, Lawrence, Kansas. (numbers are average per day)

Birds: 1 Dark-eyed junco *Juncos hyemalis*

1 American goldfinch *Carduelis tristis*

3 belted kingfisher *Ceryle alcyon*

45 glaucous-winged gull *Larus glaucescens*

20 ring-billed gull *Larus delawarensis*

3 great blue heron *Ardea herodias*

18 double-crested cormorant *Phalacrocorax auritus*

18 American crow *Corvus brachyrhynchos*

12 western grebe *Aechmophorus occidentalis*

5 common loon *Gavia immer*

6 American robin *Turdus migratorius*

1 yellow-rumped warbler (audubon warbler)

11 northwestern crow *Corvus caurinus*

3 black scoter *melanitta nigra*

42 white-winged scoter *melanitta fusca*

62 surf scoter *melanitta perspicillata*

2 purple finch *Carpodacus purpureus*

10 mew gull *Larus canus*

3 Caspian tern *Sterna caspia*

8 Arctic tern *Sterna paradisaea*

3 hooded merganser *Lophodytes cucullatus*

15 Bonaparte's gull *Larus philadelphicus*

2 killdeer *Charadrius vociferus*

4 barn swallow *Hirundo rustica*

1 California gull *Larus californicus*

1 savanna sparrow *Passerculus sandwichensis*

1 white-crowned sparrow *Zonotrichia leucophrys*

1 western sandpiper *Caledris mauri*

1 Heermann's gull *Larus heermanni*

1 Common flicker *Colaptes auratus*

1 Black-throated Gray Warbler *Dendroica nigrescens*

mammals:

1 coyote *Canis latrans*

1 mule deer (black-tailed subspecies) *Odocoileus hemionus*

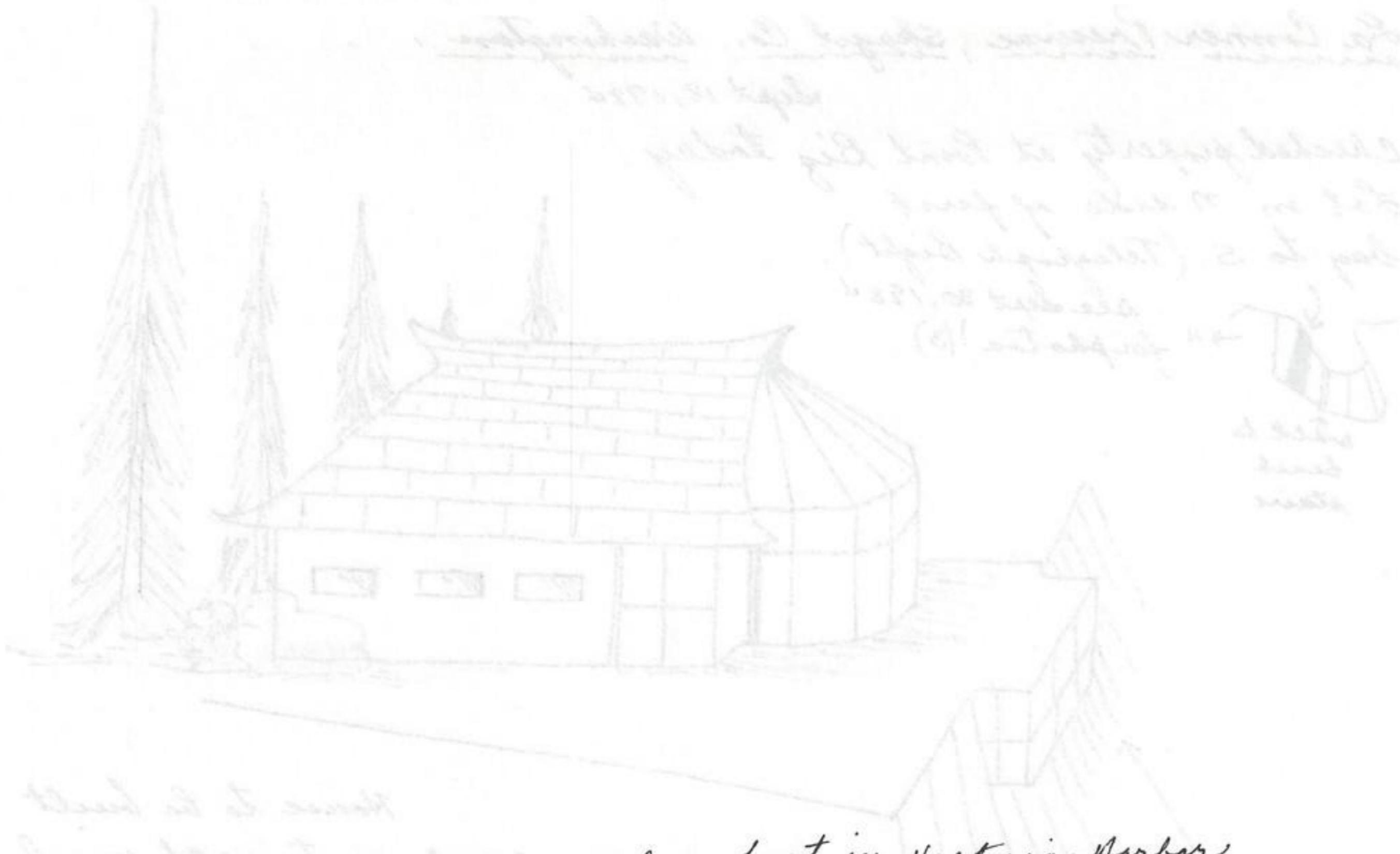
3 harbor seal *Phoca vitulina*

1 California sea lion *Zalophus californianus*

1 raccoon *Procyon lotor*

1 chickaree (Douglas squirrel), *Tamiasciurus douglasii*

2 Pigeon hawk
1 Black ovenbird

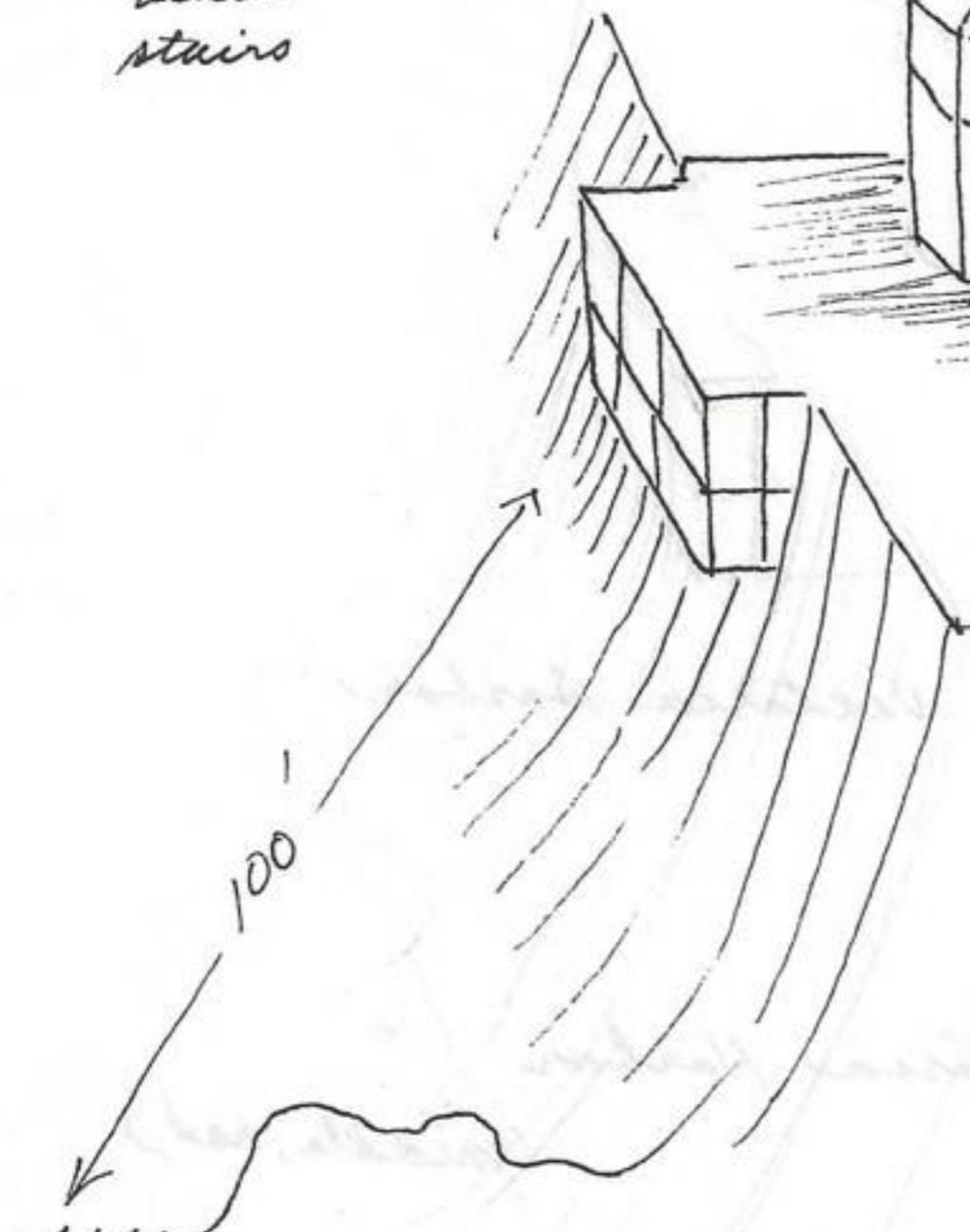


- 840920-2 Cal 46 foot sailing boat in Victoria Harbor
 3 "
 4 "
 5 "
 6 Trawler sail boat in Victoria Harbor
 7 " (middle, red)
 8 yacht in Victoria Harbor.
 9 Sail boats at Victoria Harbor, Provincial Parliament in background
 10 "
 11 Provincial Parliament at night (Victoria) B.C.
 12 "
 13 "

La Conner Preserve, Skagit Co., Washington.

Sept 18, 1984

Checked property at Point Big today.

Lot on N side of first
bay to S. (Telegraph Point),(see Sept 30, 1984
for photos) (3)walk to
beach
stairs

House to be built
on edge property with wind
resistant profile. Basement
extends out to edge and slightly
overhang of cliff.

Sept 19, 1984

Left La Conner's Preserve for Vancouver Island at 8:45 P.M.
from ferry terminal at Anacortes. Fare to Sidney \$30.05.
at ferry terminal 64 glaucous ^{winged} gulls, 8 ring-billed gulls,
6 Bonaparte gulls, 4 Northwestern crows. feeding on tidal
land just S of ferry terminal.

Left Anacortes for Sidney, Vancouver Island. Birds observed
enroute.

- 1 adult bald eagle first narrow passageway E of Shaw Island
- 30 double crested cormorant
- 60 pigeon guillemot, groups 2-25, mostly more open waters
- 19 marbled murrelet, small groups,
- 34 glaucous winged gulls
- 6 ring-billed gulls
- 2 mew gulls
- 6 Bonaparte gulls
- 2 black scoters
- 14 surf scoters
- 9 white wing scoters
- 2 arctic tern.

Victoria, Vancouver Island, Canada (British Columbia)

Sept. 20, 1984

Spent day in Victoria, camped at docks N side harbor in parking lot. Photo 840920-1 of Burch at docks N side harbor. (See opposite page for other photos)

Sept. 21, 1984

page for other photos

Spent most of day in Victoria and left in afternoon for French Beach Provincial Park on Coast west of Victoria. Last night more gulls fed in harbor all night than they did during the day. They also called at night. One harbor seal frequently seen from camp at docks.

P.P.

French Beach, S end Vancouver Island, British Columbia, Canada.

Sept. 22, 1984

Informant observed 6 gray whale here on Sept. 16, 1984. Winter wren, song sparrow, white-crowned sparrow in area, also glaucous-winged gull, Bonaparte gull, mew gull, pigeon guillemot, marbled murrelet, double-crested cormorant, arctic tern and scoters. Left early and drove to Mc Donald Provincial Park N of Sidney. Enroute visited Butchart Gardens S and W of Sidney. Photos at Butchart Gardens

840922-1 2 large dahlias

840922-12 hanging flower

840922-2 marigold (2 colors)

840922-13 marigold

840922-3 sail boat at harbor

840922-14 garden

840922-4 general garden (sunken)

840922-15 yellow flower

840922-5 misc. dahlias (Annette)

840922-16 marigold

840922-6 marigolds & red flower

840922-17 roses & delphinium

840922-7 dahlia & Annette

840922-8 dahlias

840922-9 marigold, delphinium

840922-10 dahlia & goldenrod

840922-11 Redwood tree. *Sequoia sempervirens* (from gardens) (specimen)
pressed

McDonald Provincial Park, N Sidney, Vancouver Is. Brit Col. Canada

Sept 23, 1984

no birds in camp but observed the following at marina just E of park:

1 NW gull - displaced longfisher on top filing. 30 others in bay.

2 killdeer

1 great blue heron

18 mew gulls

1 song sparrow

4 ring-billed gulls

1 white crowned sparrow

1 cormorant, double-crested.

2 Bonaparte gull,

6 raven, first in northwest, calls

35 glaucous-winged gulls

common.

47
840923-47



840923-3



840922-11

The new gull holds head high on long neck, walks rapidly, stops frequently and pauses like killdeer. A glaucous-winged gull in contrast, carries head lower on shorter neck, wobbles ^{may} or ways slavishly, and pauses less regularly. The new acts like a ring-billed gull.

Left Mc. Donald Provincial Park and boarded ferry for Friday Harbor. Birds ^{and mammals} enroute,
 double crested cormorant 1-1- 11-7- 11-2- 3-1-2-4-1-1-1
 horned grebe 1-8-1
 pigeon guillemat 12-1-1-2
 arctic tern 1
 Bonaparte gull 1
 glaucous wing 18-1-8-1
 black scoter 3
 surf scoter 65
 white-winged scoter 42, all scoters in bay E of ferry terminal at Sidney,
 common loon 2
 horned grebe 19
 common eare 14
 northwestern eare 6
 Kingfisher 1
 harbor seal 1

From Friday Harbor to False Bay, water slack at high tide. Continued on along w coast to Small Pox Bay, San Juan Co. Park. Birds here:

approx. 400 glaucous winged gulls, mostly on island.
 40 Herrmann's gull.
 18 ring-billed gulls
 6 Bonaparte gulls
 5 double crested cormorant
 1 sparrow hawk.

There were many glaucous-winged gulls from False Bay to here and I would estimate 2000, at one point between False Bay & Small Pox Bay photo 840923-1 of shoreline to 5. At Small Pox Bay photo 840923-2 of Islands to W (Canada) between 2 trees. (See Aug. 26, 1984 for specimen of *Juniperus scopulorum*
 ↑
juniper 840923-3 collected here
 Lakedale Campgrounds, San Juan Island, Washington
 Sept. 24, 1984.

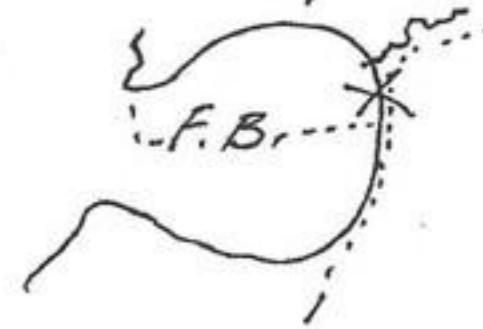
Birds in area: (To end lakes, thence down drainage 3/4 mi, thence return on roads & trails on S side of drainage to beginning. 8:00-9:00 A.M.)

- 2 Chestnut-backed chickadee
 3 common crow
 2 raven
 1 winter wren
 1 white-crowned sparrow
 1 band-tailed pigeon
 14 song sparrows.

mule deer track measured 78 mm.,
 others (tracks) seen
 8409242 same as below.
 (for future reference of change
 of bay)

Contoured to False Bay on San Juan Island. Photo 840924-1 of Bay, where
 road contacts edge Bay, (note
 False Bay, San Juan Island, San Juan Co., Washington. Delta end
 see my map from ~~map from~~ Sept. 25, 1984 ~~recognition in right~~
 side photo)

Sun above trees and hill to E at 7:55 A.M. Min temp 42°F.
 Camped last night at edge of False Bay along
 side road. Observed the (7:00 A.M.-noon-12:00 P.M.)
 following birds from camp: (N half bay)



3 golden plover

6 killdeer

1 baldpate

21 northwestern crow

234 gulls in N half of bay and consisted of:

18 glaucous-winged gull

6 herring gull

3 Thayer's gull

132 California gull

23 Bonaparte gull

46 mew gull

4 Heerman's gull

4 ringed-billed gull

4 great blue heron

6 arctic tern

3 double crested cormorant.

1 Brandt cormorant

2 raven

1 bald eagle, adult (3 sightings)

1 osprey, adult. (2 sightings)

8 shoveller ducks, all females.

1 pintail duck.

1 house wren

38 pine siskin

8 pectoral sandpiper

2 common loon

1 red-tailed hawk

1 marsh hawk

1 black oyster catcher

2 common loon

33 red-breasted mergansers

2 hooded mergansers

8 Brewer's blackbirds

3 brown-headed blackbird

Field characters observed of gulls in area.

	bill	markings on bill	legs	all primaries										
	yellow	black	red	no marks	red	black	band	pink	red-brown	red	yellow	black	black	light
glaucoous-winged	x							x						(x)
herring	x								(x) ← plus → (x)					
Calif	x			(x)	x					x	x			
mew	x			(x)						x	x			
Bonaparte	(x)								(x)			x		
Heermann's			(x)							(x)	x			
Thayer	x							x				x		
ring-billed	x				(x)					x		x		

Some characteristic of behaviorism of gulls in area are:

new gull feeds in shallow water or near edge of water, and resembles a plover in upright position, long neck and head held high. The walk is rapid, sometimes to a run, with abrupt stops to look around and then forward again in straight line for 5-6 feet when it again stops. They generally feed together in 2-5, otherwise in groups while resting. In this respect are somewhat like ring-billed gulls.

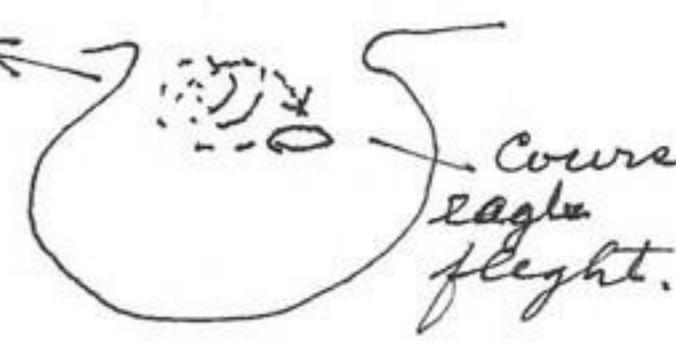
Glaucoous gulls feed at shoreline and landward on tidal lands.

Bonaparte dives like tern at 30'-50' and completely is submerged under water. Delicate flight and agile.

Glaucoous-winged gulls with crab or food will be chased by some species, either adult chases immature or vice-versa. Over 50% of pursuits result in release of food.

at 8:45 A.M all gulls left one area and reformed on another bar

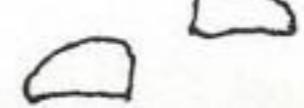


9:05 A.M bold eagle flew S, and all gulls left, formed compact circular moving group for 2 minutes, then reformed as a group. 
2 northwestern crows harassed eagle.

Observed one abalone shell in bay near east side.



Two outermost rocks in bay are shaped thus:



Course
eagle
flight.

at nw side False Bay met Mr. John Lang, a property owner (378-4234 until Oct 31), Mary Harvey own nearly all property in area. Mr. Gene Hadnel 378 - 4282 who is president of community of homes reports: Margaret Lakey owns property to S and wants to sell. Tsunami wave to 3' of house. Spray from ocean over all area and house ^{and} back beyond for some distance, hard on plants. Winter can be dreary, cloudy. May-June rain, rest summer dry & cool. Kelp thinned out by winter storms.

watch a spike buck and doe cross False Bay at low tide from S to N at middle of bay. They fed in open areas on N side.

False Bay, San Juan Island, San Juan Co., Washington.

Sept. 26, 1984

Cloudy, no sun, bay calm. Temp 54°F min., no gulls in by at night but by 7:40 A.M. gull moving in to supplement 150 already in area. As tide ebbs gull move waterward, as tide flows gull move progressively landward.

9:15 A.M. Osprey crossed bay from NE to SW at approx 200' high. All gulls left resting feeding areas and circled in compact group, then returned to same areas. Osprey captured 12" fish near outer edge (W) bay and flew NE to conifer trees at edge of bay. On return with fish it flew 30' above gull but the gulls did not react to the osprey.

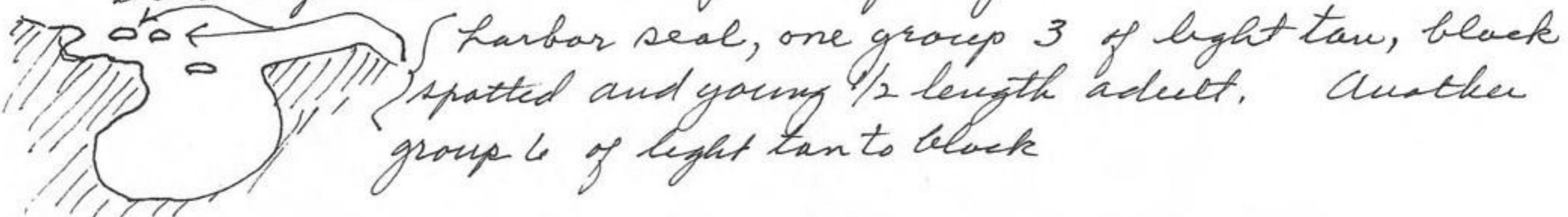
Watched gulls consume small live whole crabs about 1 1/2" in diameter, one pulled legs off first.

Measured a mass of 23 stands of kelp ~~at~~ at 20' diameter in bay SE corner. ^{1:00 P.M.} with axis, from first NW-SE. Widest from 8 1/2". Z5

Photo 840926-1 of bay (False Bay) from Barth just S of entrance creek at incoming tide. ^{1:00 P.M.} Boulders from glacial deposit. Photo vertical shadowing just the S edge of delta of creek. This can be compared in the future for development of delta.

Bonaparte gull picks insects and food on surface of water or soil, and moves back and forth with agility.

Coed eagle in tree at SW point of bay.



10:50 A.M. no sun yet. 2 Thamnophis snakes.

Left for Lopez Island. Between Friday Harbor and Orcas observed:

24 pigeon guillemots

3 great blue heron

68 Bonaparte gulls (one group of 42 birds generally distributed in one bay)

8 double-crested cormorants

2 belted kingfishers

4 arctic terns

32 gulls sp.?

12 horned grebes

4 common loons

6 new crows.

Arrived Lopez Island. Half way down island in open fields one flock of 126 common crows.

Informant at SW Swift Bay says winter northeasterly comes down bay and floods above tidal zone. Last year fish were blown onto road.

Checked Fishermans Bay, Jones Bay, Agate Beach, Hedge Bay, Alec Bay, Middle Bay, Hammett Lake and Spencer Spit.

At Fishermans Bay 180 scoters in one group all immatures and females except 4 males (surf scoters).

One mule deer at Spencer Spit State Park.

Spencer Spit State Park, Lopez Island, San Juan Co., Washington

Sept 27, 1984

min. 42°F. Beautiful day.

2 winter wren

1 ring-billed gull.

46 new gull

18 glaucous-winged gull

24 Bonaparte gull

12 killdeer

2 greater yellowlegs

1 pectoral sandpiper

6 great blue heron

1 pintail

1 western sandpiper

1 spotted sandpiper

Birds in area of spit:

2 kingfisher

3 hooded merganser

1 common loon

2 black scoter

54 surf scoter

8 white-winged scoter

8 arctic tern

12 horned grebe

2 western grebe

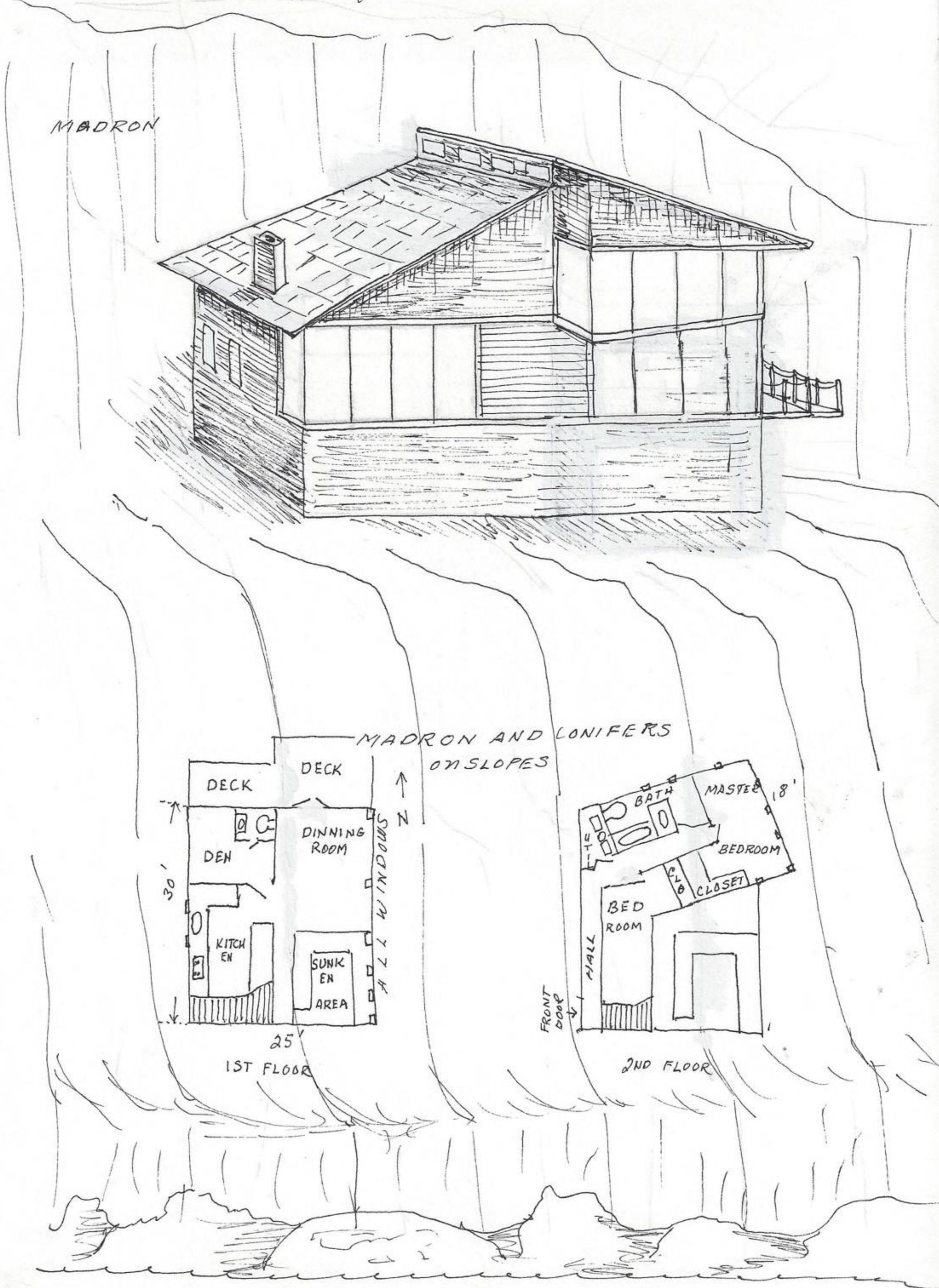
9 water pipit

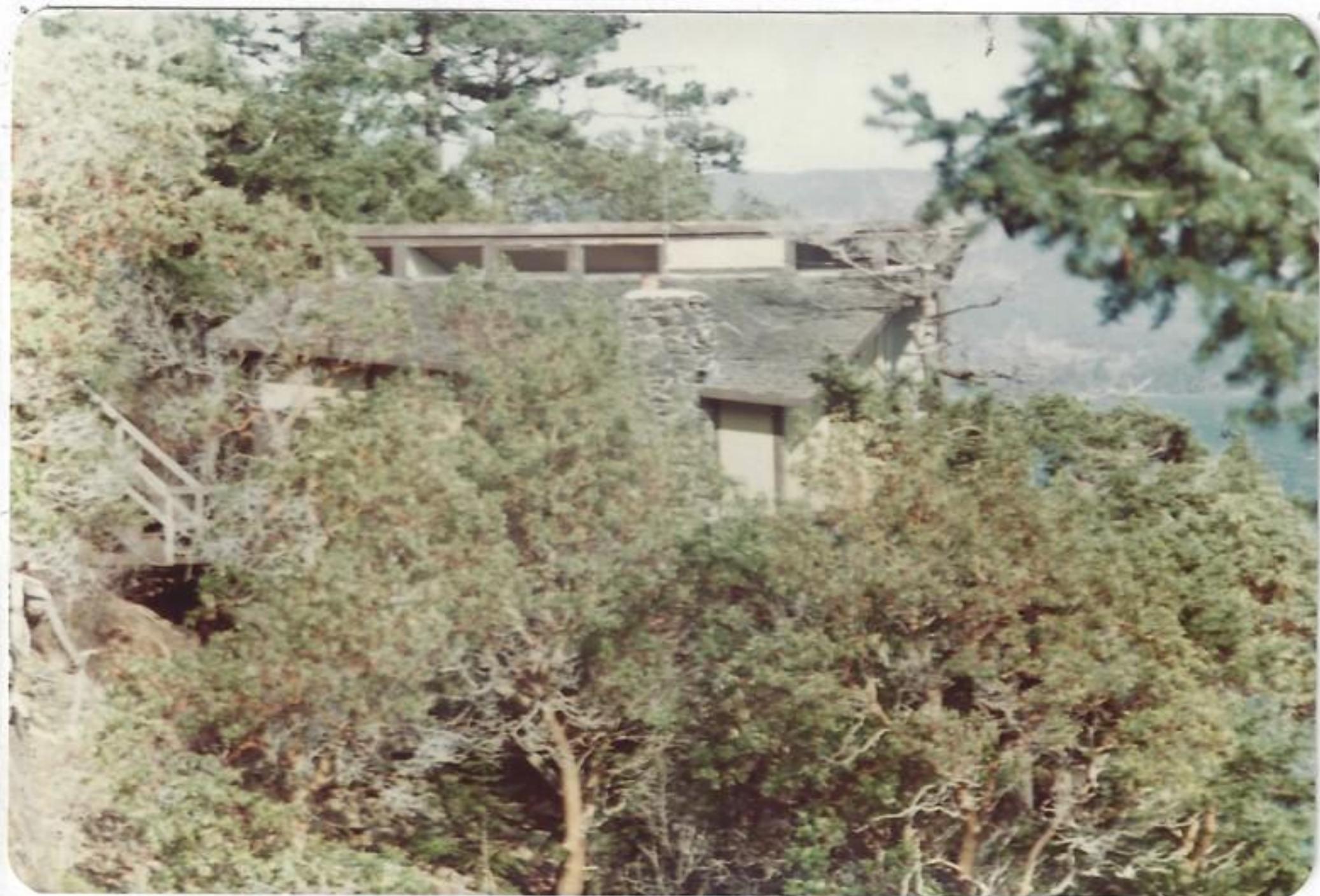
2 song sparrow

14 Northwestern crow.

1 mallard duck.

Humphrey Head, Lopez Island, San Juan Co., 840927-53
Washington.





House on Humphrey Head



From bedroom of house
on Humphrey Head.

LOPEZ ISLAND

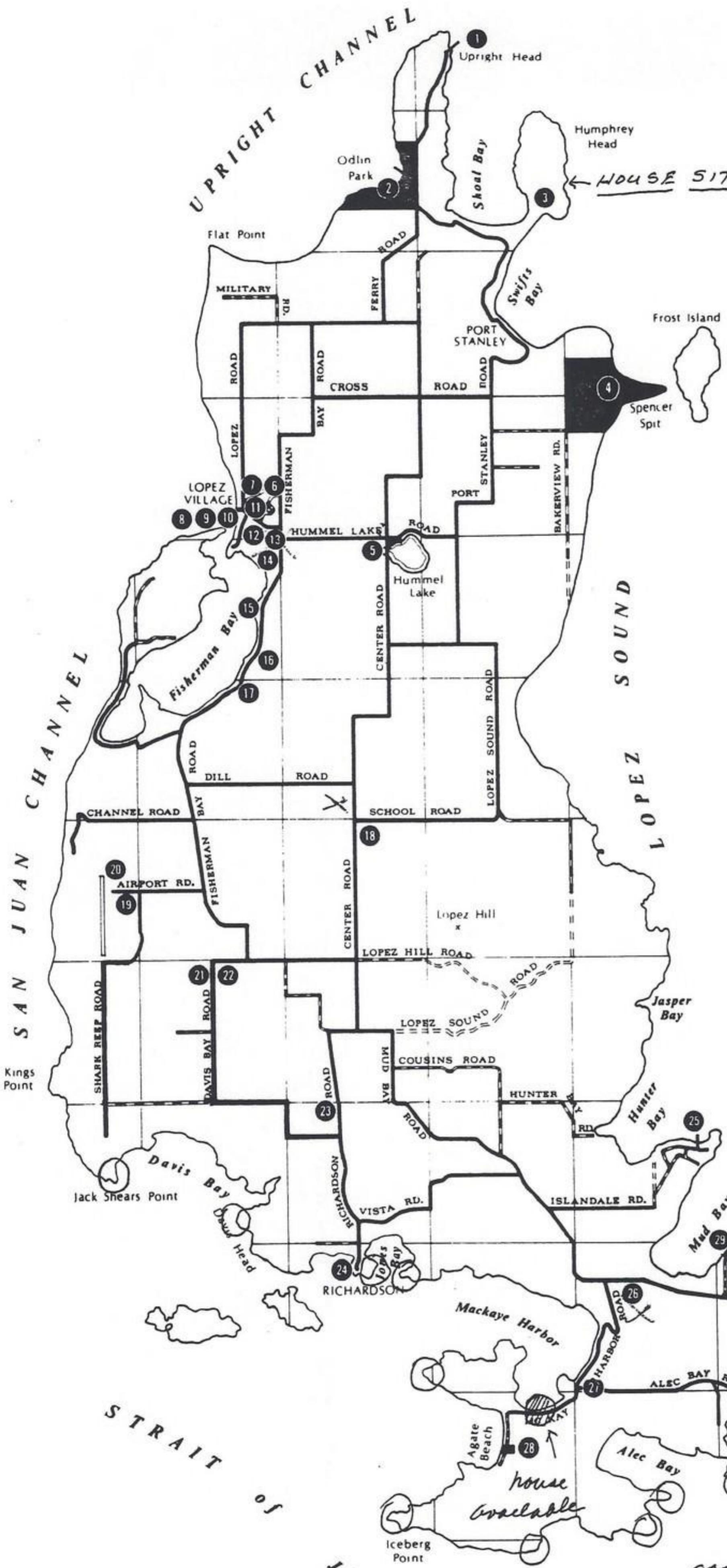
San Juan County Washington

0 $\frac{1}{2}$ 1 2
MILES

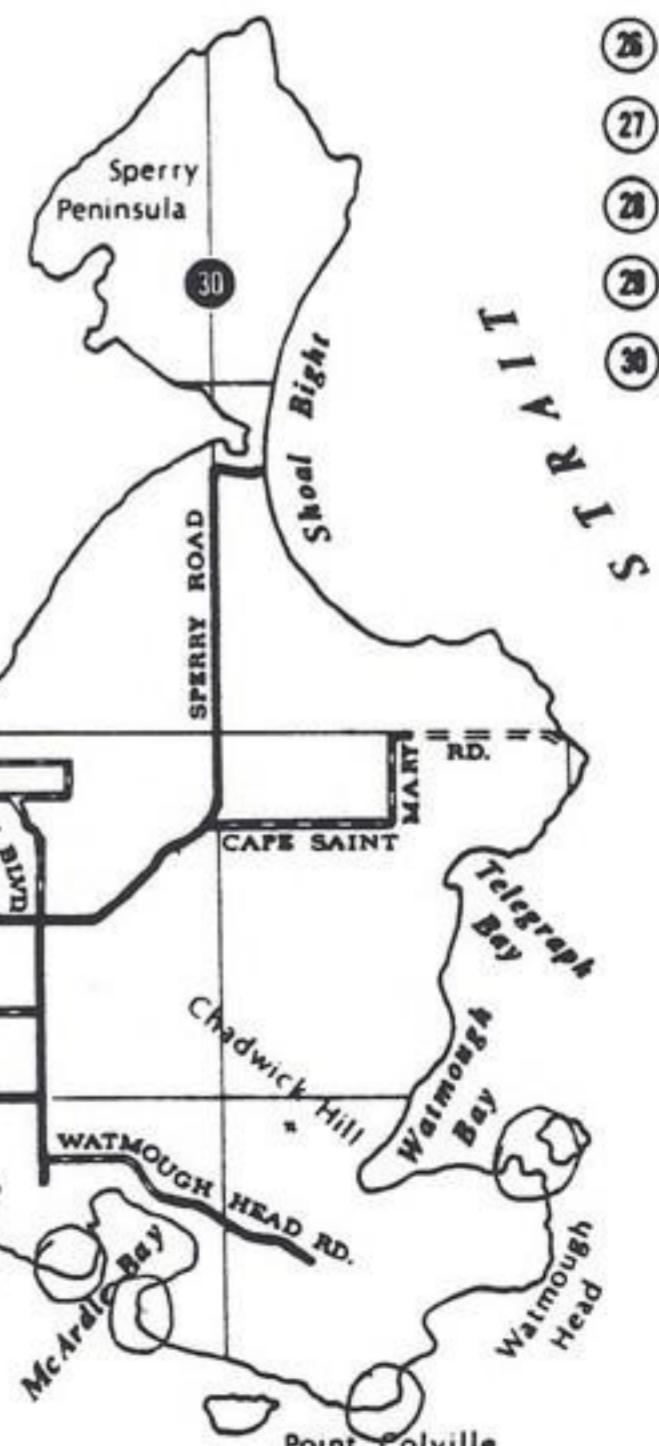
LOPEZ GARAGE

468-2228

Open Monday-Saturday 8:30-5:30



- (1) Ferry Landing
- (2) Odlin Park
- (3) Episcopal Church
- (4) Spencer Spit Park
- (5) Hummel Lake Access
- (6) Clinic
- (7) Bank
- (8) Museum
- (9) Post Office
- (10) Lopez Village Market
- (11) Island House
- (12) Community Church
- (13) Fire Station
- (14) Lopez Garage
- (15) Islander Lopez
- (16) Liquor Store
- (17) Galley Restaurant
- (18) School
- (19) Golf Club
- (20) Airport
- (21) Center Church
- (22) Cemetery
- (23) Grange Hall
- (24) Richardson Store
- (25) County Dock
- (26) Islandale Service
- (27) McKay Harbor Inn
- (28) Agate Beach Park
- (29) Mud Bay Park
- (30) Camp Nor'wester



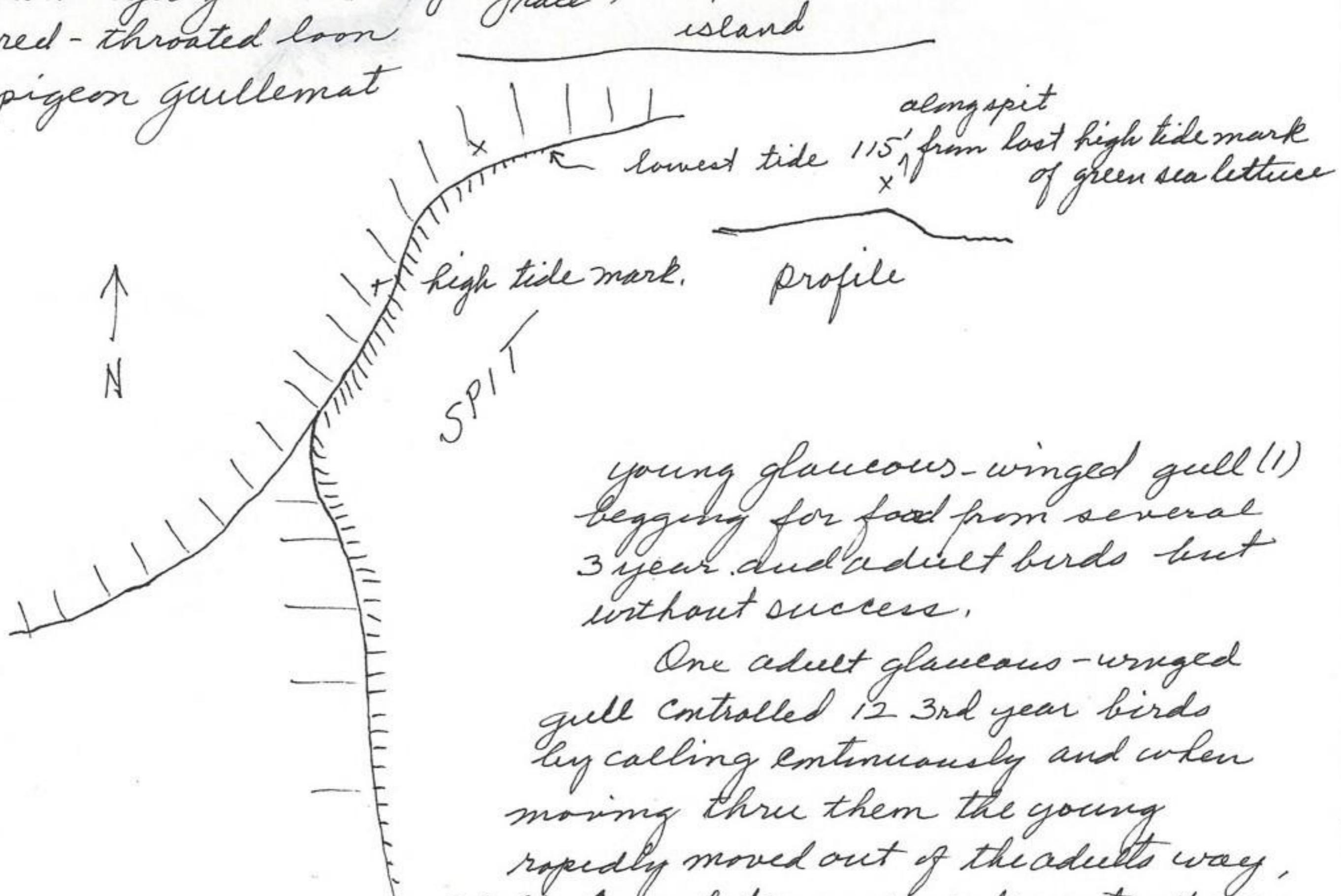
A good vantage points
for home site (all purchased)

2 dark-eyed juncos (oregon juncos)

4 red-throated loon

3 pigeon guillemat

island



young glaucous-winged gull (1)
begging for food from several
3 year. and adult birds but
without success.

One adult glaucous-winged
gull controlled 12 3rd year birds
by calling continuously and when
moving thru them the young
rapidly moved out of the adults way,
adult always between group of immatures & me.

A shark 2' long moved E across submerged spit and
back again.

At 11:45 tide still flood but just about slack. At
11:50 A.M. marked shadow of roof joist of cabin for slack period
De joist beginning of slack period
← shadow This P.M. checked property on
Humphrey Head (lot 15). See page
840927-53 to 840927-58.

Lopez Island.

Spencer Spit State Park, San Juan Co., Wyoming.
Sept 28 1984

min temp 44°F.

checked spit this A.M.

Calf. gull adult yellow legs, young greenish-grey, with less difference
between 1st, 2nd, 3rd year young than between adult with pure white
head and young. large white spots, 3 show.



In new gull primaries

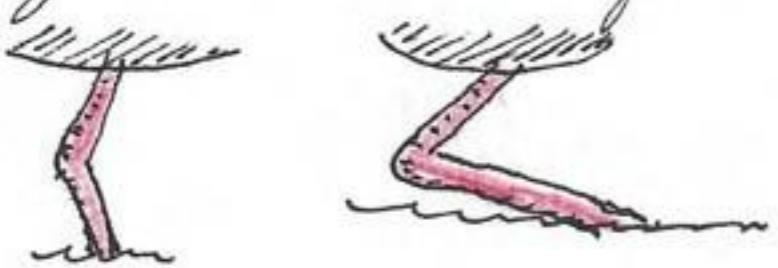


small white dots

Bonaparte gulls with legs from bright red to faded red.
new gull legs adults with same degree of yellow.

Bonaparte gulls treads mud in water near ankle deep at the rate of

of 6 treads per second (treads are by alternate feet so one tread is for each foot movement). As the treading continues for 3-6 seconds the birds move backwards 3 to 5 inches picking up insects or organisms at a rate of 1 organisms per 3 seconds to 3 organisms per 1 second. One bird formed a hole in mud above water level but at the edge of water to about $\frac{1}{2}$ inches deep from concentrated movement in one area and then treaded the bank of the hole the entire circumference and broke the bank down into the hole. The legs are bent forward at the ankle when treading thus:



Picking up insects is done with great agility.

Observed 1 pectoral sandpiper, 1 least sandpiper, 5 short-billed dowitcher and 1 red-throated loon, each except pectoral to be added to the list of birds observed yesterday. The birds observed yesterday were also observed this A.M. Sailer came ashore and has sailed open seas and elsewhere and made the statement the a boat 32' is optimum for ease of navigation and maneuvering. Larger boats carry large heavy sails. He also said that he would not sail an American boat on open seas as they are not heavily enough constructed.

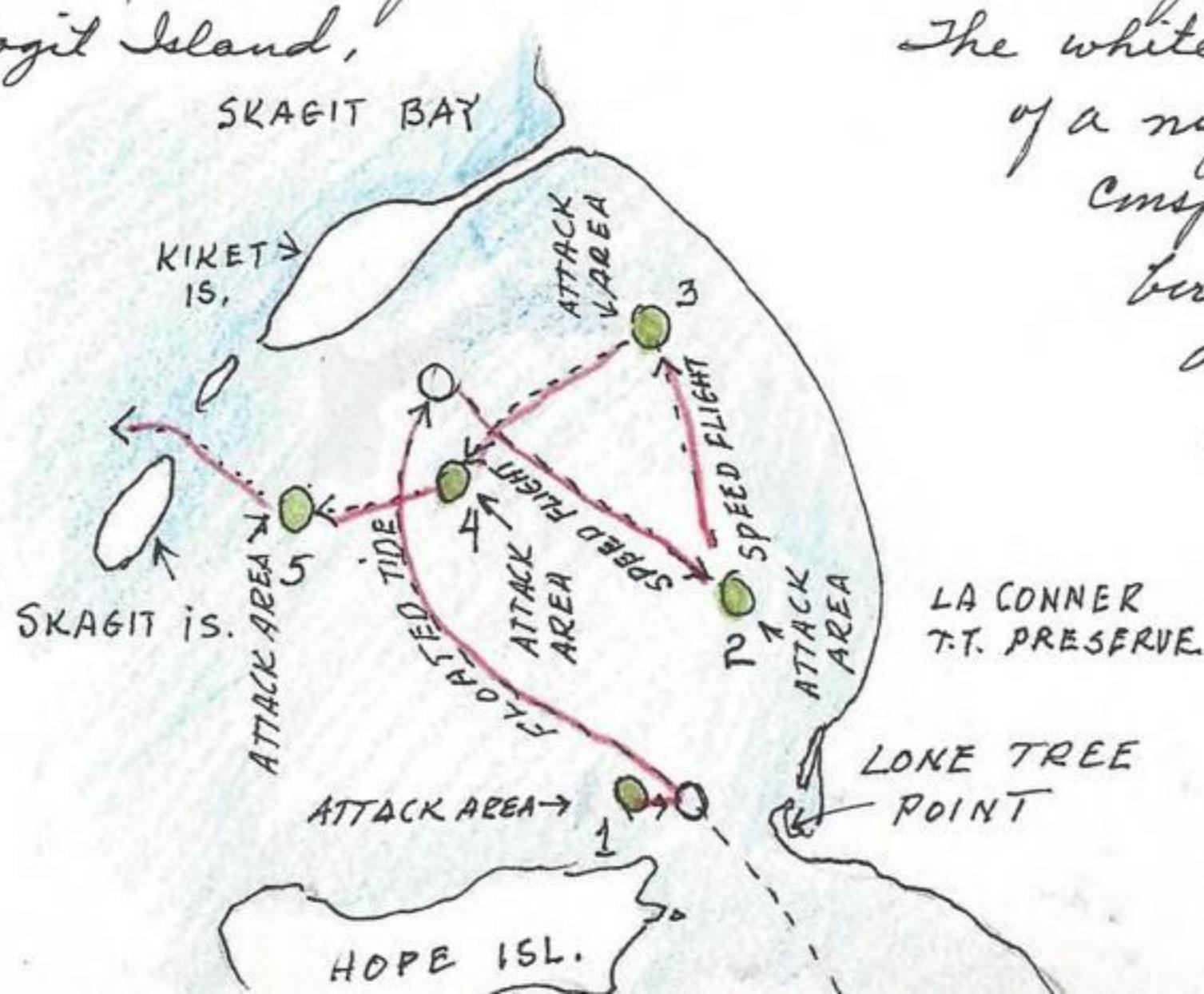
at Anacortes met Mr. Harvey Buffum, 5003 Kings Way, Skyline, 293-6227 (marine at Skyline community). He said climate a factor in moving from Mercer Island in Seattle. Homes on top of island are polluting homes below for sewage. Takes 2 years sailing to handle SE Alaska waters. 3 months in summer are best for visiting Alaska. 32' boat big enough for live-aboard, large sailboats are too difficult to handle for 2 people. Skyline marine closest point in Washington to San Juan Islands. His home is 5 minute walk to his boat.

La Conner's Preserve, T.T., Skagit Co., Washington.
Sept. 30, 1984

min temp. 48°F. First cool wind from the S. From Lone Pine Point observed a South Polar Skua, Catharacta maccormicki at 9:00 A.M. Incoming tide with flood NW past point. The skua was first observed chasing arctic terns (group of 8 hunting help birds) 5 of point. The skua pursued 5 terns one at a time with superior maneuvering for about 25 seconds each, following in incredible speed and close pursuit but in no case made actual contact with the tern. The same close chase

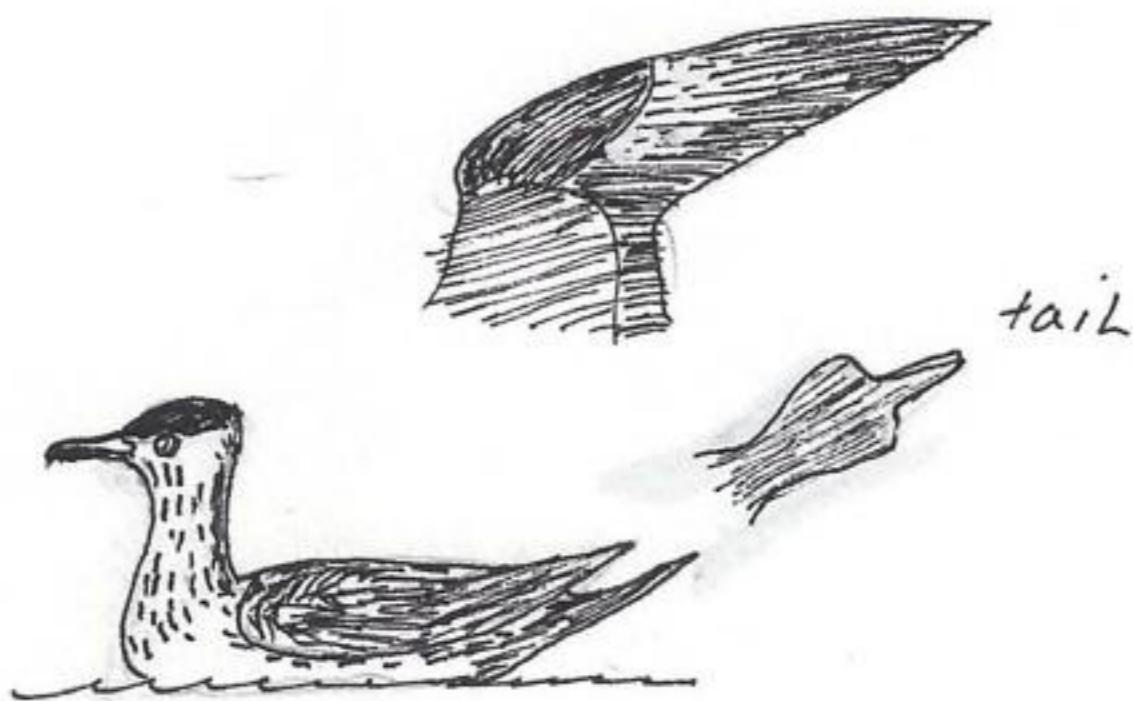
of the other 4 terns followed in similar attack and technique.
^{area}
 The display occurred from water level to about 100' high.
 After the last attack of number 5 it alighted on water
 and rode approx. $\frac{7}{10}$ miles on the incoming tide from point
 NW to middle of bay in a period of approx. 10 minutes, generally
 facing incoming tide. Will riding the tide it passed
 14 western grebes, 3 glaucous-winged gulls and a dozen
 scoters (surf and white-winged). After resting for 10 minutes
 on this tide it left and flew 1 foot above water to E for
 $\frac{1}{10}$ mi., gaining speed by forceful power to its wing
 beats and finally entered a group of 9 arctic tern
 fishing in E bay N of Lone Tree Point. 3 of these tern were
 vigorously attacked, one at a time. One tern flew upward
 for 150 ft where it had difficulty outmaneuvering the skua.
 Many times there was almost contact. After the 3rd
 tern it again settled on the water. A glaucous-wing and
 2 cormorants came within 10' of the skua without apparent
 concern of the skua. After 10 minutes of rest it attacked
 another group of ^{arctic} tern $\frac{1}{10}$ mi. to N where it again gain
 speed just above water until it attacked the arctic terns
 in an upward sweep. It then alighted on water for approx.
 10 minutes rest. The pursuit of the terns involves considerable
 energy and highly concentrated for the 3-5 continuous attacks.
 The 4th pursuit was initiated by a pigeon hawk that arrived
 and started to harass the skua who in turn responded
 with a counterattack that drove the pigeon hawk away.
 The 5th attacked was similar to the other pursuit of arctic
 terns but in this group of terns one dove down at the skua
 and come within 3' of the skua after which the skua gave
 a 3 or 4 second pursuit. The skua finally flew W around
 Skagit Island.

The white in wing suggests the pattern
 of a night hawk and is a
 conspicuous white. Otherwise
 bird dark. In certain light
 and at a distance there
 is a reddish brown
 on anterior part of bird.
 The flight is powerful and
 sustained for the period
 of 1 1/2 to 2 1/2 minutes, then
 a rest period of approx 10"



Later this day observed a Pomarine jaeger in same area, also in east bay SE of Lone Tree Point. The differences between the

GRADED WHITE IN WING

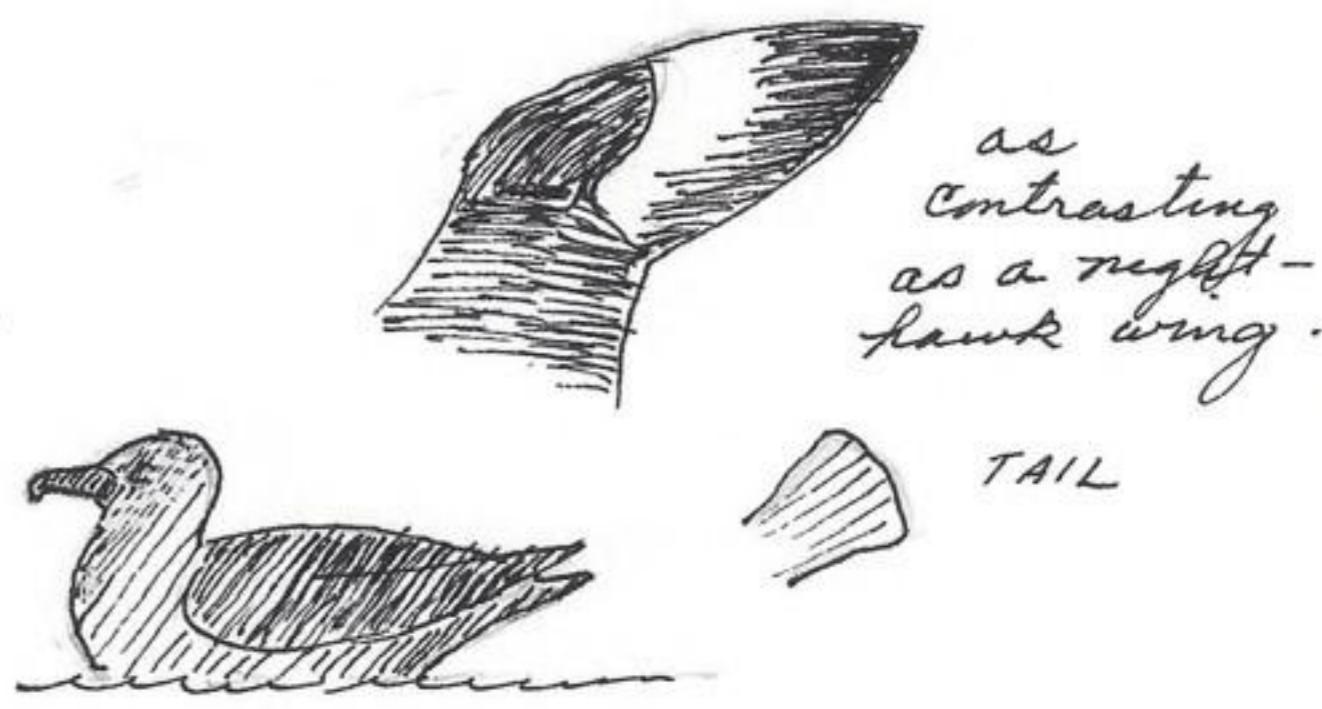


POMARINE JAEGER

UPRIGHT NECK

LONG BODY

CONTRAST WHITE IN WING



SOUTH POLAR SKUA

CONTRACTED NECK

SHORT BODY

skua and jaeger is as above. The action of harassing terns and Bonaparte gulls is similar, especially in pursuit of arctic terns. Photos 840930-1 head Telegraph Bight, 840930-2 beach at some 840930-3 building site, first knoll E (right) of white home on point.

La Conner Preserve, T.T., San Juan Co., Washington.
Oct 1, 1984

At Lone Tree Point observed 105 Bonaparte gulls in group just north of Hope Island. Also 28 western grebes in bay to W & N and 1 pied billed grebe. Went to Anacortes and last segment of fireplace pipe welded. Photo 841001-1 sunset of Indian house on Lone Tree Point.

Oct 2, 1984

New yellowish-green foam on water and passing W on incoming tide. This foam may have been produced from yesterday's morning wind. Visited Bellingham which is overgrown and highly polluted as far as air is concerned. I would not consider living here. At La Conner Preserve observed another Pomarine jaeger. It harassed arctic tern and Bonaparte gull. In both grey single birds darted down at the jaeger.

Oct 3, 1984

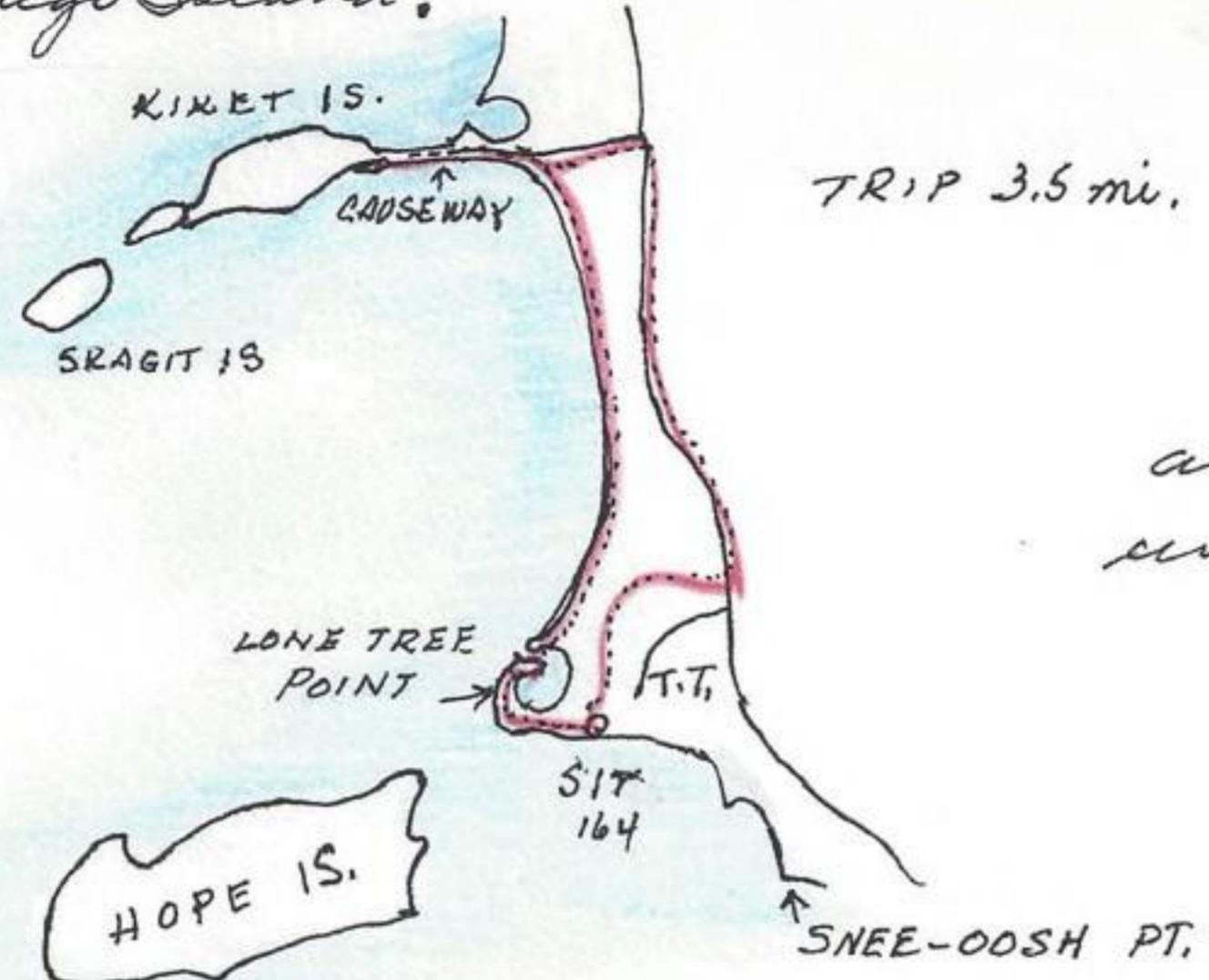
Heard a call last night on beach. It called as if being preyed upon with descending vocalization. The call was like a great blue heron but much higher in pitch. This A.M fog 60° to 10:30 A.M. This morning between 10:30 and 2:00 made trip along beach from camp (164) on S side of T.T. to causeway connecting Kikut Island

Presented to assistant manager TT,
La Conner Preserve [INSERT] 841003-63
addenda to list of birds of La Conner Preserve, T.T.,
Skagit Co., Washington for the period October 1 to October 4,
1984 by James A Bee, museum natural history, University
of Kansas, Lawrence, Kansas, (numbers are average per day).
(see list of Sept 9 to Sept 16, 1984 for first list)

1	pigeon hawk	<i>Falco columbarius</i>
1	black-oystercatcher.	<i>Haematopus bachmani</i>
1	least sandpiper	<i>Calidris minutilla</i>
4	black-bellied plover	<i>Pluvialis squatarola</i>
1	pectoral sandpiper	<i>Calidris melanotos</i>
2	rufous towhee	<i>Pipilo erythrrophthalmus</i>
6	pine siskin	<i>Carduelis pinus</i>
*	1 fox sparrow	<i>Passerella iliaca</i>
8	song sparrow	<i>melospiza melodia</i>
*	1 golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
*	1 brown-headed cowbird	<i>Molothrus ater</i>
*	1 Brewer's blackbird	<i>Euphagus cyanocephalus</i>
*	1 Townsend warbler	<i>Dendroica townsendi</i>
*	1 yellow-rumped warbler (Audubon warbler, race)	<i>Dendroica coronata</i>
*	1 golden-crowned Kinglet	<i>Regulus satrapa</i>
*	1 ruby-crowned Kinglet	<i>Regulus calendula</i>
*	1 chestnut-backed chickadee	<i>Parus rufescens</i>
2	Common raven	<i>Corvus corax</i>
*	1 pileated woodpecker	<i>Dryocopus pileatus</i>
3	Pomarine jaeger	<i>Stercorarius pomarinus</i>
*	1 downy woodpecker	<i>Picoides pubescens</i>
*	1 black turnstone	<i>Arenaria melanocephala</i>
*	1 water pipit	<i>Anthus spinoletta</i>
*	1 pelagic cormorant	<i>Phalacrocorax pelagicus</i>
1	South polar skua	<i>Catharacta maccormicki</i>
1	Harlequin duck	<i>Histrionicus histrionicus</i>
120	snow geese	<i>Chen caerulescens</i>

These are birds not included in the first list but observed at this latter date.

and Fidalgo Island.



TRIP 3.5 mi.

Enroute observed considerable modification of shoreline. Cement barrier with level bases hold water and seaweeds and debris and cause stagnation and unsightly areas

Best method is to slope base of wall so that debris will slide off and keep slope dry and free of wet accumulation. Access is from paved road to beach to simple wooden stairways. Evidence of sewage leaks along route. Grass and yard trash is being dumped over bank so that high tide will carry it off. One owner of home had cut several logs with chain saw and approx 3 bushel baskets of sawdust lined and covered the beach, another form of pollution. Shorelines should be controlled as to how they are modified. Dumping of foreign rock along bank for wave protection produced a ^{rock} modified, beach composition in contrast to natural beach materials.

Early this morning (8:30 A.M.), two great blue herons performed on edge of beach. When approaching each other (30') they extended their wings and walked around their particular area. The wing spreading was in proportion to the distance they were apart. This behaviorism lasted about 20 minutes. Sometimes one would leave area as if flying away but in each case they would flight hop to another position in the water 3-8 feet away in which they would again extend their wings. Could outstretched wing when fishing be a defensive position rather than creating a shadow in which fish are attracted.

La Conner Preserve, T.T., Skagit Co., Washington
Oct 4, 1984

High wind all night, min. temp 54°F. White caps this A.M. and rip-tide waves at slack tide (low) producing an area of nearly all white caps. One Pomarine jaeger flew with wind at an estimated speed of 40 MPH. One northwestern crow was sailing with wind and dropped food but before it could stop he over-

at it stop by 60'

There are fewer tern and Gulls in area this A.M. Also fewer of the smaller grebes. This afternoon drove to Bellingham and return. Highly polluted with visibility $\frac{1}{2}$ to $\frac{1}{4}$ mi. Returned to La Conner Preserve.

~~La Conner Preserve, Thousand Trails, Skagit Co., Washington~~

Oct 5, 1984

Rain last night. noted approx 65 pine siskin fly by in a very close formation as they climbed up our conifer trees

Observed differences in habits of:

double-crested cormorant. Bill held up while feeding.

Always vigorously feeding coming to surface for only 6-10 seconds before diving again. More forcefull dive.

Common loon! Head held forward and frequently with bill and half of head underwater while moving forward, white horizontal ring of neck vertical when head & bill in such position.

Dives from low

body profile and

without momentum thrust forward. Surfaces for longer period of time than cormorant or red-necked loon or red-necked loon. If a fish is captured may remain on surface for 10-20 minutes.

Red-necked grebe: bill straight forward, longer neck than loon. Front view of head like western grebe. Partly submerges before dive. Big bill differentiates from horned grebe & also has darker neck.

Left La Conner's Preserve and drove to Chris & Steve's place in Skyway S of Seattle. Had dinner with Mary and John Kenagy, Chris & Steve & Matthew.

~~10814 55 S., Seattle, Washington~~

Oct 6, 1984

Had breakfast with Chris, Steve, Mary & John Kenagy. Left and drove to NE Lost Lake, Snohomish Co., Washington. Photos 841006-1 Birth, 841006-2 George, 841006-3 interior of Birth

~~21231 Edist Lake Rd, Snohomish Co., Washington~~

Oct 7, 1984

Birds observed on property of Chris & Steve Kenagy NE of Lost Lake;

(rained last night, min temp 54°F, cloudy and occasional rain this A.M.)

- 2 common flicker (red-shafted race), E side property
- 2 rufous towhee, E side
- 6 golden-crowned kinglet, N side
- 23 evening grosbeak, E side, one group.
- 3 song sparrow E, S, N sides
- 2 Steller jay, E side
- 4 robin N side
- 130 American crow, flew over property.
- 3 ruffed grouse, E side, one drummed from 5 to 6:30 P.M.
- 2 Bewick wren, N side.

At Lost Lake noted 3 hooded merganser. They showed same behavior of moving forward with bill and part of head under water.

At 7:30 P.M. heard a coyote call several times. This evening set 50 museum special traps in ^(cedar, maple,) deciduous-conifer community mainly at bases of cedar, Douglas fir, & hemlock. Skies clearing to W and we may have clear weather tonight.

21231 East Lost Lake Rd Snohomish Co., Washington

Oct 7, 1984

From trap line of 50 traps set in second growth conifers and deciduous trees on Chris & Steve Kenagy property caught the following:

<u>841007-1</u>	<i>Peromyscus maniculatus</i>	196-105-21-17-20-	♂ testis 9 mm
<u>841007-2</u>	"	176-90-20-17-15	gm. ♀ ut. normal
<u>841007-3</u>	"	173-73-22-17-22	gms. ♂ testis 8 mm
<u>841007-4</u>	"	186-95-20-17-17	gms. ♀ 4x3 plo. scars
<u>841007-5</u>	"	190-93-21-18-21	gms. ♀ ut. normal
<u>841007-6</u>	"	190-98-22-17-21	gms ♂ testis 4 mm
<u>841007-7</u>	"	180-86-12-17-18	gms ♂ testis 7 mm
<u>841007-8</u>	"	176-96-21-17-16	gms ♂ testis 2 mm
<u>841007-9</u>	"	169-85-21-17-14	gms ♂ testis 2 mm
<u>841007-10</u>	"	187-94-21-17-17	gms ♀ uterus enlarged
<u>841007-11</u>	"	174-82-20-18-16	gms. ♀ ut. normal
<u>841007-12</u>	"	163-85-22-16-16.2	gms. ♂ -
<u>841007-13</u>	"	180-92-21-17-18	gms. ♂ testis 4.5 mm
<u>841007-14</u>	"	180-90-22-17-17	gms. ♀ ut. normal
<u>841007-15</u>	"	148-73-21-17-14	gms ♂ testis 2 mm
<u>841007-15a (m only)</u>	"	180-90-21-17-14	gms. ♀

<u>841007-16</u>	<i>Peromyscus maniculatus</i>	164-90-21-17-13gms.	♀ ut. normal
<u>841007-17</u> (m.only)	"	"	158-80-21-17-12gms ♀ ut normal, m.
<u>841007-18</u>	"	"	168-85-22-17-14gms ♂ testis 2mm, M
<u>841007-19</u>	"	"	164-76-22-17-15gms ♂ testis 3mm, M
<u>841007-20</u>	"	"	162-83-22-17-11gms ♂ testis 3mm, M
<u>841007-21</u>	"	"	170-83-21-17-15gms ♀ ut. normal, m
<u>841007-22</u>	"	"	164-61-21-16-12gms ♂ testis 3mm, M
<u>841007-23</u>	"	"	175-86-22-17-13gms ♂ testis 3mm, M
<u>841007-24</u>	"	"	171-85-22-17-13gms ♂ testis 3mm, M
<u>841007-25</u>	"	"	165-80-21-17-16gms. ♂ testis 3mm, M
<u>841007-26</u>	"	"	167-80-21-17-13gms ♂ testis 4mm, M
<u>841007-27</u>	"	"	155-76-20-16-10gms. ♀ ut. normal, m.
<u>841007-28</u>	"	"	170-82-22-17-14gms ♀ ut. norm., m
<u>841007-29</u>	"	"	167-81-22-17-18gms ♀ ut. norm., m
<u>841007-30</u>	"	"	159-81-21-17-13gms ♀ ut norm., m

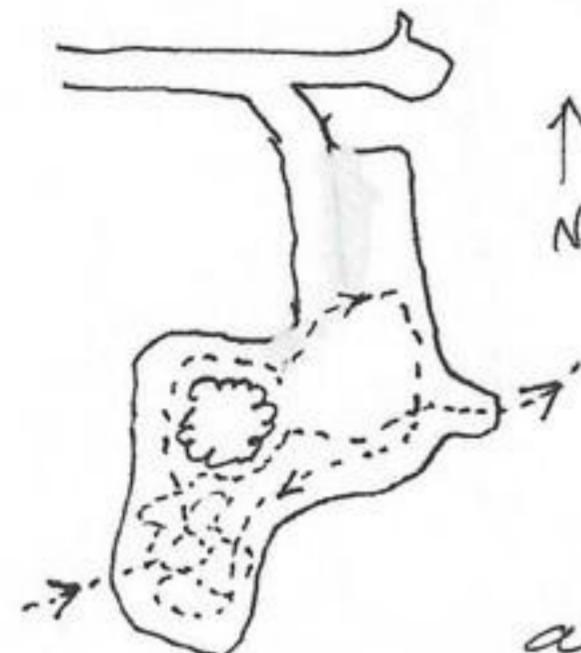
Of the 31 specimens 17 were males and 14 ♀♀.

21231, East Lost Lake Rd, Snohomish Co., Washington
Oct 8, 1984

<u>841008-1</u>	<i>Peromyscus maniculatus</i>	185-100-21-15-17gms	♂ testis 3mm
<u>841008-2</u>	"	"	182-95-22-18-15gms ♂ testis 3mm
<u>841008-3</u>	"	"	160-82-21-16-16gms ♂ testis 3mm
<u>841008-4</u>	"	"	173-89-21-16-13gms ♀ ut. normal
<u>841008-5</u>	"	"	160-80-20-16-13gms. ♂ testis 2mm
<u>841008-6</u>	"	"	178-93-22-17-16gms. ♂ testis 2mm
<u>841008-7</u>	"	"	190-90-22-18-22gms ♀ 4x4 plac. scars
<u>841008-8</u>	"	"	154-77-21-17-14gms ♀ ut. normal. M
<u>841008-9</u>	"	"	[102] [30] 20-15-11gms ♀ " " M
<u>841008-10</u>	"	"	[96] [4] 21-17-16gms. ♂ testis 7mm M

of the 10 specimens 6 were males and 4 were females. Total for two nights trapping is 41 mammals in 100 trap nights. 176 (148-196) T.L.
and 23 males and 18 ♀♀'s mm

also caught on trapline: Rough skinned newt, Taricha granulosa, rufous towhee and Bewick's wren. Approx 150 american crows flew S over area in a loose flock. measured prints of mule deer on property as 81, (72, 75), and (68-70) mm. Figures in parenthesis probably front and rear feet of one deer. movement of large deer outlined. There was considerable



trampling in S end of upper bench area as if sparing with the other two deer. The tracks around the brush pile were investigatory oriented, as if selectively feeding on certain of the trees that were doored. The tracks were the first ones observed since Oct 7, 1984. The week end activity of the nearby Lost Lake Community may have kept them from the area on the previous days.

Left this A.M for La Conner Preserve. Enroute noted considerable increase in autumn color especially reds & yellows.

La Conner Preserve, Thousand Trails, Skagit Co., Washington.
Oct 9, 1984

From site on W end Lone Tree area observed the following birds near shore W of Indian building on spit N of Lone Tree Point. They were there because of ^{protection from} high winds from the SE,

5 hooded mergansers (2 ♂♂'s and 3 ♀♀'s), tail up like ruddy duck
2+ western grebes mainly in groups

3 horned grebes

3 great blue herons, 2 of them in combat attitude.

13 baldpates 8 males, 5 females.

3 surf scoters

3 glaucous winged gulls

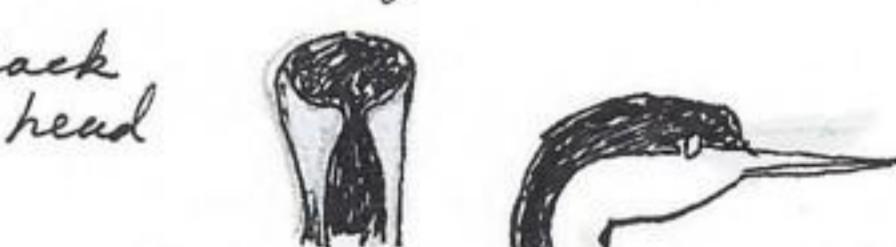
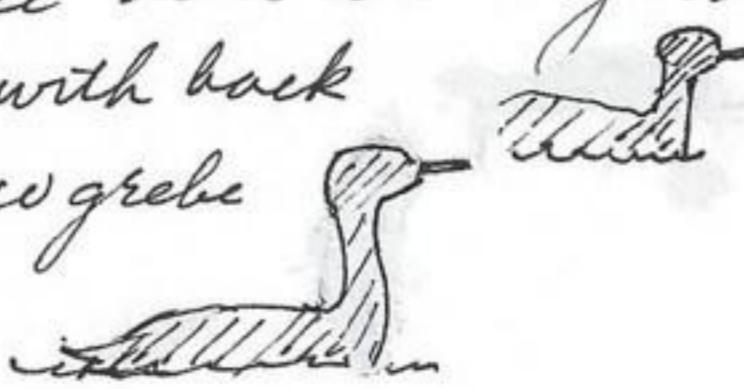
1 ring-billed gull

1 Bimpartis gull

1 Harlequin Duck.

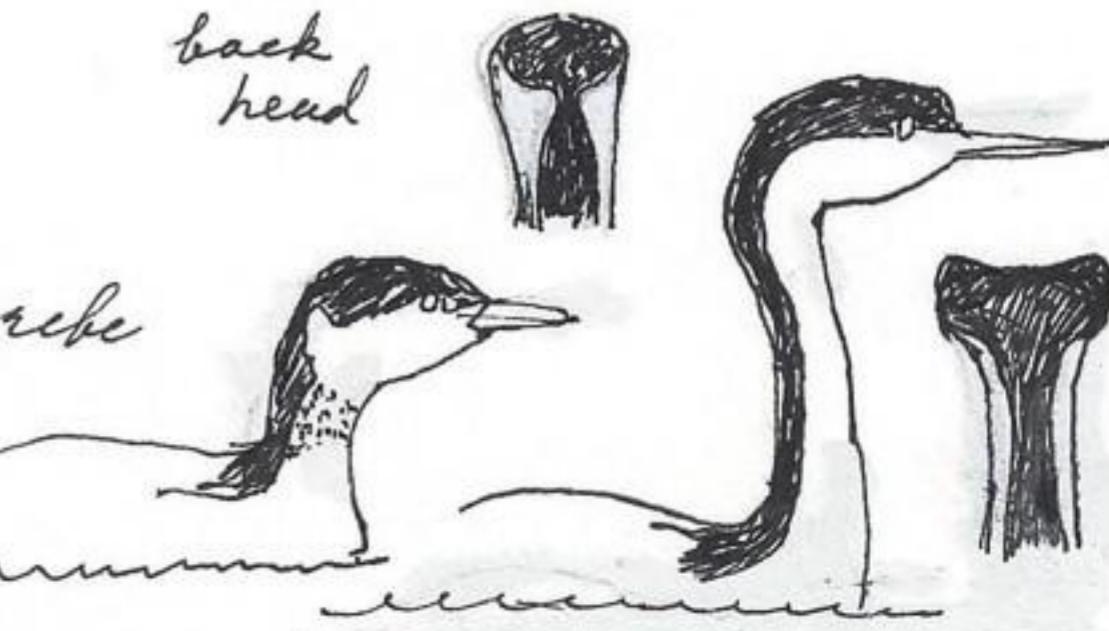
The difference between w grebe and horned grebe are:

1. head even with back in the horned grebe and extended neck in w grebe



2. black of head and neck in horned grebe

back of head and neck in
w. grebe

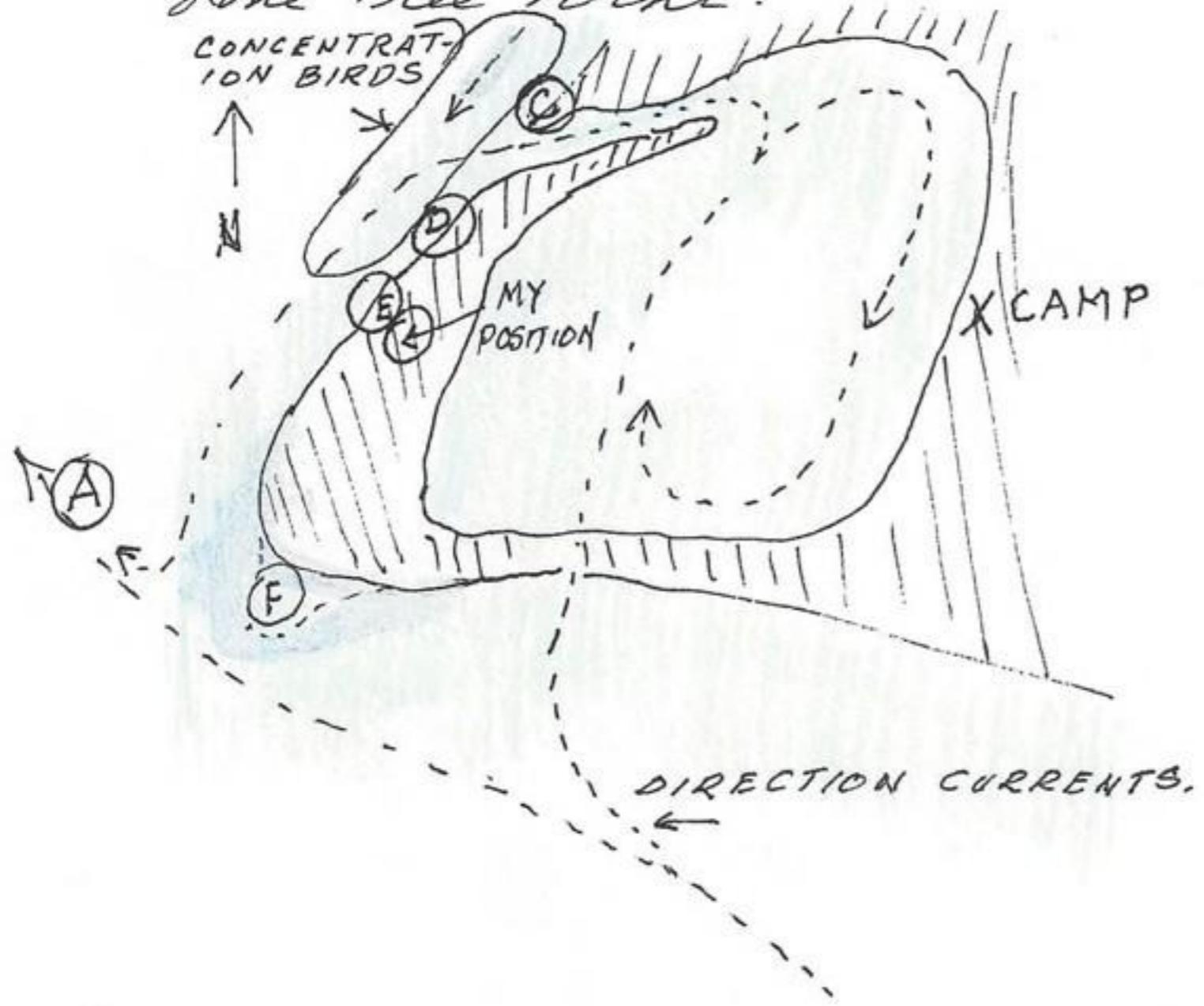


3. back of horned grebe dark, sides lighter to water level.
back of w grebe same to water level.

The red-necked grebe has heavier bill than w grebe or horned grebe and the body side is intermediate. The best field mark is the extensive darker neck and slight reddish cast,
Photo 841009-1 of fireplace in Barth. 841008-2 of chandelier in Barth
" 841009-3 thru roof insulation of fireplace pipe.

La Conner Preserve, T.T., Skagit Co., Washington
Oct. 10, 1984

Rain all last night, min temp. 54°F. 9 hooded mergansers and 1 western grebe feeding in bay E of Lone Tree Point.



These grebe and mergansers - as many as 8 western grebe, 8 hooded mergansers, 2 surf scoters and 2 horned grebes feed all day during the rain during both flood, ebb and slack periods.

Great blue heron spent hours inactive on beach or elsewhere.

At 8:00 P.M. approx 120 snow geese flew S over camp at La Conner Preserve. They called continuously and were flying approx. 400' high in V formation.

Hooded merganser more rapidly manipulate food in their mouth than other grebes or loon.

Oct 11, 1984

48 baldpate swam by. Like the western grebe they are frequently seen between tide contact marked A or map above when wind is from SE the grebes, scoters and loons move in to area B on map above (red) in lee of spit and shoreline. In this area counted 265 western grebes, 40 scoters (95% surf scoters) and the 48 baldpates noted above. The baldpates feed 2-10' from shore, the western grebe out 30-40' from shore.

Twenty two black oystercatchers flew into area C on map above, 8 of them bathed and preened while the rest fed out 20 or so feet in a loose flock, then they returned to C thence to D where they fed along shoreline to E in single line, thence to F.
(20' from me)

Their movement of plump bodies and extraordinary thick legs remind me of chicken legs. Their movement is also a chicken walk as well as their running movement. When they left they uttered a low soft peep. Occasionally a bird that had been preening itself would jump into the air and hover for 2-3 seconds and then alight again. When the oystercatchers alighted ^{on land} for the first time a ring-billed gull left the water nearby and alighted in the middle of the flock. The gull raised its head and called several times. One glaucous-winged gull displaced 2 oystercatchers, one oystercatcher reacted and displaced the gull.

3 water pipit fed on gravel bar above the oystercatchers.

10814 555. Seattle, Washington.
Oct. 12-17, 1984

At Chris & Steve's.

Left Chris and Steve's home. Chris drove her car and we drove the BARTH to Shelton where we checked the new mobile home to be installed on their new property near Lost Lake. Route 302 and 3 are exceptionally beautiful routes. Chris and Mathew left and drove to Bremerton to ferry back to Seattle, we in turn drove to Hood Canal Preserve arriving about 9:00 P.M. No deer or wildlife enroute. Camped in 15A.

Hood Canal Preserve, Thousand Trails Camp, Jefferson Co., Washington

Oct 19, 1984

Collected oysters along beach. Glaucous-winged gull, red-throated loon, horned grebe, western grebe, white-winged scoter, great blue heron, american robin, red-shafted flicker, rufous-sided towhee, winter wren, Bonaparte gull, common and northwestern crows.

In evening noted 33 robm on open grass cut field S of Camp.

Oct. 20, 1984

Collected oysters at low tide. There is no doubt that this is one of the greatest oyster beds in area. Best is to point W of Preserve near homestead light area. Bonaparte gull hover above water and look like white doves. Left for Port Townsend, via center road.

Hudson Point, Jefferson Co., Port Townsend, Washington

Oct. 21, 1984 Slack low tide 7:40 A.M.

From camp 100' N of entrance to harbor observed the following between 7:30 and 9:40 A.M. Foggy but visibility E across bay to island. Temp 45°F min. Sun backlitting clouds & fog.

35 glaucous winged gull	12 horned grebe
6 Bonaparte gull	
5 Harlequin duck	
2 black scoter	
15 white-winged scoter,	45 flew by
10 surf scoter	15 flew by
18 double crested cormorant	flew by
1 Hermann gull	
2 greater yellowlegs	
14 northwestern crow	
2 common crow	
8 red-breasted merganser,	flew by

Bonaparte gulls spent entire morning at and near entrance to marina.

Surf scoters fly low and in long line over water consistently

Harlequin ducks fly in groups and periodically up and down and while above water but can fly low like scoters.

Glaucous gulls⁴⁶ flew S last evening until late twilight. One fed on water at camp after dark.

Immature glaucous-winged gull begging for food from adult, northwestern crows drop object from approx. 30' high

Cats keep crows & gulls 10' away. A crow^(NW) or gull never attacks cats even though they are small kittens. Cats are wary of gulls & crows.

Adult glaucous-winged gull displaces immatures.

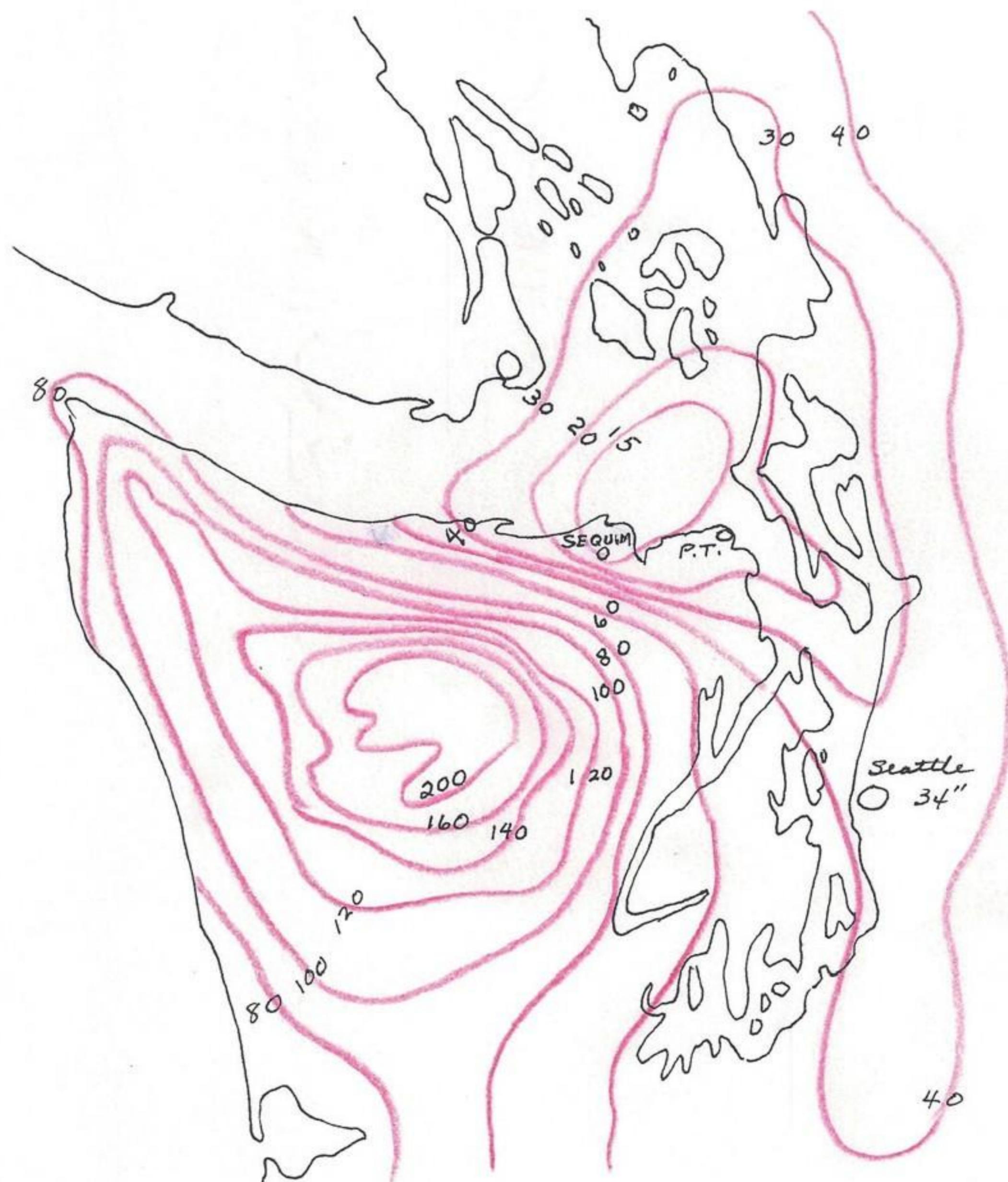
" " " " keep crows off 2 feet.

Imm. " " " " keep crows off 8-12" away.

An immature gl. w. gull (2nd year) fed on scraps of salmon (black-mouth) at skinning table. Would accept pectoral fins, dorsal fin where skin is attached but refused pelvic fins (double), and sold pink meat. Other gulls noted tamed at table would try everything.

Ling Cod is best tasting fish in sound. One can not tell difference between silver salmon and black-mouthed salmon except black mouth lining of black-mouthed salmon. Gray whale in sound E of Hudson Point a couple of weeks ago. Harbor seal common.

Storm - blocking effects of Olympic mountains.
as it relates to P. Townsend and elsewhere
in San Juan Islands.



Sequim has 15 and less precipitation whereas a short distance to SW the uppermost Olympic Mountains have over 200 inches of rain & snow. Port Townsend is between 15 & 20 isobars. Winds come off Olympic mts dry by the time they reach Sequim & to the NE. It is said that along the N end of Olympic Peninsula, precipitation increases 1 inch per mile from Sequim W.

Pleistocene Spit, 1 mi SW Dungeness Spit (base), Clallam Co., Washington

Oct. 22, 1984

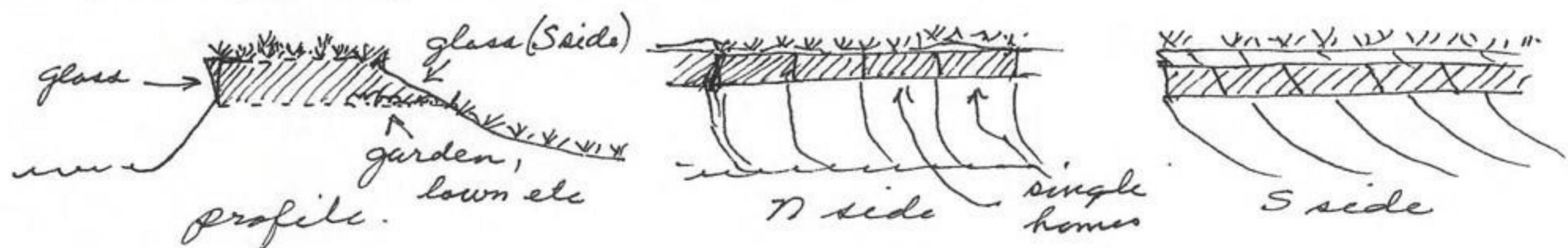
Camp on top spit. Min Temp 34°F. no wind, fog limited. Between sunup (behind clouds and 9:00 A.M. glaucous-winged gulls flew NE at approx. 50 per hour. 3 common loon flew NE at 60, 100, 200 feet above the water. At anyone time approx. 8 cormorants, 30 surf scoter and 20 white-wing scoters in view below out to 1 mi. Gulls easy to differentiate between imm of year, second year & adults. Groups mixed but it is possible to determine age group of gulls passing by.

In field and on ridge 2 marsh hawks hunted together, and occasionally performed aerial activity with one (always the same bird) diving and chasing the other. The true ability of these hawks in flight can be seen in these maneuvers.

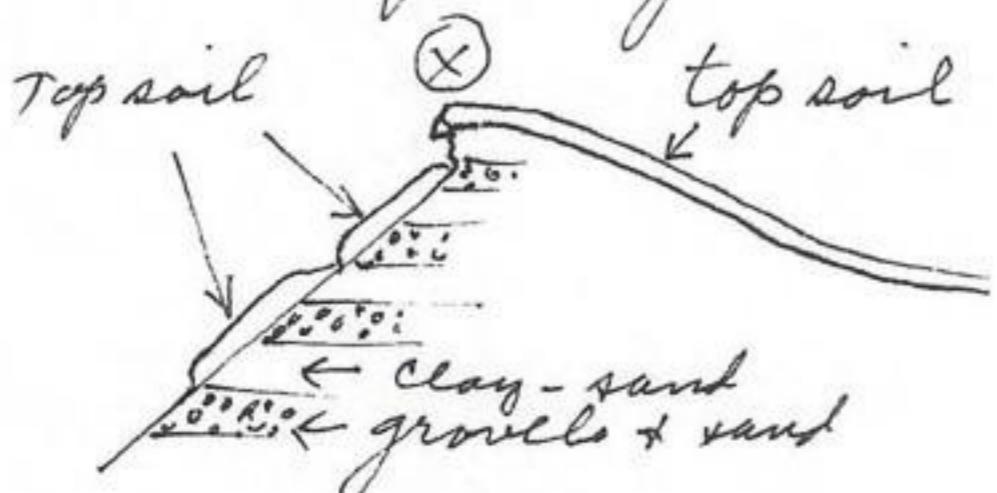
A short-eared owl hunted in same area up to 9:00 A.M. as did the marsh hawks. The two are compatible in using same territory.

A pigeon hawk hunted ridge on three occasions before 9:00 A.M. in same areas as the ⁽¹⁾Lapland longspur ^{and water sparrow (2)} inhabited. A song sparrow fed with longspur.

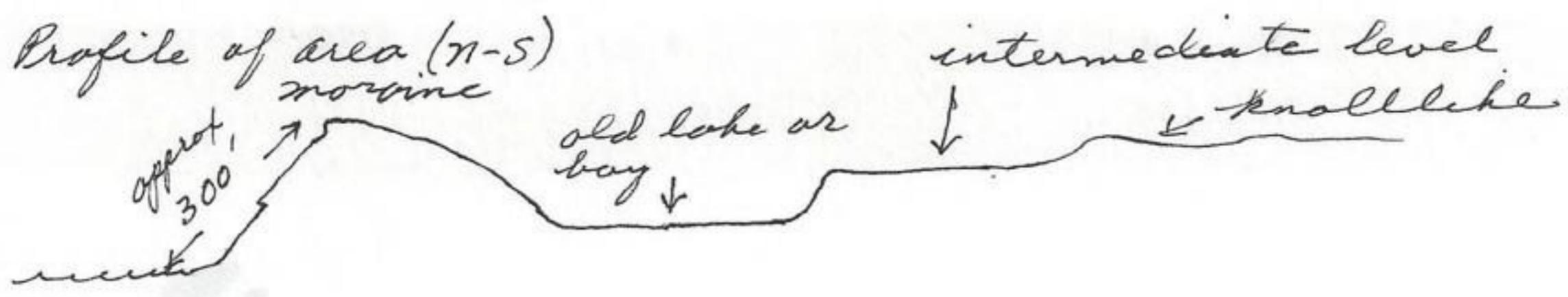
One red-tailed hawk observed in towland to S, a red-shafted flicker fed along outer edge of bank, ^{or moraine} This spit would be a good place to build homes as they are now being augmented. Actually this old spit and associated lower benchlands and ^{elevated} dry bays to S are worthy of preserving. Minimum use for building and least effect on area would be:



Beach held inviolate. Top of spit above homes could be used by public. One mile could house over 100 homes and each one with 100% privacy.



at the top of moraine ^(6' deep) X are roots of conifer? trees that are burnt, perhaps from trees that forested the moraine at one time.



Left camp and visited the Game Farm N of Segun. This area is like a retired home for famous movie animals and to some extent is a zoo but with one-to-one human-animal contact. The bears and canids, especially the wolves are outstanding. The Kodiak bears and black bears are in open fields with only electrical fence barriers. ~~Walls~~ and allows window of ear to be within 6' ~~of electric wire~~ of animal. One rarely has such contact with these large carnivores. Other animal unfree roaming areas will stick their heads into the ear if permitted. Fed buffalo, yak, deer, zebra etc by hand. Native birds observed (transient):

Canada goose
pintail duck
american coot
green-winged teal.
raven
crow.
glaucomus winged gull
California gull
ring-billed gull.
mallard.

Photos:

841122-1	zebra -	*	841122-10	Canada goose
841122-2	Gizzly bear		841122-11	white reindeer
841122-3	"		841122-12	civet
841122-4	"		841122-13	buffalo
841122-5	"		841122-14	"
841122-6	"			
841122-7	black bear			
841122-8	"			
841122-9	"			

approx. 25 raven used the area. one group of 12 circled high just outside area.

Continued to Port Angeles, thence to Heart-of-the-Hill camp grounds in Olympic National Park. From information recorded facts of mt. Angeles trails:

Lake Angeles Trail begins behind the ranger station at Heart o' the Hills and climbs 2,375' (3.5 mi) to Lake Angeles. Another 1,800' ^{1.5 mi} to the Klakshane Ridge: from this point descend 1,500' to the Switchback Trailhead on Hurricane Ridge Road and continue 3.6 mi up & down hill to Big Meadow and Hurricane Ridge Lodge or descend 4,200' in 6.4 miles to Heart o' the Hills via Heather Park or return 5.9 miles down to Heart o' the Hills Park via Lake Angeles.

Heather Park Trail, visible from Lake Angeles Trailhead

climbs 4200' in 6.4 mi to Klakhan Ridge. Once on ridge options are same as Lake Angeles Trail. Halfway Rock, a viewpoint at 2.2 miles & Heather Park, a meadow setting at 4.1 miles are along the way.

Heart O' the Hills Campground, Olympic National Park,
Washington.

Oct. 23 1984

noted checharee at camp. Raccoons at garbage can last night. Rain at least to noon. min. 34°F. Snow in Lake Angeles Lake basin.

Port Angeles, Clallam Co., Washington

Oct 24, 1984

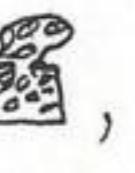
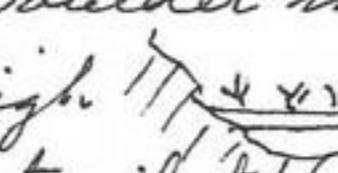
Camp at marina. Rain all night, min temp. 38°F. Clear to E this A.M.

Oct 25, 1984

Camped City Center Trailer Park. This P.M. to Hurricane Ridge, on way down hiked .05 mi switchback trail to convergence trail from W. No birds, 8-12" holes in slopes of hillside vegetation inhabited in summer by ground squirrels. Snow ^{upper part of trail.} Heart O' the Hills Campground, Olympic National Park, Washington

Oct 26, 1984

min temp 34°F. Rain all night, cleared this A.M.

Left 10:10 from Heather Park Trailhead. Sign says 4.2 miles to Heather Park, 10 to Hurricane Ridge. Plan to hike to Heather Park. Will list all birds & mammals. Checharee and robin at 10:35. At 10:50 a cement base of granite and other glacial rocks , some kind of marker but certainly out of place. Heard raven up trail. ^{12:00 first snow of last night} At 12:20 Varied Thrush. 12:30 creek at bend with large boulder in bed and a log bridge with hemlock sprouts 1 1/2 feet high  At 12:40 snowshoe tracks (rabbit)  12:50 Creek. 1:00 last E switchback before trail to Halfway Rock above. 1:50 2 Canada jay, one to 6' of me and sat on limb. At 2:45 by cove on right or west side of trail, a shallow overhang of large shelflike boulder, icicles on front. At this point returned to car. approx 100' down trail from rock cove. photos of serice area to E.

841026-1 To S of ridge and talus E of divide (E of Mt. Angeles.)

841026-2 Klakhan Ridge, N exposure

841026-3 Klakhan Ridge S of Lake Angeles

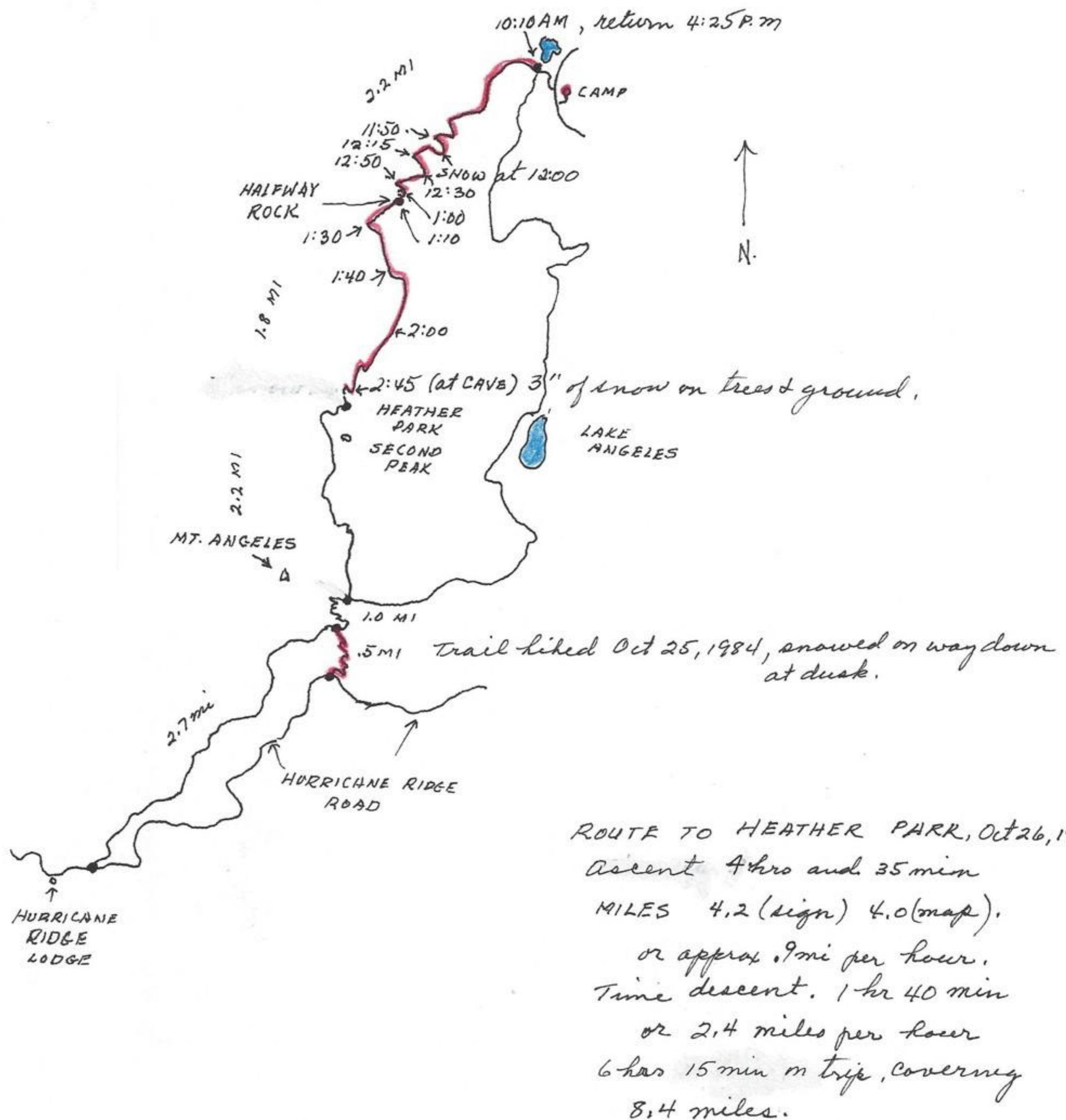
841026-4 N E of clouds over Straits of Juan de

841026-5 Klakhan ridge, N exposure above Lake Angeles.

841026-6 Along trail just before Heather Park after morning snow,

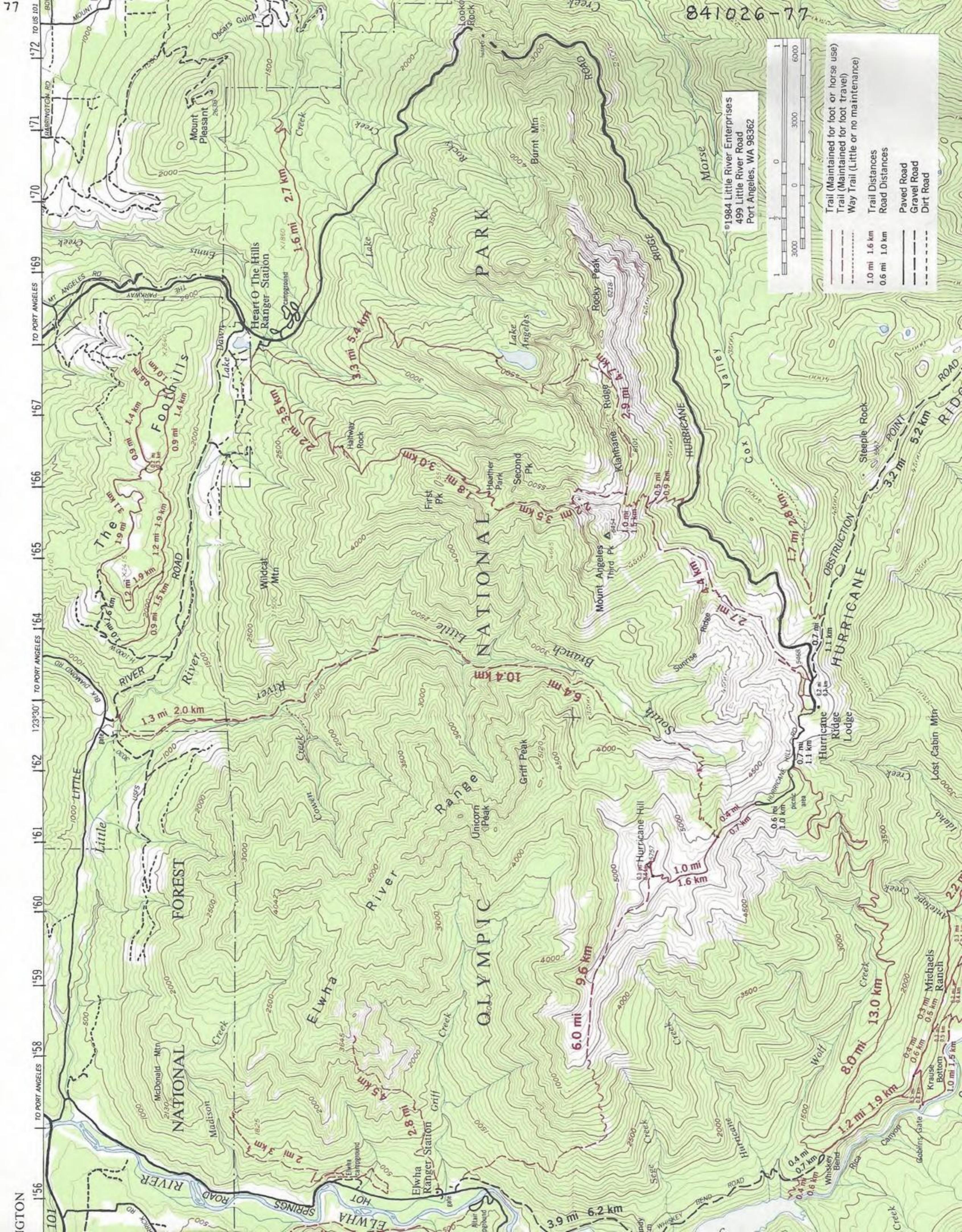
at turn around area, 3 sets checharee tracks and 2 of snowshoe. Observed 5 whitish moths in forests below solid snowline.

Old trees fall mostly in direction of N or down slope, however all directions were observed. Holes left by roots of fallen trees



were associated with the original tree which was in all stages of decay to just mounds of debris. After roots decay mound forms firm soils associated with roots. Some holes and mounds are not associated with trees so assume that down trees have been consumed by fire, thus leaving no evidence of decayed tree.

The diagram shows a cross-section of a tree's root system. It starts with a live tree, followed by a stage where a hole has formed in the soil, and finally a stage where the tree has decayed into a pile of debris. Arrows indicate the progression from live tree to hole to debris.



Snow of last night's rain started to appear as indicated on map. These were isolated areas among openings of forest canopy. Later these spots were evident and trees held snow only, then at about Halfway Rock the snow covered all trees and ground & trail. Depth increased to 3 inches at Heather Park area. This morning there was a half hour of hail-like snow. Forest floor mainly green at trailhead but became less & less as altitude increased. Yellow leaves contrasting on forest floor. Trail a carpet of soft conifer needles (a golden-brownish red).

at height of trip pulse 72. BP on return 130/76. Temp of air in 30's today. Icicles at higher elevations.

On return at point labelled 2:00 a deer entered trail for 20' and then left up slope. Imprint measured 73 mm.

KOA Camp E Port Angeles, Clallam Co., Washington.
Oct 27, 1984

2 photos of E side Second Peak and First Peak with Heather Park between. Trail runs below ridge between Heather Park & First Peak.
841027-1 mt. angles to right, Second Peak middle, First Peak right.
841027-2 Second Peak left & Heather Park center. Trail $\frac{1}{4}$ " below ridge on right.

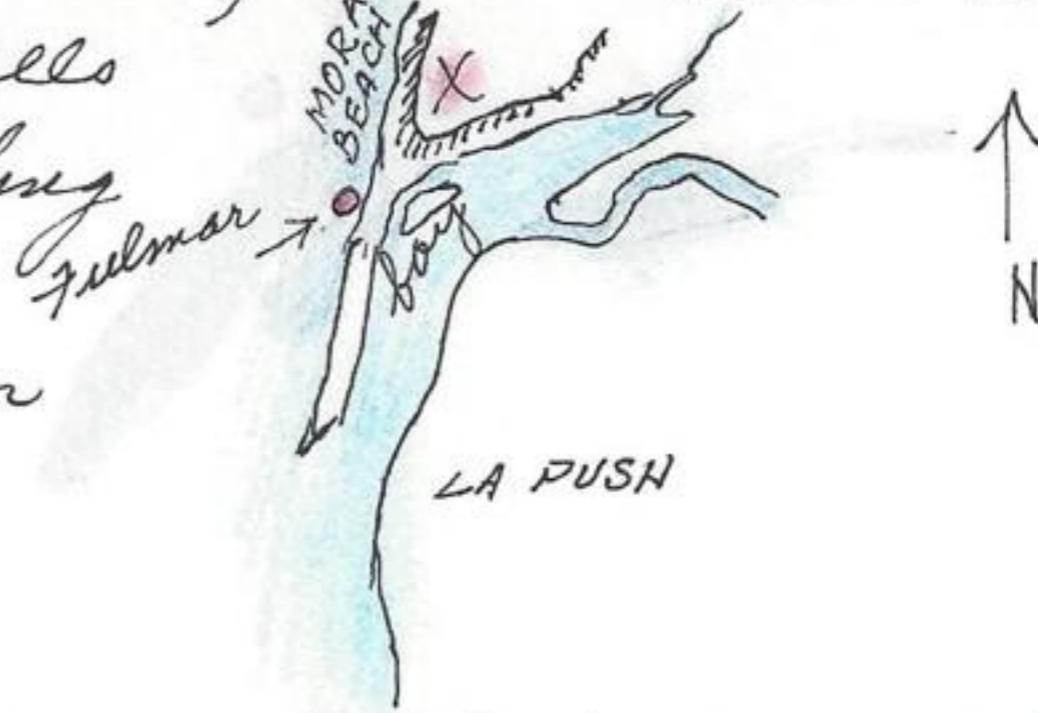
met a Harold Bangs of Century 21 at Sequim who had hunted big game animals in Alaska. Ben (an Eskimo) from Point Barrow who took him out 30 miles on ice n of Barrow and camped in igloos. Has property near Kenai Peninsula. Left and drove to La Push and camped n of river. Route 112 to 101 thence to La Push.

Mora Beach, mouth Quillayute River, Clallam Co., Washington.
Oct 28, 1984

At camp noted 3 varied thrush, 1 winter wren, 2 white-winged scoters. At bay near mouth noted 6 harbor seal, 16-59 buffle-head ducks, 8 glaucous winged gulls, 12 surf scoters, 18 white winged scoters. On beach to S along breakers: 20 surf scoters, 32 white-winged scoters, 1 red-tailed hawk, 180 California gulls (95% immatures), 85 Bonaparte gulls, 42 glaucous winged gulls, 2 western gulls, 1 red-throated loon, 3 savanna sparrow (flew E across bay when approached on breaker wall).

2 duck hawks circled, sailed and formed aerial attacks on one another. They would sail for 2-3 minutes at a time.

These 2 duck hawks were observed for 40 minutes over (X) Hill n of mouth of river. Gulls were also frequently seen circling high above the point



On beach indicated, a northern

Fulmar Fulmarus glacialis

was collected dead. The bird was fresh and had floated

ashore with the tide. Photo 841028-1 of the bill of this fulmar. Photo 841028-2 of full ventral view with wing spread. Measurements were:

Total length 433 mm.

wing 275 mm

tail 110 mm

tarsus 58 mm

middle phalange 20 mm.

wing spread 988 mm.

plumage brownish-black.

legs-light

bill light with some black marks,

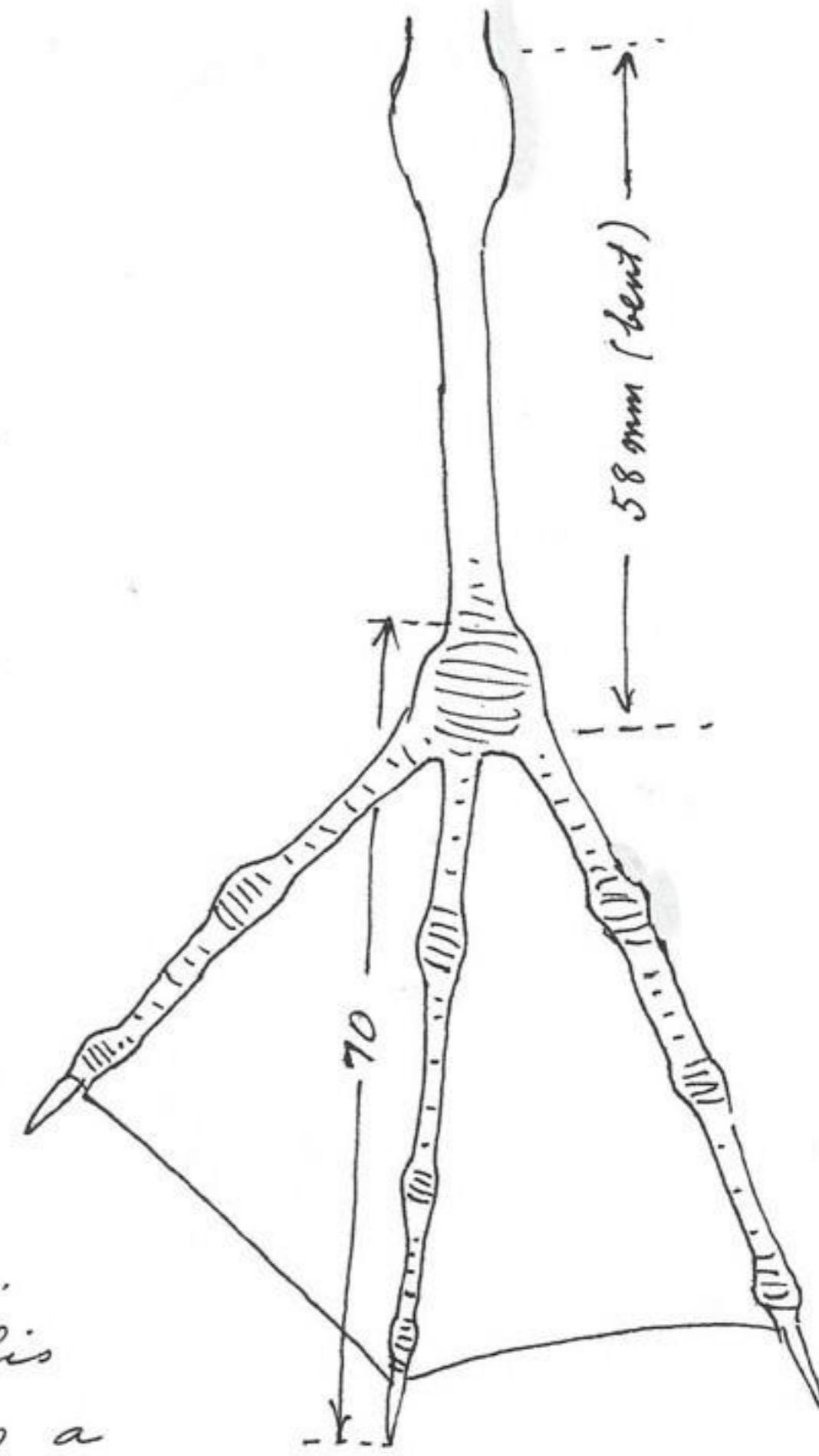
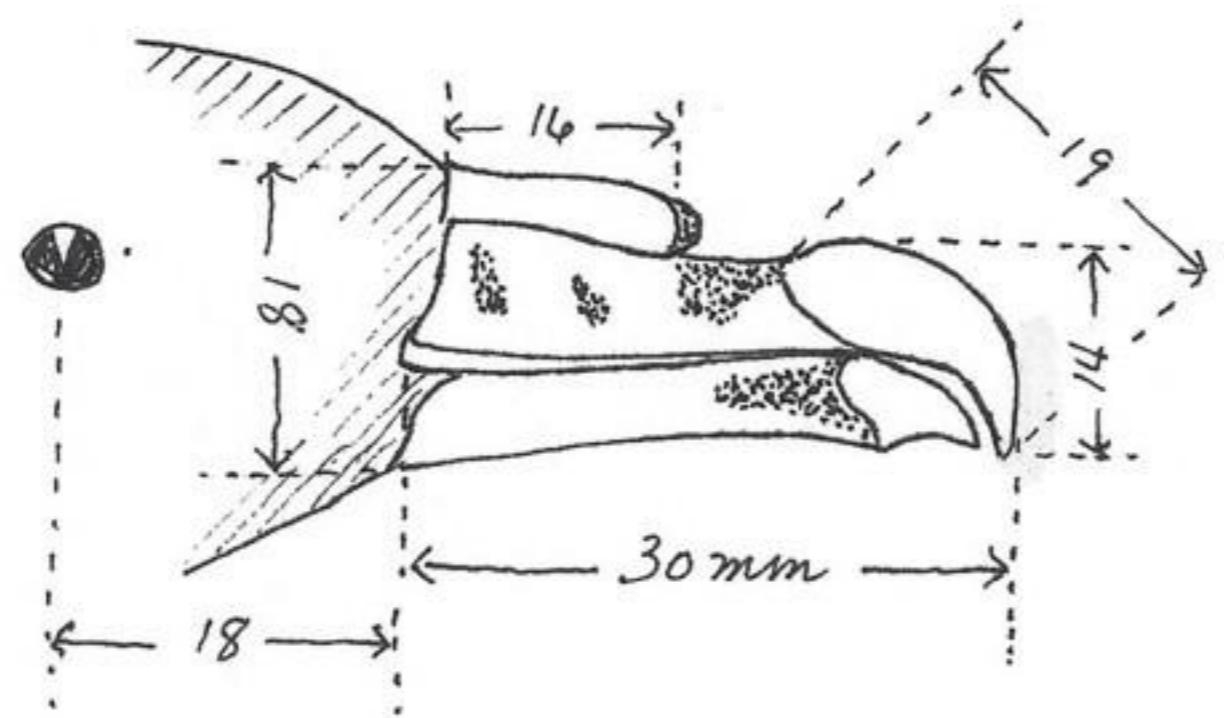


Photo 841028-3 mouth Quillayute River (mora beach) to E

Photo 841028-4 ibid

Photo 841028-5 to SW at mouth Quillayute River, 6 Harbor seal fished in this river in areas shown.

Left camp and drove to Ruby Beach.

Hiked to mouth creek on beach. This area has exceptional scenic values as a coastal beach. At top photo 841028-6

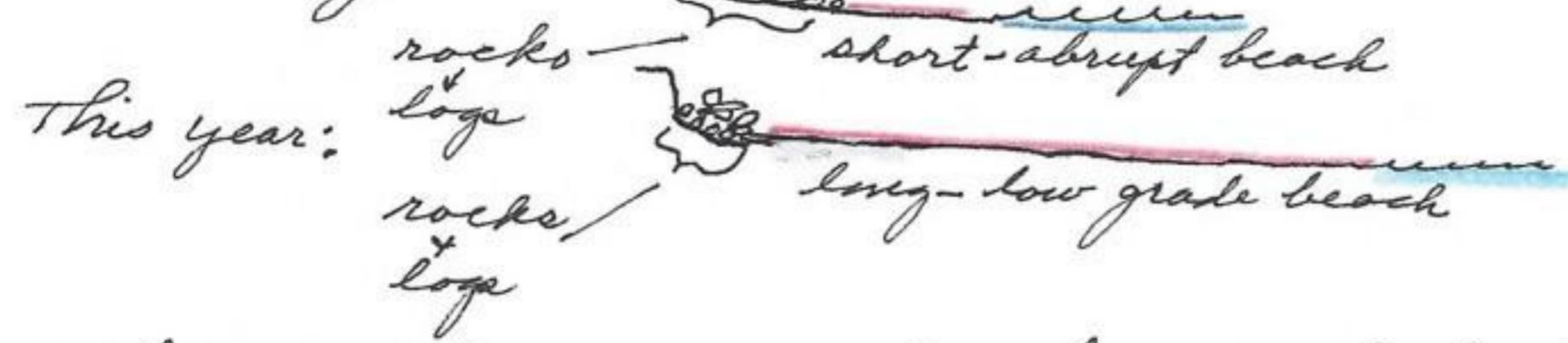
of beach and sea stacks below. Continued to Kalaloch where we camped on edge of benchland above the beach. (site E6).

Kalaloch Campgrounds, Olympic National Park, Jefferson Co., Wyoming
Oct 29, 1984

Rain all last night, clearing this A.M. min temp 34° F.

One of the noticeable differences of beach from previous years is the extent of beach as result of last winter's storms.

Previous years:



many logs on outer mass of logs frequently half buried in sand. Greater extent of surf this year.

Birds observed.

1 dark-eyed juncos (Oregon juncos race)

1 bald eagle, imm.

12 crows (northwestern?)

28 surf scoters

18 white-winged scoters

4 black scoters

3 cormorants

20 glaucous-winged gulls

6 herring gulls

2 California gulls

6 Thayer's gulls

2 Bonaparte gulls

3 western grebes

5 Baird sandpipers.

Photo 841029-1 Head of ray washed on beach with tide



Photo 841029-2 of conifer tree toppled by undercutting of bank by last winter storms. This tree bridged a gap in bank. (See previous years photo when we camped here and tree still in position.)

Photo 841029-3 glaucous-winged gulls on conifer stump with ocean in background

" 841029-4 "

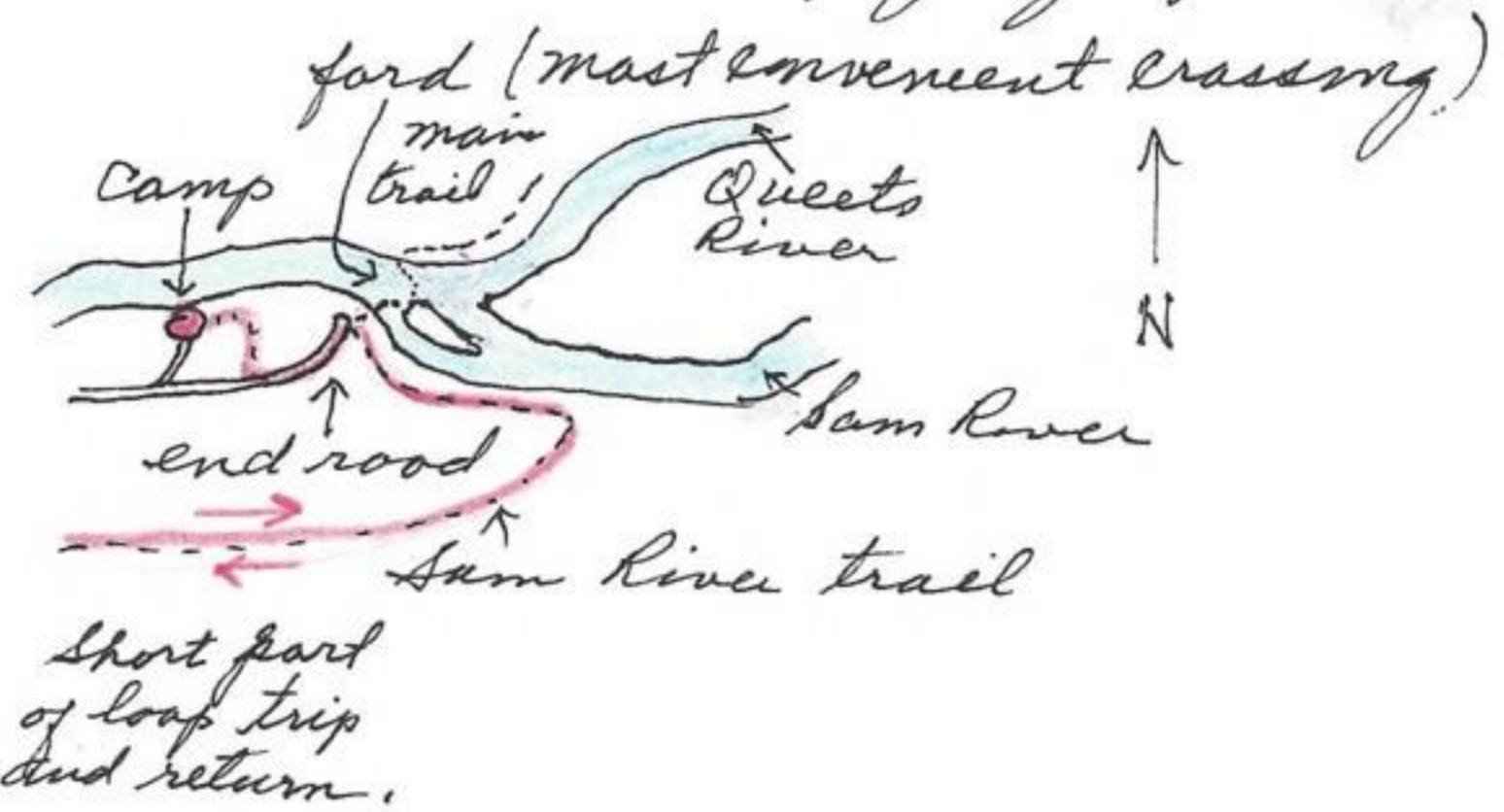
" 841029-5 "

" 841029-6 "

" 841029-7 "

Left Kalaloch and travelled S to Queets River and followed up S side of river from high 101 to Queets Campground a distance of 12.9 miles by car. The campground is the trailhead for hiking inland onto Olympic mts. This road is one of the most delightful roads I have travelled. The canyon is rainforests of mainly hemlock and the Queets River. Arrived at camp (at edge of Queets River) with just enough time to make

trail trip along the Sams River. One buck deer with 4 points (on each side) was observed on a gravel bar and was walking into forest edge. Deer tracks on side of Sams Creek measured 70 mm. (Two does were seen 6 miles w of Camp on incoming road. At camp observed 1 imm. bald eagle fly up river late in evening and one wood duck also flying up river. The main trail thus.



Queets Campground (Trailhead), Jefferson Co., Olympic Nat'l Park, Washington -

Oct 30, 1984

Rained hard all last night. Min temp 36°F. River came up 8 inches.

At 7:05 A.M. 5 crows fed on a dead salmon in 3½ inches of water at edge of gravel bar in river 300' E of camp (This fish was on gravel bar above water yesterday afternoon ^{fish}) This is about ½ hr after daybreak.

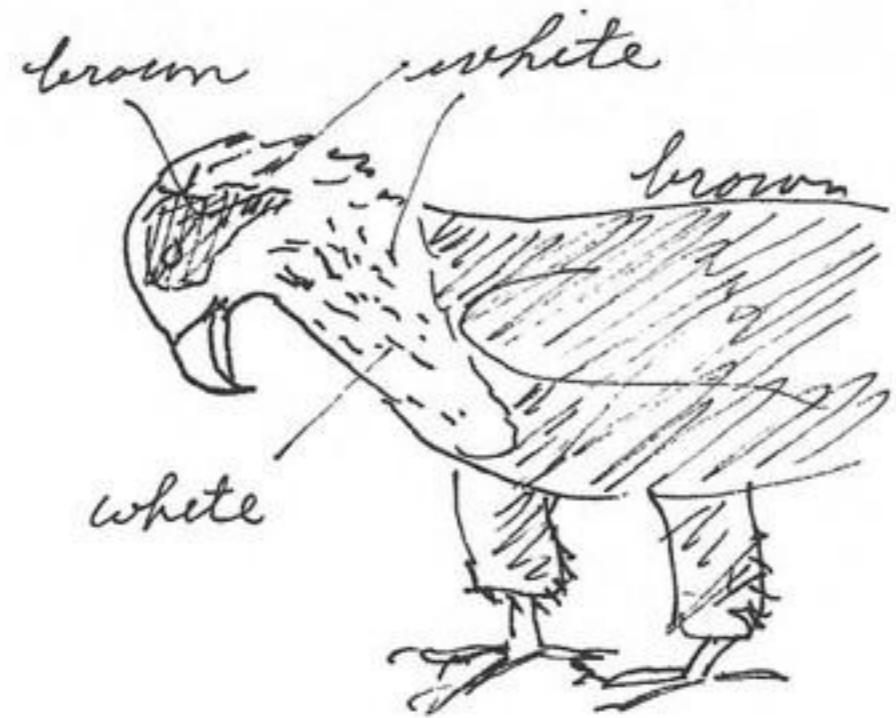
7:06 great blue heron arrived at fish. ^{water level yesterday} ^{water level this A.M.}
The crows fed on fish until an immature eagle arrived at 7:40

7:40 immature eagle alighted on gravel bar and jump over onto fish

Fed to 8:12

8:12 the immature bald eagle left fish and flew (hop) six feet to gravel bar and looked upward ^(8 seconds) as an adult bald eagle arrived and alighted directly on fish. 30 seconds later an adult bald eagle arrived and flew onto gravel bar 6' from fish and then with flew (hop-jump) onto fish and fed. At the same time another adult eagle flew into a lower limb of an alder bordering the river where it remained. The adult on fish fed for 45 seconds and then left and flew up canyon followed by the immature.

8:14 Immature bald eagle arrived and alighted directly on fish for 3 minutes then flew up canyon. This bird had noticeable amount of white in plumage especially in neck ^{and head} region.



white may have been created by parting (rain) of water soaked feathers). thus exposing the white underfeathers. There was also white at top & bottom of base of tail. The first immature was blotched with white but not to this extent of the second immature described above. The inner angle

of bill in both immatures was yellow as if the bud of the spar.

after the adult & immature left at 8:15 the 5 crows returned and fed on the fish.

8:25 white necked immature of above arrived and fed on fish.

8:26 2 buffle heads flew up river.

8:28 the adult bald eagle that remain in tree all this period left and without concern for fish flew up canyon.

So far periodic showers. The rain ruffles and opens feathers of immatures but not the adult.

8:30 5 crows returned & fed on fish.

8:32 5 Thayer's gulls (immature) arrived and fed on fish. When one is on the fish another arriving will alight on back of feeding bird and knock it off balance. They then will lock bills, sometimes for as much as 5-15 seconds and spar around, sometimes toppling into the water or gravel. Two swarm toward each other with heads and bills forward and on contact continued fighting. Two on land gave begging poses and when close enough started fighting. This combat provided time for the other gulls not engaged in fighting.

8:35 adult bald eagle flew up river 50' above water and when within 150' left the area of the fish.

8:36 no birds feeding on fish. Water in river has receded 2".

8:37 2 gulls arrived and fed on fish.

8:40 adult bald eagle alighted on fish and devoured large chunks of skin & flesh. Displaced gull by 75'.

8:45 above adult continued to feed. and then stopped and watched an adult eagle approach and at 20' distance approach of the incoming bird the feeding eagle left and alighted on gravel 8' from fish. After the incoming bird had fed on fish for 45' it was displaced by bird that had been initially displaced. At

this moment they both left up river for 6 minutes then
8:46 Thayer gull arrived & fed on fish., 4 crows arrived.
and fed until 8:52 then left. End of observation.

In summation:

		1 hr + 45 min
Birds fed	(88%)	for 1 hr. 32 minutes of the period of observation.
1 great blue heron	30 sec. or .30 sec. per 1 bird	
5 Crows	38, 30 or 7.6 min per bird	
hald eagles	41, 15 or 10.3 min per bird	
7 gulls	12, 00 or 1.7 min per bird	

noted that eagles readily wade in water walk in both water and on land with an awkward hopping stride.

Later in A.M observed 2 old squaw ducks fly up river,
^{Varied Thrush} Kingfisher and water ouzel also in area. Also chuckaree.

Left camp for mouth Columbia River and on trip back to
101 highway from camp, noted only 1 bird - a varied thrush

Fort Canby State Park, Mouth Columbia River, Pacific Co., Washington.

Oct 31, 1984

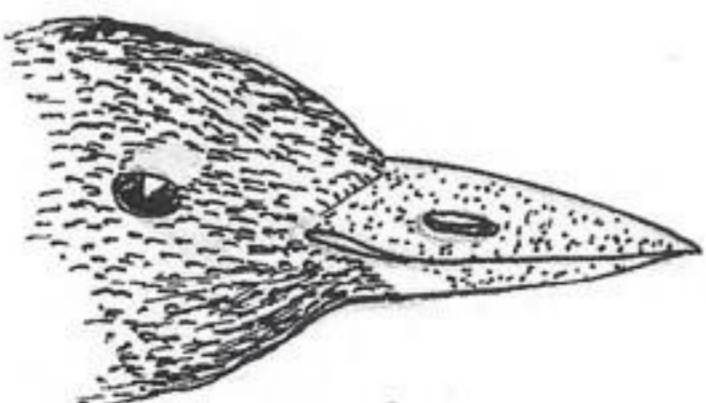
specimen → one → two

Min temp 38°F.

checked beach W of camp and salvaged 2 Cassin's auklet brought onto beach by tide.

Their measurements were as follows:

Total length	216	222
wing	120	121
wing spread	440	442
tall	30	32
tarsus	31	32
phalange (middle)	35	37
depth bill	9	9
eye (anterior to tip bill)	3.2	32.5
exposed culmen	20	19
gap to tip	24	25
anterior nares to tip bill	13	13.5

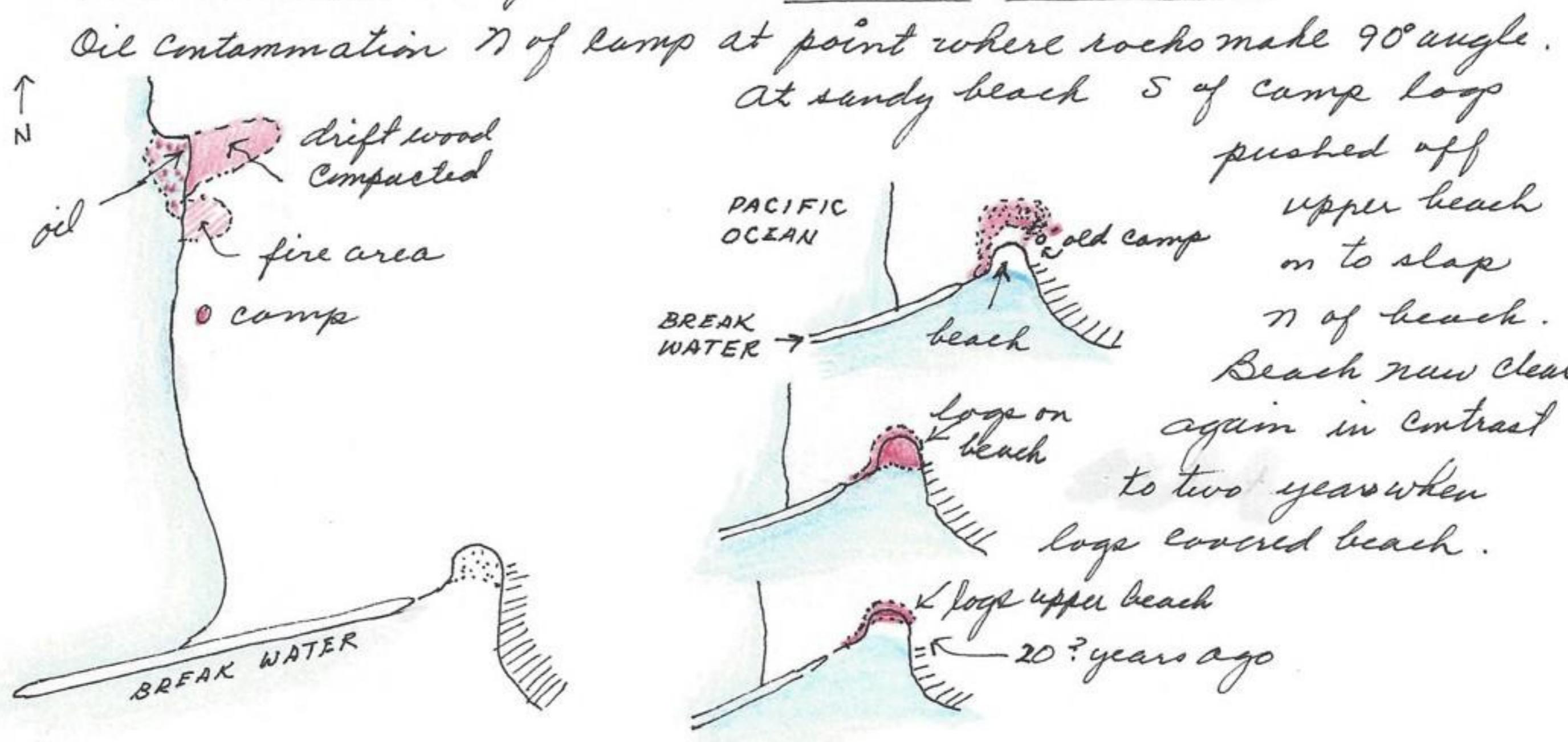


PTYCHORAMPHUS ALEUTICUS
CASSIN'S AUKLET

Ranger reports bear, bobcat, cougar, deer, elk, coyote in Fort Canby Campground area.

Birds observed at camp. Common flicker (red-shafted race), dark-eyed juncos (Oregon juncos race), song sparrow, rufous sided towhee, red-tailed hawk, sparrow hawk, Cassin's auklet (dead on beach), northwestern crow, Herring gull, glaucous winged gull, Bonaparte gull, black scoter, white winged scoter, surfscoter, double-crested

cormorant, Stellers jay, western grebe. Mule deer tracks: 12, 15, 82, 87 mm.
also Townsend's chipmunk. Eutamias townsendi.



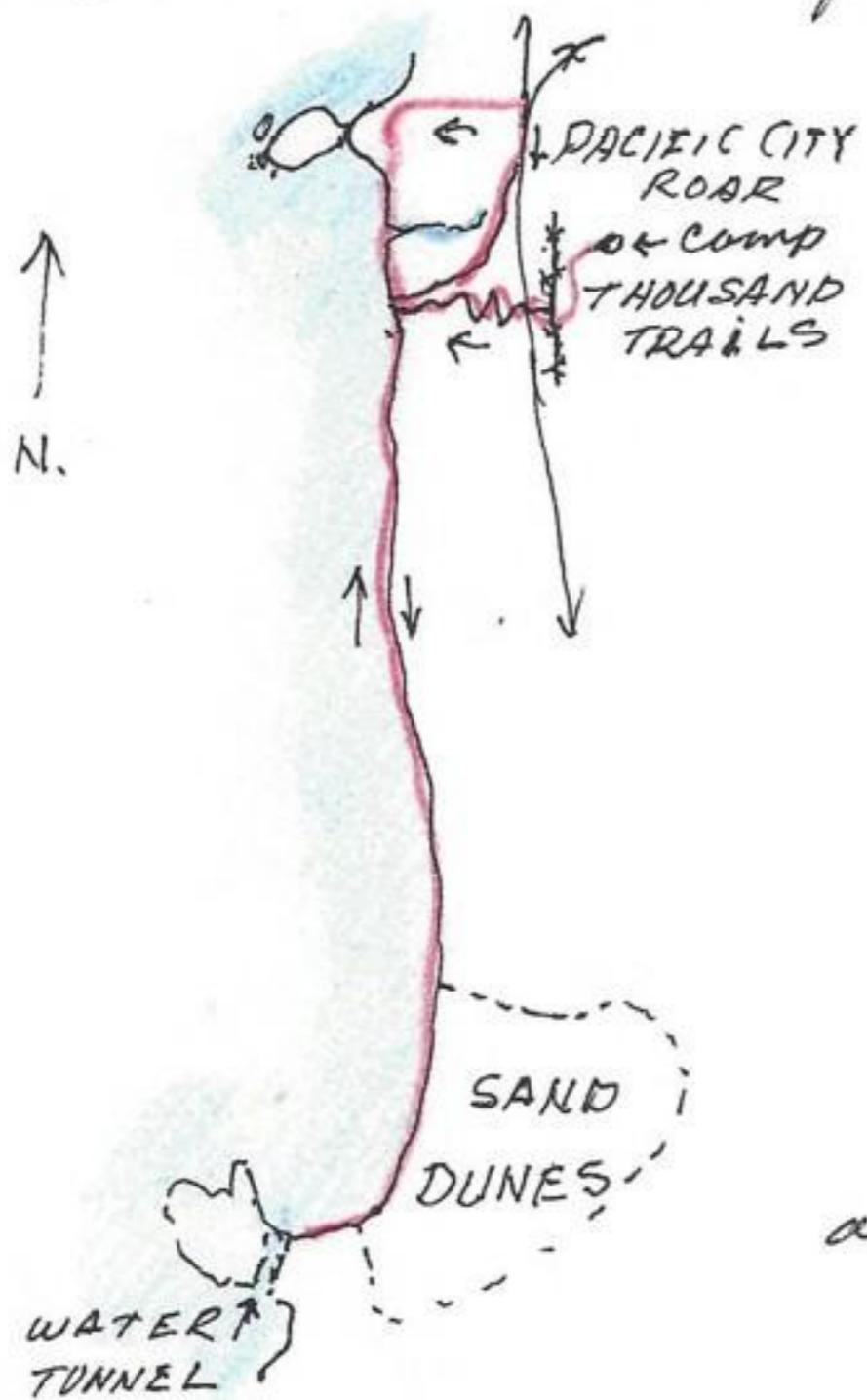
Left camp and drove to Pacific City (Thousand Trails) in Oregon. Sparrow hawk Seaside, Oregon. All raptors recorded on trip.

Pacific City Thousand Trails, Tillamook Co., Oregon
Nov. 1, 1984

min temp 44°F. Rain this A.M. Windy. Cloudy uniform. Rained all day and night.

Nov. 2, 1984

Rained all night, periodic high wind. min. temp. 52°F.
checked beach between point to N & S. Day rain, wind 40-50 MPH.



High tide to near land promerence. Between 8:30 A.M.
to 11:15 A.M. Observed:

4 dead Cassin's auklets blown fresh with tide, one with broken leg in grass at entrance drainage from land, ^{few to water,} all same size as those measured Oct 31 1984.

One canvas back duck in grass at high tide and just capable of flight.

1 dead cormorant.

2 dead black scoters.

Approp. 150 surf scoters not including a flock of 90 that flew S.

Approp. 8 white-winged scoters
Dead black scoter Only one seen.

no crows.

8 Herring gulls

12 glaucous-winged gull

2 Western gulls.

Other gulls flew by perhaps 50 small.

One group 30 sandpipers

1 common flicker in trees along shore (red-shafted flicker)

6 double crested cormorant.

wind at S Cape: 

From pass blew

N except where

wind hit W side

my position of dunes and then
waves to base and
up slope of base down hill to W and out
of sand dune
into ocean, causing breaking surf to blow cap W instead of
usually to the E. Sands blowing N along beach from
dune area even though sands wet from rain.

At high tide and strong winds waves to base of hills and
cliffs.

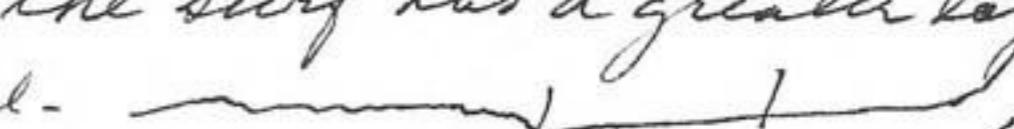
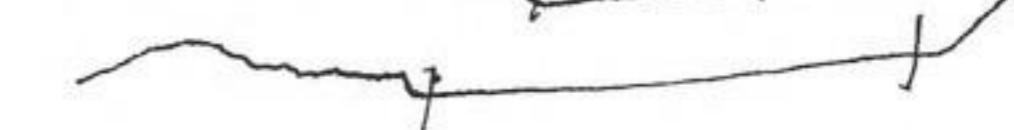
Drainages from slopes small but on return some were
small rivers flowing out over banks, removing sands and
exposing rock boulder base under sand.

approx 1/2 way to S Cape noted:

2 California sea lions, both dead and resting approximately 20'
from high tide mark. They were several day or a week old and gull
had already opened up certain areas. One animal measured
8' 4" long, tail 4 inches, hind flippers 16 inches long. The ear
was about 1-1/2" long and narrow and pointed.

An Alaskan fur seal was 300' or so south and had reddish hair
on belly and hair considerably longer than the sea lions.

5 harbor seals fed in waters just N of the tunnel at the south
Cape. They exposed their heads only to neck and according to
position on the wave most of the upper body. ^{The head} 2 came within 30' of me
and filled the full binocular field. They fed in same area as 8
surf scoters.

This evening at 20 minutes before sun down checked beach below
camp. Surf coming in from waves at least 25'-30' high. Tremendous
sound and explosion accompanying the surf action. Waves on
point beyond dunes climbing 3rd way up 200' cliffs and covering
outliers 30' high. I noticed that the surf has a greater latitude
of advance and withdrawal: normal -  tonight - 

additional height of incoming waves may be drawing water out from the beach, and by the same token drives the water farther up the beach. I would judge the distance of interplay is 250' and the height equivalent to the normal range of tide or 6-7 feet. There is a powerful underflow during these times extending out into the surf area, if action of feeding scoters is a criterion as they, in many instances could not swim against the outgoing water.

white (Indian) foam formed on beach to 1 1/2 feet deep and after the surging water retracted the wind would blow the foam over non-friction surfaces for several hundred feet. Some masses say 1 foot in diameter would soil beyond highest point of wave action to unaffected beach in the speed of the wind and in a hundred feet or so, disappear from erosion of the foam mass over the drier sands. One mass blew for 1 hundred feet over water saturated sands to cliff area and thence up steep slope to divide 30' high and then into space upward for another 40' to drop down on the lee side of the pass.

Additional action takes place when wave advances up a river channel in beach with movement from several direction into and over the river channel as well as driving up the channel like a channel bore.

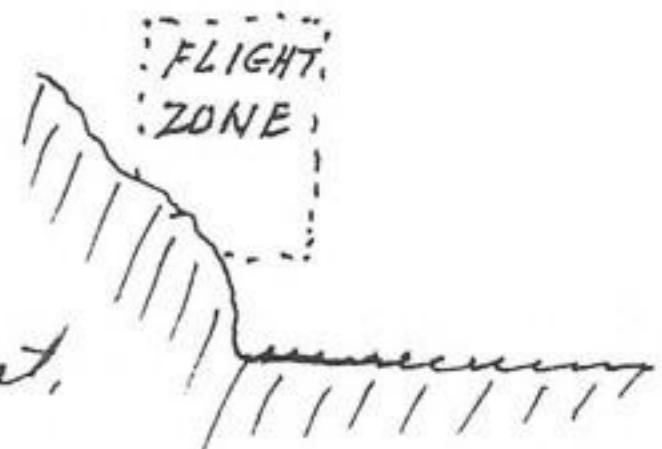
Many times the entire surf was one mass of white foam and/or wind blown water from breaking crests of waves.

First breaking outer waves at times seemed like mountains with typical breaker. Also areas where there was interplay from complex wave action within the normal advancing waves.

Pacific City, Thousand Trails Preserve, Tillamook Co., Oregon
Nov. 3, 1984

min. temp 50°F. Rain occasionally last night but cleared over Pacific by 8:00A.M. From site C 1/2 began census of western gulls migrating S along coast. Observation a 25° arc directly W. Birds sailed by from 60' to 250' above beach.

and taking advantage of updraft winds off ocean. Census in intervals of 5 minutes, I do not know how much earlier the flight started or when. All moving S and only rarely wing beat.
8:15AM to 8:20 107 western gulls, 1 brown pelican



8:20-8:25 91 western gulls, 1 brown pelican. The pelican sails at same speed as gulls and keeps with same group of gulls.
 8:25-8:30 85 western gulls, 1 brown pelican. All ages in gulls and Q would estimate 25% adult.
 8:30-8:35 82 gulls
 8:35-8:40 37 gulls
 8:40-8:45 18 gulls
 8:45-8:50 36 gulls
 8:50-8:55 8 gulls
 8:55-9:00 39 gulls
 9:05-9:10 31 gulls

Census ended of continuous recording. Next are spot checks.

10:00-10:05 11 gulls
 10:05-10:10 18 gulls

Census along shoreline but at Terra Del Mar at a point just west of S end of lake on E side of road.

Here the gulls flew from 2 feet above ground to approx 50' feet. High wind.

Gull did not sail but used ^{regular} wing beat for progress.

road
zone of flight.

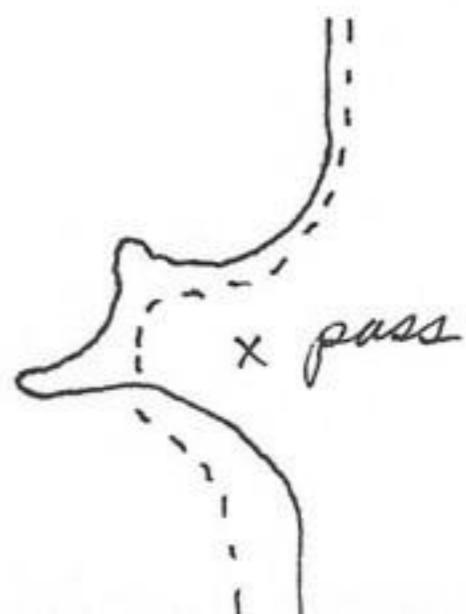
1:35-1:40 37 gulls
 1:40-1:45 33 gulls
 1:45-1:50 19 gulls.

The above censuses represent average numbers flying by during the day except fewer around 3 o'clock. Just before sundown and about 30 minutes after sundown (approx 5:20 P.M.) the flight numbers increased to approx 80 gulls per 5 minutes and larger groups up to 30 individuals each.

On the above basis there were 641 gulls pass by in a period of 1 hr and 10 minutes or ^{average of} 9.1 gulls per minute or 6188 gulls per day. Between Thousand Trails Preserve (Cape) to Kiwanda Cape noted only 8 western gulls on beach.

Birds ^(gulls) not belonging to migratory birds could easily be told by counter directional flight, circular flight over beach and related non-migrating activity.

The birds flying S over Kiwanda Cape did not fly over pass where sand dunes meets Cape but sailed in around point & then S. At Cape the flight pattern became irregular and disjointed because of high irregular winds over the cape.



While at Pacific City at 11:00 A.M. took several photos of surf between Haystack Island and Cape Kiwanda.

841103-1 surf striking rock (base of cliff) see red enclosure on drawing below for orientation
 841103-2 general surf action
 841103-3 " " "

Black-orange-black ("") caterpillar on beach.

Observed several times a full wave ride up approx. 50 feet of the outermost point and cascade down the SW slope, an excellent example of hazardous position on such a ridge during high surf. One would never realize that a surf could effect a slope so high above the normal surf level.

The NW side has a curved wall profile. I found out that several people have lost their lives on this point because of being washed off the point by this wall climbing surf. As a result an extensive fence barrier now inhibits trespass onto the point. This action of water on cliffs must have some important relation to successful or unsuccessful nesting of birds. This area of the cape, especially on W exposure has a very dynamic surf and a thrill to observe at a distance.

The high tide of last night or whenever it occurred between late evening and this afternoon placed debris 5 feet above high tide profile on slope because of heavy seas of the last 2 days. ^{high tide}_{mark} debris.

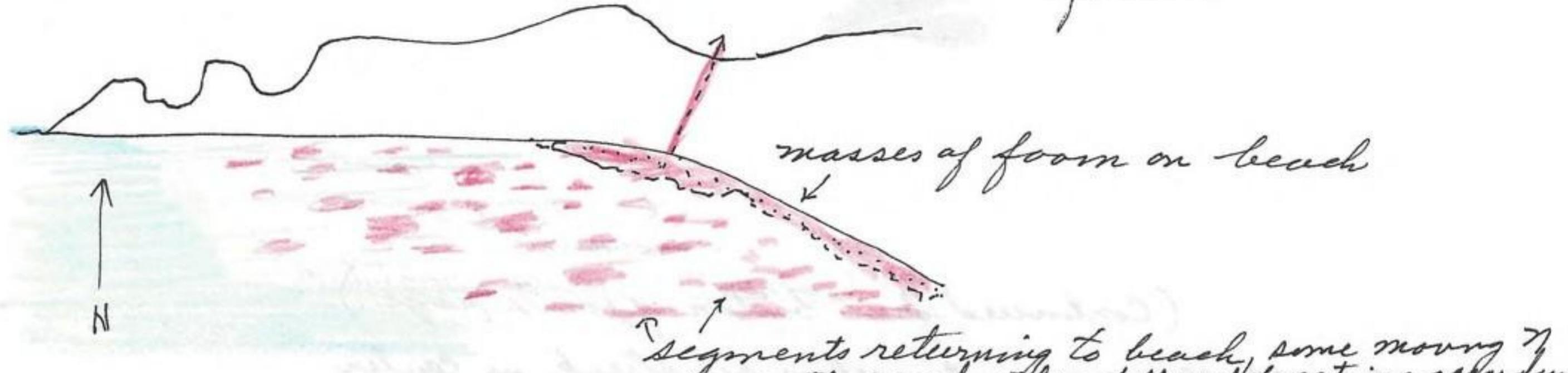
One of the peculiarities of this area and particular wild ocean is the surf. Even at low tide a surge of surf will drive water up to the high tide mark on beach.



This generally results from withdrawal of water, in some cases over 300' from normal surge on beach and then higher incoming waves send the surf water clear to high tide mark at head of beach. This movement can be hazardous if one is not alert to such variation in surf variations.

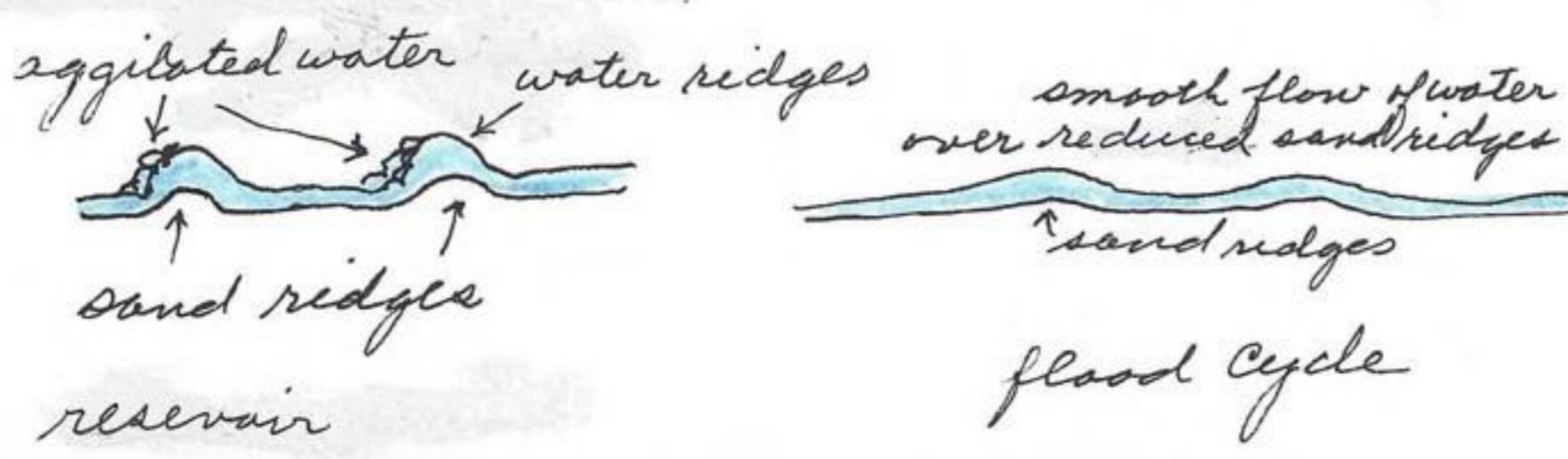
The churning seas has produced an abundant Indian soap especially on SW side of small cap w of thousand Trails Preserve. A surf wave will bring ^m a mass of foam 3 feet high and 20' in depth. As the water retreats the majority of the foam segments and slides ^{n by wind} or is carried by the returning water producing an arctic scene of floating and moving icebergs. Some masses left intact on the beach move 90° to incoming surf. (n with SW winds). One mass at base of pass of capes developed a foam ball, 3½ feet in diameter and 5' high ^{made}, exactly like a snowball from snow.

This foam ball  came to rest on its end and then the increased wind blew it up slope and over the pass where it broke into small segments and fell to beach below where a considerable amount of the foam had collected from similar fate of other segments of foam.



Segments returning to beach, some moving ^w with wind others different directions according to the returning currents. The foam moved landward by being push ahead of the water as several times I stood on beach with 3' of foam passing by without noticeable water associated with the foam!

Noted that water draining from slopes develops a series of water ridges 90° to flow of water. These ridges are associated with sand ridges forming below the water. A section of stream will gradually develop these ridges to a certain point and act as dams, holding back water. Up to a point the water then collectively breaks over the barriers and flows down stream as if a small claudburst, stopping only as new ridge again form above and temporarily inhibit flow of water. When the ridges break down the water flows ^{smoothly} over them when grade is too steep.



When grade is too steep the reservoir period forms but does not change into flood cycle.

(Continued from . . .)

841104-18 surf, note yellow oil streak in center

841104-19 ibid

841104-20 ibid

841104-21 ibid

841104-22 ibid

841104-23 "

841104-24 "

841104-25 " but from sidehill

The following photos taken ^{even} earlier this A.M. shows an even rougher surf.
almost a tsunami or rogue wave, the kind that makes
one run for the hillsides.

841104-30 rough seas close to shore.

841104-31 "

841104-32 "

841104-33 "

841104-34 "

841104-35 "

841104-36 "

841104-37 sanderling, approx 130° on beach

841104-38 sanderling in flight.

note oil streak to left,

foam controls some surfaces.

Pacific City Thousand Trails Preserve, Tillamook Co., Oregon

Nov. 4, 1984

min temp 50°F, clear sky, no wind, surf regular but large waves.

First western gull at 6:45 A.M. census for short period:

6:54 - 7:03 - 15 western gulls. 80% flying 20% sailing

7:08 - 7:12 15 " "

7:20 - 7:25 28 " " singles to group 10-15

Some 5 minute intervals without gulls.

7:45 - 7:50 10 western gulls

7:50 - 7:55 2 "

7:55 - 8:00 6 "

8:00 - 8:05 0 "

8:05 - 8:10 8 (one group) western gulls

8:10 - 8:15 6 western gulls

8:20 - 8:20 3 " "

Red-tailed hawk flew by at 7:00 A.M.

2 fox sparrows, one rufous towhee used same scratch spot. Towhee replaces fox sparrow. *Eutamias townsendi* used scratch spot made by Towhee & fox sparrow.

Checked beach this A.M. from Thousand Trails Cape NW of Camp. From rocks N on beach to surf cove at S end of beach
 841104-1 near water or surf cove S end beach. note yellow zone beyond rocks (Kiwanda)
 841104-2 western gull flying over foam along beach,
 841104-3 western gull feeding on beach at edge of foam
 841104-4 floating foam - appear like arctic scene of mt tops above valleys.
 841104-5 morning surf & foam. The greater action of surf the more foam
 841104-6 ibid
 841104-7 foam pushing up on beach, friction negligible
 841104-8 morning & dugong foam

A dark brown California sea lion was sitting on S side of Cape on sand periodically covered with water. One wave dislodged the seal and it tumbled over several times on the seaward return flow. It attempted several times to evade incoming wash of the waves and each time tumbled back seaward. It was seen approximately 2/10 mi. S for the last time.

-from camp photos of waves and surf action:

841104-9 foam pushing over beach

841104-10 ibid

841104-11 ibid

841104-12 ibid

841104-13 foam against rocks

This afternoon Annette and I walked on beach to Kiawanda Cape (at hole in cliff). Photos of braided water - sand channels over sands from water issuing at base of slope.

841104-14 Braided system of black soil and normal beach sands. These ripples of water can be either from open drainages or from water seeping from base of hill. Near here is a spring issuing sands 100' from sidehill.

At Kiawanda Point at hole in the cliff, photo:

841104-15 of spray on rock just N of hole. Harbor seal and surf scoters inhabit these waters in cove N of hole and eastward. Black limestone fed or rested on this rock or nearby rocks. 8 Western gulls also fed & rested on rocks in this area.

841104-16 Photo of Annette by mass of foam that covers the beach at certain times of in and outflow of waves. It is a question whether foam accumulates on shore because of wind driving the surf foam inland or whether it is carried in by tidal or surf movement. This foam is also in surf ^{up to} 1/10 mile more seaward wherever waves are cresting.

At camp noted a Townsend Chipmunk resting in a bush 3' from ground. A fox sparrow flew into same bush at it appeared as if the two made ^{body} contact for a period of 2-3 seconds as they 'mixed it up'. After the encounter the chipmunk returned to its resting limb and the fox sparrow gained the top of a nearby bush where it remained for about 5 seconds. A Douglas tree squirrel used same area as above.

Today has been unusually warm, full sunshine and practically no wind. Surf shows ^{some} moderation and more regularly.

Pacific City Thousand Trails Preserve, Tillamook Co., Oregon
Nov. 5, 1984

Clear day, min temp 45°F. Surf high crested waves but well spaced and regular. ^{no white caps} seaward of surf but swells are distinctly outlined ^{and regular}, as far out as one can see.

At 8:30 A.M. approx 250 geese flew S at about 300' high. Black but sp.?

Chipmunks are seen 4-1 over tree squirrels.

Measured 4 mule deer track (black-tailed subspecies) on Preserve as 78-80-51-40 mm

Surf at Pacific City calm except 2 rows breakers near beach,

Left Pacific City & Preserve and drove toward Lincoln City, thence
 E^{20°} to junction 20, thence SE to Salem. Two sparrow hawks
 1/2 way from Lincoln to Salem. Color of maples (yellow) above
 10% beyond maximum color. This route thru Coastal Range
 is beautiful. Color about 2 1/2 weeks later than Seattle
 area and color are more brilliant and true colors.

In Baskett Slough national Wildlife area noted an immature
 bald eagle. From Salem continued SE on 22 to 20, thence
 to Bend. 4 feet snow piled up along road in high country.
 At what would be the pass noted rooven. S of Bend
 8-11 miles from Bend, snow on side of road and on ground
 beyond. At Bend Thousand Trails Preserve about 1/4-1/2 inch
 on ground in certain areas. Two deer about 1 mile before
 Preserve.

Bend Thousand Trails Preserve, Deschutes Co., Oregon

Nov. 6, 1984 min temp. 31°F, day clear, no wind.

Day at Preserve and in Bend. At Preserve a golden eagle immature
 flew over camp flying S. Circumnavigation of periphery of
 Preserve disclosed: no deer tracks on new snow, but, tracks
 at certain places on soil. 3 varied thrush and 2 robin. These
 two birds having similar appearance on ground, in trees and
 in flight. The varied thrush, however, has a touch of a bluebird
 agility and movement. No other birds or mammals observed.
 There is a contrasting difference between National Forest to N
 (adjoining property) and the Preserve. The native forest is dense
 with understory growth and fallen debris, ^(scrub) on forest floor. The
 Preserve has not retained any of these features but has cleared
 underbrush and fallen trees and has in fact trimmed to a city
 park in appearance. Certainly they could have left islands
 of native forest.

Visited Oregon High Desert Museum and met James Bennett,
 who is in charge of raptore section. He has 2 screech owls,
 1 burrowing owl, one long-eared owl, 1 great horned owl, 2
 sparrow hawks (kestrels), 1 goshawk, 2 red-tailed hawks. He
 may have others.

The yellow pine chipmunk (*Eutamias amoenus*) and
 the golden-mantled squirrel (*Citellus lateralis*) are in museum
 area. The golden-mantled squirrel is fat and does not go into
 hibernation. Bennett asked about why owl never or are
 extremely slow at domestication whereas the kestrel and other
 hawk are readily tamed. Two river otter, ^{Lutra canadensis} and 3 porcupines
 are also exhibited in the outdoor museum.

Buck at Bend T.T. Preserve noted 2 western gray squirrels, Tamias amoenus. There is another squirrel that has a tail like the gray squirrel but instead of gray venter is reddish-fuscous and small animal than the W gray squirrel.

Nov. 7, 1984

Spent most of day in Bend and returned to Bend T.T. Preserve.

Nov. 8, 1984

min temp 25°F. Day partly cloudy, no wind. Left this A.M. for Utah. Before leaving Bend we drove no to Deschutes Hwy 97 and met Harry Fogen and his father. Had cup coffee at their new (his father) mobile home near the trucking shps. Photo 841108-1 of Harry Fogen Jr & Sr. and 841108-2 of Annette and me at large Douglas fir tree. Left and returned to Bend, thence E on 20. Between Bend and 7 miles W of Brothers encountered approx 500 robins most of them moving S. They were in flocks of from 3 to 150. These birds, also were associated with the juniper trees that extended, first as solid stands and then more sparsely to the E in the area recorded above. Beyond the Brothers the country was mainly valleys of Artemisia and Chrysanthemum without trees. I assume the birds were associated with trees in their migrating route. The only other birds and then less than 10 were observed in forested areas near Burns.

Rough-legged hawk at Fox Butte road at 413.7 and one at 428.1

2 rov'n at 443.7. 448.8 Hampton. at Riley 2 rough-legged hawks at 4:20 P.M.

There were no other birds or road kills along this entire route. Day has been cold, windy and cloudy (low). Snowed on few occasions.

Burns, Harney Co., Oregon

Nov. 9, 1984

Photo 841109-1 sunrise

Photo 841109-2 "

Photo 841109-3 "

will make complete censuses to prove, etab

Junction 205-78 S of Burns 47520.8 521.5 great blue heron. 523.8 rough-legged hawk. 527.5 rough-legged hawk.

8 teal in pond sp.? mile post 10 = car odometer 529.2, red-tailed hawk here. 529.8 10 Canada geese flying N over hills about 500' high. 531.3 red-tailed hawk. Shallow ponds are covered with ice. 532.1 magpie, 532.7 red-tailed hawk and raven. 533.1 red-tailed hawk. all hawks on cross piece of utility lines are facing S.W. 537.6 13 loat in flooded fields adjacent road. 539.5 12 loat, 2 teal, gull and a great blue heron along side of road in flooded fields, shrike. 541.5 coat, 1 horned grebe. (when surprised stretches neck), 544.6 3 coat, 549.7 2 Brewer's blackbirds and 1 brown-headed cowbird. 551.6 gopher diggings in cultivated grass fields, marsh hawk. 552.5 red-tailed hawk and 34 Canada geese (flying N) a second flock of approx 140 Canada geese followed first group by 3 minutes, all flying approx. 300' above ground. 554.7 coyote running across fields of grass and weeds. It switched head from right to left as it moved across the field, taking critical look at each turn of the head. It did not stop. 566.4 shrike. 590.7 Malheur Co. between 60 and 61 milepost. 596.4 ancient lake shoreline? on hillside (just beyond turnoff to Tally). 596.6 shrike 612.0 junction N-S 95. (Boise versus Winnemucca) at 11:05 A.M. 648.4 2 raven. Have not observed Cetulus diggings in area. across Oregon. 655.8 raven. 656.8 raven. 662.5 raven. 666.6 6 raven as we approached Dermott. There is definitely an increase in raven. 667.8 Dermott. (and Nevada line). 670.2 raven. 674.8 raven. 675.4 magpie. 676.1 magpie. 692.4 2 raven. 694.9 2 raven. 696.0 photo of Santa Rosa Range to left. (841109-4) There are many high snow covered ranges in this area. 718.0 raven at the pass. 721.1 2 raven. Thru Winnemucca at 4:10 P.M. now on Interstate 80 east. Dominant cheltike (yellowish-white) grass and is in the valley and upto abrupt angle of mts at side of valley. Some grass extends up slopes of mt a short distance. No road kills from Bend to here. Arrived at Battle mt. and camped in City Park.

Battle Mountain, Interstate 80, Nevada

Nov 10, 1984

Left at 47800.2 for Eeko and points E. After sunrise to 1 1/2 hrs later. 38 raven flew E over city Park area,

alighting in residential area but must moved E to fields
 beyond City. Left 7:30 A.M with Provo as destination.
 8 Brewer's blackbirds in town. 804.1 marsh hawk. 815.2
 raven. 819.0 raven. 824.5 5 magpies and 2 ~~4~~ raven
 at a recent mule deer road kill (cleaning up small fragments
 from pavement. No deer carcass evident. 82 4.5 short-
 eared owl road kill. 828.5 2 raven 830.0 raven
 832.4 passing by colorful road cut on left, old road down
 slope on right is supporting Artemesia that is same size as
 sagebrush on natural slopes. Larger growth still assumes
 position on edge of road. ~~road~~. The colored rocks
 may be ash layers among ^{road.} the lava strata but does
 show penetration of ash among the layers of lava. Magpie
 at Immigrant Pass. Snow plow has pushed up 6-10
 inches of snow but only remnant of previous snow.
 Red-tailed hawk and magpie nests in black willow just
 beyond Immigrant Pass. Magpie flew by. Clouds uniformly
 low and dripping snow on higher peaks and some ranges
 holding back clouds from moving E. 837.9 raven living
 just past (^{2 1/2 mi}) into Elko Co. 857.8 now along Humboldt
 River to my right. 2 teal and 1 muskrat in river. 15
 unidentified ducks along river. River valley along river
 are a reddish barked willowlke bush, said to be Kizikomick.
 Some sections of river valley are completely covered with this
 reddish barked willow (?). 866.4 raven. Exit 298 Humboldt = 868.3
 879.0 valley 90% in solid red barked willow (as above), 10%
 on outer edge is grass. Clouds getting lower & more snow in
 upper elevations. 884.3 magpie. 891.0 raven. 895.9
 highest concentration of cattle in grazing range. 899.0
 6 teal in partly open pond. 906.8 beaver dam. Snow on
 mts to E $\frac{1}{2}$ way down (currently snowing there), magpie.
 908.2 red-tailed hawk. 909.8 ferruginous roughleg,
 gopher mounds in fields. Now approaching snowline.
 Mt to east has band of snow half way up slope, less
 above and below it. Temp 46°F. 914.7 roughleg
 hawk. 916.2 raven. 919.7 raven. Exit 351 is 921.5
 Color gone on trees in town. 925.4 first pygmy forest and
 completely dominating slopes. 926.6 2 raven. 927.8
 now solid forest of juniper-pinyons. 934.9 roughleg hawk.
 mts to E covered with pygmy forests. 936.3 jack rabbit
 road kill in either Oregon or Nevada. 936.4 ferruginous

roughleg and raven. 939.6 sparrow hawk, 941.0 mouth of canyon now entering. 952.1 2 ravens. 954.7 american roughleg. 959.6 raven. 969.3 valley with relatively little artemesia. Plant form low. Compared to growth farther west. 981.8 Wendover Nevada. Stopped for lunch and win of 50¢ in nickles. 983.0 Utah State line. 999.8 possible cottontail road kill approx 15 miles from normal plant community. No birds across salt flats and up to end of Stansbury Range. Water high near Wendover but sands to E beyond. 043.2 Coyote road kill. 48068.4 now on highway 138 to Grantsville. End of complete Census (from Burns, Oregon), at 5:00 P.M.

Striped-skunk roadkill
Leaves across Nevada,
and Utah barren but at Grantsville occurred a noticeable change. 80° leaves on trees and these in good color of yellow and gold (60% remaining). Black willow golden.

Continued S to Fairfield (mule deer at pass W of Fairfield), thence to Cedar Fort, Lehi, Provo. W. of Lehi water still high from Utah Lake. Mileage at Mary and Sons home did not get but should be approx. 48 153.4 mi.

Provo, Utah Co., Utah

Nov 11-16, 1984

at Mary and Sons. Took set of photos (24) of Mary's Lladros. (see Nov 21, 1984) for other photos of Lladros and other objects)

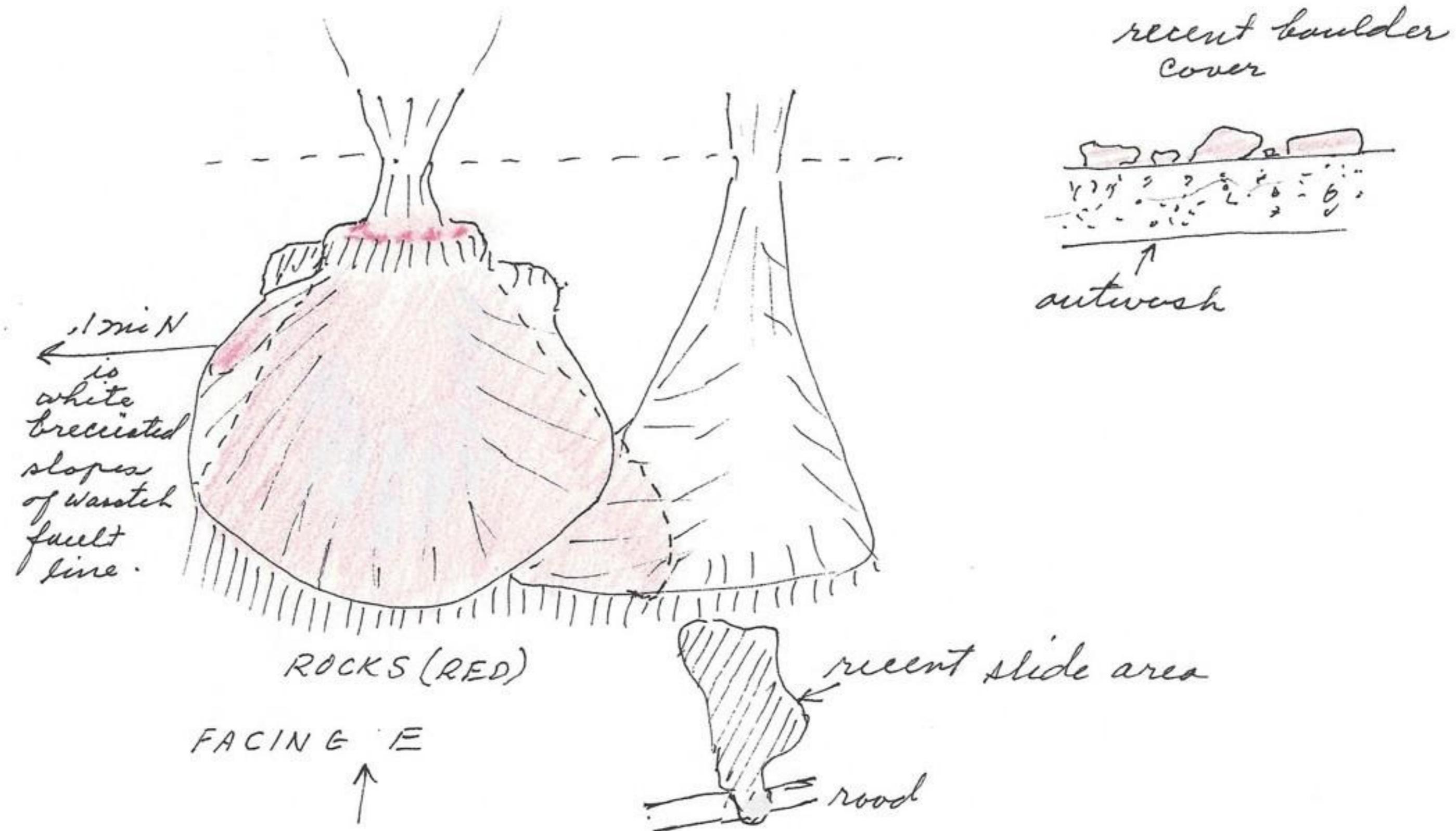
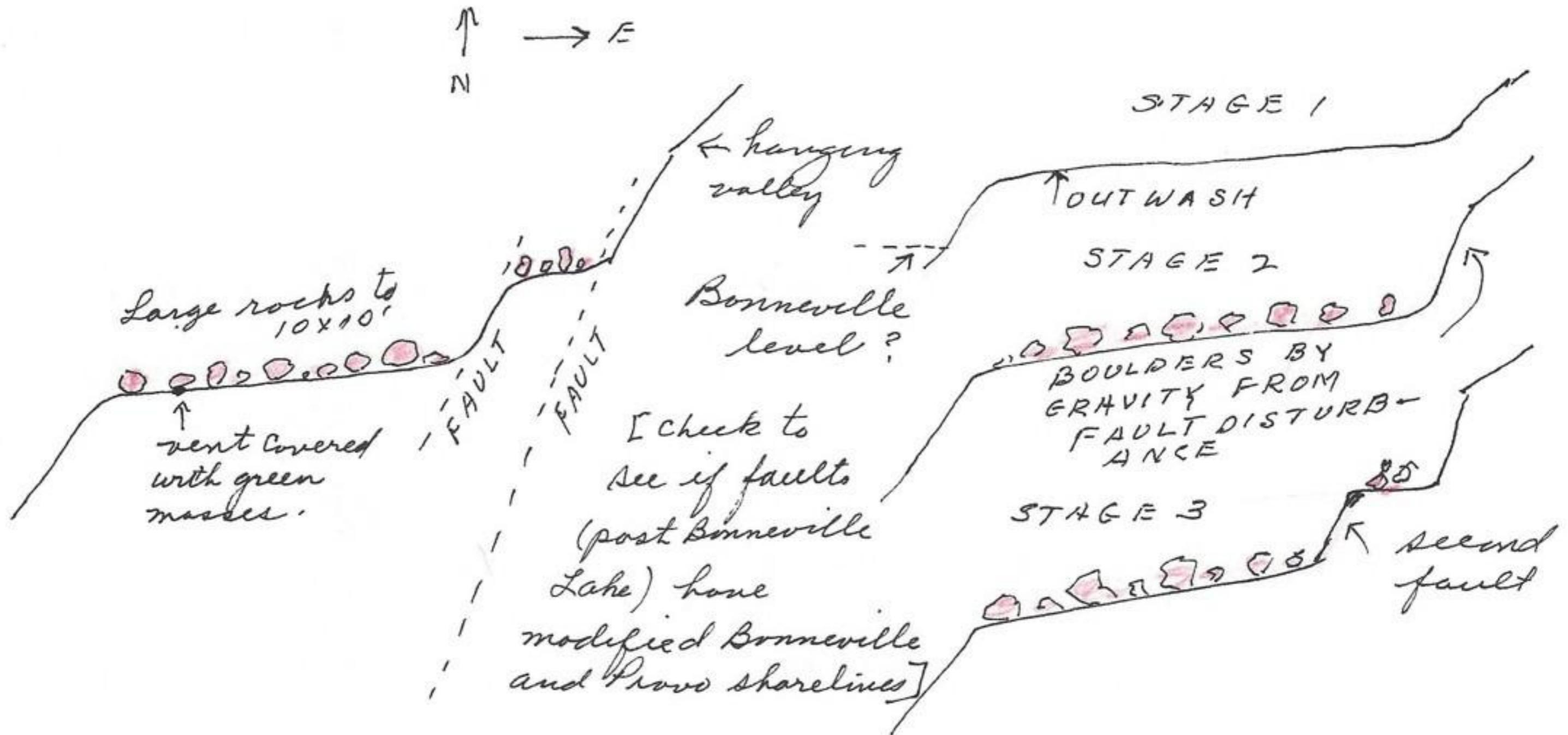
Nov. 17, 1984

Spent this A.M. at Beans Life Science Museum. Wilmer Tanner gone Annette & I a full tour. This P.M. drove to mouth Provo River. Dike on S side river keeps water level of lake at river bank level on N side but on S side old Smith Lake is below water level of present level of lake. On the basis of present level of lake and high waters in my early days, the water today is still below high waters of years ago. Extensive dikes N of mouth of Provo River and along sides of river and especially between mouth of Provo River & airport dikes has destroyed many archaeological areas. If Utah Lake is diked to reduce the size of lake by eliminating Provo Bay & Gashen Bay & other areas, there will be undetermined destruction of many sites associated with lake edge.

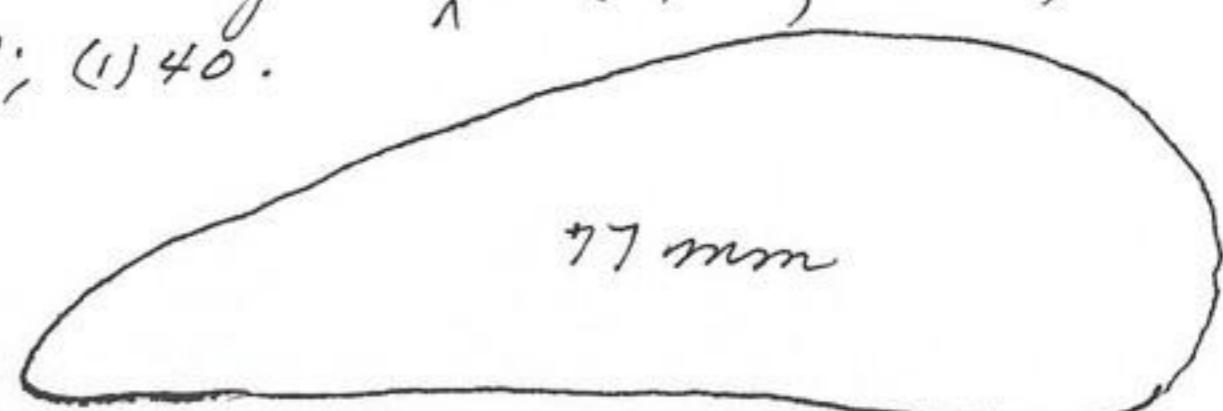
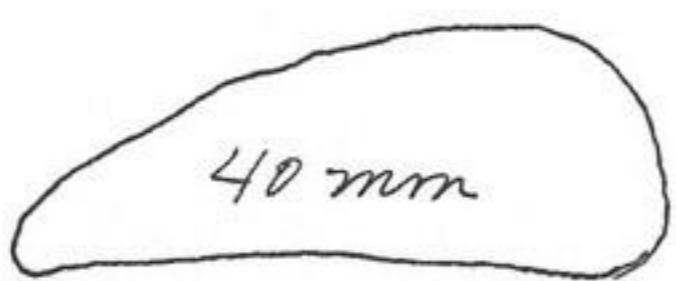
Provo, Utah Co., Utah

Nov. 18, 1984

Checked Bonneville level just E and S of Mary & Dan's home
(half way between Rock Canyon and Y on mt.)



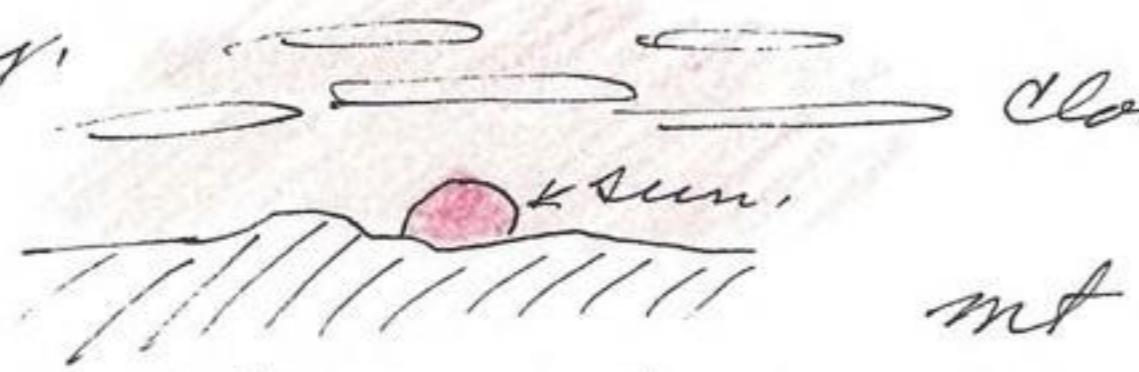
measured deer tracks on lower foothills in same area as above diagrams of outwash area. They are: (2) 77; (3) 72; (4) 66; (3) 64; (6) 60; (2) 57; (1) 50; (1) 49; (1) 47; (1) 40.



841118-98

approx 1 1/2 hrs before sundown. 16 mule deer feed on mountainside in groups of 5-5-3-2-1. One group of 5 were first observed approx 1/2 way up slope. They made rapid progress to base of mountain and fed on herbs along fireside. A hiker + 2 dogs arrived and the 5 deer moved up mt. slope to about original position when first observed. The other 4 groups reacted to the hiker + 2 dogs. 4 motorcycles, 2 joggers, 1 other hiker and 1 car all produced a running escape of the deer on the mt. slope.

At sundown noted the green flash for first time. It was associated with extensive red (prolonged) sky.



Clouds.

at about 3 sec

after the sun disappeared out of sight. After the sun dropped behind the mt the sky directly above in an area 4 x width of sun and 2 diameters above



This greenish area was not a flash but gradually appeared & left to reddish field after 26 seconds.

Photo 841118-1 of sunset after green light had disappeared.

It is interesting that after red leaves the field of vision, the afterimage is green which is the complementary color of red and may be confused with the green spectrum zone or green flash.

Nov. 18, 1984

visited Louise (Celbertson) Colton at 545 S, 1250 E, 285-2214, Pleasant Grove. She is to check with Pats wife for geneology book of the Celberton family.

Nov 19, 1984

Dr. Donald Forsyth took Annette & me to lunch and then to Anthropology museum, 1E, 7th N. The collection was being catalogued and prepared for the computer. One of Forsyths associates, Ted Duffin (Bee family) Box 1653, Provo, Utah, 84603 801-374-1210. Bob Bee will check with Duffin for information on the Scotch-Irish-English Bees

Nov. 20, 1984

Had appointment with Dr. Dr. M. L. Abbott Director Bo. Sci. Science museum

Nov. 21, 1984

Photographed Mary Hedges and other of her European. 841121-99
Provo, Utah Co., Utah and Asiatic artifacts. Mary has
negatives

Nov. 22, 1984

mileage 38285.0 at 2:50 P.M. Lower Provo Canyon
grading for 4 lane highway with massive removal of cliffs
for road bed, many times more than is required for
a 4 lane road. At camp grounds (fishing) the peninsula
is an island separated by 20' of water. This camp is
to be discontinued and developed as a public beach and
facilities for surf boarding. Magpie here. Will keep
record of all birds and mammals enroute. No boats on
lake nor could we see fishermen on bank. Approx 30
gulls and 10 gulls at point where road turns to Midway from
main highway. 606.2 midway turnoff but continuing on
main road toward Heber. Magpie. 211.8 now on Daniels
Canyon road at end of shortcut. At Daniels Pass snow on
ground beyond road approx 1 foot deep. Willow making
comeback and some sage brush returning where valley was
defoliated for growing grass. 326.2 More deer
tracks in Strawberry Valley than in Daniels Canyon. Snow
from road pushed laterally average 2 1/2'. Strawberry
Lake open except in upper parts of shallow bays. Currant
Creek Camp at 250.3 at 5:10 P.M.

Currant Creek, Utah.

Nov. 23, 1984

Left 8:00 A.M. 5 magpies at Currant Creek camp.
85 pinyon jays flew w along cliff on n side canyon,
alighted twice, fed; and then continued w.
350.6 Duchesne Co. 356.8 magpie. 365.8 mule deer
road kill, up to now have seen 5 whitetail white-tailed
rabbits since morning. 370.5 magpie. 379.9 Duchesne
at second Strawberry River bridge E of town. White-tailed
jackrabbit(?) road kill. 2 magpies. 388.8 sparrow hawk.
90% cottonwood trees have lost leaves. 390.1 porcupine road
kill. 393.4 redtail hawk. Flock approx 600 starling (have
not recorded starling or English Sparrows. 3 rabbit road kills
since Duchesne. 396.4 mule deer road kill. Small ponds
open. no snow in valley. 397.4 30 ring-billed gulls in open
pond and 18 in nearby field. 398.6 myton at middle of
big curve. (near Fort). 398.2 Duchesne River. 401.1
5 mallards on pond. 408.3(?) Uintah Co. No wind thru

00
 Uintah Basin. 412.0 valley (river) filled in thick as willow patches. 414.9 Uintah River. Occasional arable nest in cottonwood tree. 417.2 male pheasant (ring-necked). 418.0 redtailed hawk. 432.2 sparrow hawk. From divide to end of valley (433.8) two magpies. 445.3 mule deer road kill. 448.3 mule deer road kill. 449.4 striped skunk road kill. 451.0 Dinosaur National Monument road turnoff, jack rabbit road kill. 451.9 Green River bridge. Left 12.20 temp 46°F outside. 455.9 magpie (some flying as much as 300' above ground, roven. 459.4 mule deer road kill. 50 goldfinches. 469.2 Moffat Co & Colorado State line. 474.1 Rio Blanco Co., now on highway 64. 477.7 magpie. 490.0 white river this side Wrangley. temp 48°F. 498.2 New dam, 2 magpies. Occasional duck in white river but rare. 516.6 marsh hawk in white River valley, raven, magpie. 520.8 mule deer road kill, 2 magpies feeding on the carcass. 522.6 red-tailed hawk, magpie. 526.2 shrike. 528.6 at edge of white River - no ducks. 529.8 Rio Blanco Lake, no ducks, magpie. 532.9 4 magpies. white river greenish. 535.1 2 magpies. 538.6 Red-tailed hawk. 546.5 now highway 13 to Rifle. 546.7 white river, 2 ducks. 548.5 approx. 150 pinyon jays. 550.3 13 mule deer (one a 2 point buck) feeding in cultivated field to W, confiding. Pelage from black to light brown, magpie. 552.3 mule deer road kill. 553.7 mule deer road kill and 1 pinyon jay, magpie. 554.6 mule deer road kill. 557.2 magpie. 560.0 small ^{mule} deer road kill. 563.5 porcupine road kill. 566.1 rabbit road kill. 568.8 County line. 574.0 mule deer, alive, 6 ft from edge of road. Sp. hawk. 575.4 mule deer road kill. 577.2 mule deer road kill. For every road kill identified with a dead deer there was an equal number of blood stained areas and streaks where deer or stock had been killed and I presume that of the two possibilities the kill was a deer. Some places there would be as many as 5 blood stained areas on pavement as if up to 5 deer may have been killed at one moment. 586.1 Rifle, now E on 6. 592.6 magpie. 620.3 magpie W of Glenwood Springs on highway 70. In Glenwood Springs visited Tom Evans and family. Stayed at Colonial Inn (RV section)

Glenwood Springs, Garfield Co., Colorado.

Nov. 24, 1984
 Glenwood Springs and drove on 82 to Carbondale and then return.
 Left, and at 629.0 approx 300 Canada geese in small cr.
 and pasture. 631.2 Carbondale exit, Red-tailed hawk
 and jack rabbit road kill. Returned to Glenwood Springs
 and at the Hot Springs in town on 70 (652.4, 2:55 P.M.) left for
 Denver. 666.8 Eagle Co. line. 668.2 ice along edge
 of river (Colorado) but only about 2" wide as a ice line.
 There have not been ducks on either the Colorado nor the
 Eagle River. Quiet waters in rivers are in ice. 690.1
 ice along river edge is now 6" wide. Continued on 70
 to divide (tunnel) thence to Golden on 70 and finally 6.
 Skiers with bumper to bumper traffic (both lanes) entire
 trip from Vail. One section near Idaho Springs stopped
 for 15 minutes. I understand that this is common for
 week end traffic. Arrived Mary's at 8:00 P.M. Her
 temporary address is. 920 12th St., Golden, Colorado
 80401 303-278-8135 (David Bowes). Mary works
 at R.C.I.

Golden, Jefferson Co., Colorado

Nov. 25, 1984

checked R.D.I. (Recreational Equipment International) in
 Denver.

Denver, Colorado

Nov. 26, 1984

Road, ^{canal on} successor. Camped in parking lot of dental clinic.

Nov. 27, 1984

Left clinic and headed east on 70 for Kansas. 840.0
 865.1 magpie. 865.9 highway 70. east of Denver on Calfat
 rd. 2 inches snow in Golden, 6" snow E of Denver.
 904.2 roughleg hawk. 909.8 roughleg. hawk 910.1
 Elbert Co. 936.2 Lemon. Between Denver and Limon
 at least 15 trailers had slid off road, some jack-knifed.
 932.8 back on 70 E of Limon, 80 horned larks one group.
 935.7 roughleg hawk. 971.6 2 horned larks. 972.8 red-
 tailed hawk! 974.7 exit to Flagler. 978.6 first yucca
 along road and very numerous. 986.2 2 horned larks
 011.8 pheasant ♀! 020.8 horned lark. 49 030.6 Kansas
 at Sherman Co. line 048.6 Goodland.

Goodland, Sherman Co., Kansas

Nov. 28, 1984

stayed in camp in town, only one in camp. \$12.00. Left 7:10 A.M.
temp. 22 deg 039.6 rough-legged hawk. 067.2 Thomas
Co. Snow on ground and drifts on n side road from 1'
to 3'. 072.3 3 raven. 079.6 ferruginous hawk
072.7 approx. 80 horned larks. ^{now flying 70 + N to Colley} 092.3 first meadowlark.
Eng sparrow and starling along way, generally associated
with habitations. 089.6.1 marsh hawk. 101.1 2 mead-
owlarks. 102.9 rough-legged hawk. 103.4 rough-legged
hawk. 104.3 rough-legged hawk. 104.5 2 horned
larks. 105.5 2 horned larks. 105.8 prairie falcon.
on cross piece of utility pole, bird facing sun. Passed
by in car then stopped 2 poles length beyond and
started to walk back. It left at 1 1/2 pole length.
no horned larks in area but when prairie falcon
flew w, about 25 horned larks appeared in 2's and 3's
and they harassed the falcon for 2/10 mi of the falcons
flight! At one point the falcon flew within 1' of the
center of the highway. 107.1 70 horned larks. 110.8 2
horned larks, 2 horned larks. 111.9 3 meadowlarks.
112.3 60 horned larks. 114.7 first sunflower field
(not harvested) and no aggregation of birds associated with
the food source. Junction 128 at 114.5 mileage,
only an occasional field of cattle. 116.7 red-tailed hawk,
117.3 8 horned larks, ponds frozen. 118.7 12 horned
larks. 119.9 red-tailed hawk. 120.5 prairie falcon,
flying 50' above ground and at one point sailed 150',
3 horned larks. There may be longspur in area.
122.2 60 horned larks - 123.6 Oak Creek at 11:20 A.M.
(CST). Good stand of yucca E. of town. 125.8
rough-legged hawk. 129.3 4 horned larks. 131.1
S Solomon River. Less snow here than to the w,
(one has to look for it to find it). 135.4 sparrow hawk.
136.0 2 rough-legged hawks 2 telephone poles apart,
139.4 first evidence of Cretaceous outcrops. 142.0 Antelope
Creek. junction 85-24 143.3 mileage. temp 44°F. 152.6
Sand Creek. 154.2 turnoff to Gillicus site (excavated
by honor students years ago). 154.0 3 horned larks. Good
outcrop Cretaceous to N. Junction 24-18 144.5 mileage.
166.6 sparrow hawk. Several areas good Cretaceous outcrop.

167.5 red-tailed hawk, 2 magpies. 169.3 Rooks Co., 171.0
mule deer ♂ road kill on causeway across river valley.
176.5 marsh hawk, junction 258-24 at 179.7 turned to
dam at Webster Lake. Had lunch on dam (S side) and
then returned to 24. From lunch area or cliffs S of
dam and with Celestron counted 4000 waterfowl
including 1000 mallards (3200), 2 snow geese, 150
ring-billed gulls following Am mergansers, 18 Canada geese
175 Barrow golden-eyed ducks, 1 cormorant, 30 buffle-
head ducks, 18 24 Am mergansers. The buffleheads
were separated from the main mass or raft of waterfowl.
Did not notice early duck like pintail, gadwall, blue-winged
teal etc. One group 600 mallards left one section of
raft and flew to the opposite side of raft and alighted.
Left and at 24 highway on N side dam at 185.4 mileage
at 3:15 P.M. 188.0 sparrow hawk, 192.7 striped-skunk
road kill. Stockton at 24-183 = 193.35 temp 52°F.
Main street in red brick and in excellent shape. 198.1
red-tailed hawk, 206.1 Osborn Co. 209.2 red-tailed hawk,
212.6 red-tailed hawk, 222.7 shrike (loggerhead)
223.4 striped skunk road kill, meadowlark. 228.1
ponds open. now N to dawns (all 24 from Cally), 229.6
now E out of dawns (24). 234.7 sparrow hawk. 234.7
N Solomon River. Only little water in river, junction 181-24
at 237.6. 242.1 Mitchel Co. at 4:06 243.0 Oak
Creek. 244.0 rough-legged hawk, 245.3 red-tailed
hawk. 246.2 red-tailed hawk, 248.4 Granite Creek.
248.7 red-tailed hawk. Arrived Waconda ^{Lake at}, 49252.5
Camped SE of Marma in fuel hook-up area on peninsula.
Only one in campground. With Celestron observed
raft of water fowl parallel ^(210 w) ^{and quees} to dam. This raft consisted
of Am. mergansers and mallards. Will make quantitative check
tomorrow morning. Just before the sun touched the horizon the
mallards started to fly ^{up and} over the dam. Between the time the sun
touched the horizon and the time the sun disappeared there were
8000 mallards that had passed E over dam. This is one of the
heaviest dispersal of ducks from a lake that I have seen.
Between this time and 7:30 P.M. there were approx 2000
mallards that left the lake. After 7:30 P.M. the lights had
faded to point where it was difficult to count the mallards.
It appeared that the movement to night feeding grounds ended

at this time. While the mallards were dispersing a bald eagle (adult) flew S to N along W side of dam but it did not interfere with the movement or direction of flight of the mallards. The first ducks to leave were those in middle of lake, then those from marshes to W or upper (W) end of lake and then those in bays and finally those nearest the dam. A red-tailed hawk sat in top of a tree on peninsula 5 of camp at the time of the exodus of mallards from the lake, moon half stage and in meridian, wading.

Waconda Lake State Park, Mitchell Co., Kansas

Nov. 29, 1984

Sun-up. approx. 7:00 A.M. At 6:40 A.M. mallards were already moving back to lake. They alighted in middle or near shore and then swim into bays and ^{at least} coves. At 7:00 A.M. there were 8 bald eagles, ¹ 3 of them immatures and 2 adults. They occupied the area just W of dam along its full length where they circled and sailed on updraft winds from the lake (W winds). At 7:30 they moved W to upper end of lake. At one time one of the eagles flew over a raft of 75,000 american mergansers. The mergansers alighted $\frac{5}{10}$ mile W of their usual position of $\frac{2}{10}$ mile W of dam. When they regrouped they formed a compact group which occupied a fraction of the soft size before they were first displaced by the eagle. These mergansers were moved 9 times in the general area of the middle of the lake by eagles flying low over them. The eagle action was not aggressive but I am sure they were looking for injured birds in the raft. As these mergansers moved from one position to another, 600 ring-billed gulls and 30 Barrow golden eyes followed both species profiting from the feeding activity of the mergansers. One group of 22 bufflehead ducks did group independently from merganser activity. Practically all ducks were mallards and winter ducks except one group of 4 spoonbill ducks. One red-tailed hawk and one prairie falcon perched in trees at S end of peninsula 5 of camp. (4 point (one side))

Left camp and 2 white-tailed deer ♂, ♀ ran across open fields to highway 24 where they stopped on macadam for 1 minute before continuing N. The buck led the

dove across the highway. No other kinds of birds in area except 1 starling and 6 Eng. sparrows. One group 180 and 1 of about 60 Canada geese flew over lake at about 800' high. At one time, the American mergansers left the lake from a compact raft all at one time and the water seemed to follow them up as high as 6'. Ordinarily mergansers leave a raft in smaller numbers so that flight lines are not crowded when air borne.

Red-tailed hawk at Glen Elder. 269.3 Plum Creek on 24 highway. 271.0 Coyote road kill, red-tailed hawk. 272.7 great horned owl road kill. 276.4 red-tailed hawk, 277.2 Cloud Co. 282.0 marsh hawk. Most ponds 25% open. 286.2 red-tailed hawk road kill. 309.1 Clay Co. 310.7 rough-legged hawk. 316.9 red-tailed hawk (38 MPH) 319.6 Republican River, green algae on sand bars, under water, water low. 321.8 Clay Center and railroad underpass. at 11:45 A.M. 327.7 shrike. 321.3 gradual increase in junipers, Riley Co. pheasant rd. kill, 332.6 red-tailed hawk. 333.6 red-tailed hawk. 334.4 red-tailed hawk. 336.5 sparrow hawk. 339.2 red-tailed hawk. 342.8 rough-legged hawk. 343.6 junction 77. Winter wheat across state become more advanced as one travels east. Junipers increase up to at least Manhattan and moreso on N side of valley than S side (Flint Hills). 364.7 Kansas River, now to 70 highway at 1:45 P.M. 367.2 opossum road kill, crow. 369.0 red-tailed hawk. 370.1 red-tailed hawk. 372.0 red-tailed hawk. 372.3 Geary Co. 373.1 now on 70 E. at 1:50 P.M. 375.2 Riley Co., striped skunk road kill. 375.7 red-tailed hawk. 377.6 opossum road kill. 379.4 red-tailed hawk. . . . 381.3 Wabaunsee Co. 382.0 red-tailed hawk. 385.1 red-tailed hawk. 386.7 now S on 99^S, for Wabaunsee Lake, at 2:15 P.M. 390.9 Alma. 399.9 now on 4 E. 401.8 yellow-shafted flicker. 404.6 8 slate-colored juncos. 405.0 dam at Wabaunsee Lake. Drove down to edge of lake, no ducks. 406.7 back on 4 going E. 409.2 sparrow hawk. 410.9 middle Eskridge. 416.1 sparrow hawk. 421.1 Keene. 421.9 2 meadowlarks. 425.3 red-tailed hawk. 426.6 Shawnee Co. 429.2 red-tailed hawk. 431.2 first osage orange. 431.8 exit 3 on 470. 443.6 red-tailed hawk, on 470 virtually

in city. 449.0 Shawnee Lake turnoff (S end) on Steel Rd., 4:00 P.M. 449.3 opossum road kill and striped skunk road kill. 452.3 striped skunk road kill, 2 red-bellied woodpeckers. 456.2 Douglas Co., 460.2 red-tailed hawk. 465.3 opossum road kill. 49470.8 home, 402 Yorkshire Dr., Lawrence, Kansas at 5:00 P.M. or 6919.0 miles for total trip.

~~402 Yorkshire Dr., Lawrence, Douglas Co., Kansas~~
Dec. 25, 1984

Cooper hawk sailed into yard from the S 4' above ground, wheeled up into pine tree and remained 30" then left. It flew thru area that ordinarily is used by winter feeding birds. It was unsuccessful in capturing the 3 English sparrows in yard.

Dec. 26, 1984

The following USGS topo. maps cover the San Juan Islands:

Anacortes, Washington 1:62500
Deception Pass, Wash 1:62500
Richardson, Wash. 1:62500
Orcas Island, Wash. 1:62500
Waldron Island, Wash. 1:62500
False Bay, Wash. 1:24000
Friday Harbor, Wash 1:2400

Two other maps 1: 00000: (large)

Port Angeles, Wash and British Columbia (Sequim area)
Roche Harbor, Wash, B.C. (Island Along Vancouver Island
w of San Juan Islands)

Dec 27, 1984

Collected two *Castor canadensis* skulls from the former Dr. Byron Walters property at 700'N + 2100'E of SW ^{corner} sec 16, R18E, T10S Jefferson co., Kansas. (see journals for information about pond where these specimens were taken)

SKU 841227-1 *Castor canadensis*. no measurements, skull only.
SKU 841227-2 " " " " "

The hides had been removed from both of these specimens.

841227-107

ADDENDA - MISC. NOTES

1984

[see next page]

CATALOGUE -SKU 520506-1
620114-1MAMMALS (JWB)

621231-82

841227-108
SKU = skull only
SKI = skin only
MEAS = measurements only.

630103-88

630108-23

620203-1

621231-90

630103-94

630108-26

620414-5

621231-102

630103-95

630108-28

620414-6

630101-1

630103-101

630108-30

620512-1

630101-13

630103-106

630108-31

620512-2

630101-18

630103-107

630108-34

620512-3

630101-29

630103-108

630108-35

620512-4

SKU 630101-49

630103-109

630108-36

621223-22

630101-67

630103-112

630108-38

621223-31

630103-3

630103-117

630108-41

621224-5

630103-5

630103-120

630108-44

621224-9

630103-6

630103-121

630108-45

621224-16

630103-12

630106-1

630108-46

621224-23

630103-15

630106-9

630108-47

621224-30

630103-20

630106-10

630108-50

621224-31

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630106-13

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630108-63

621224-35

630103-24

630106-17

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621224-44

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630106-32

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621224-46

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630106-52

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630103-34

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630108-100

621224-61

630103-40

630106-58

630110-1

621224-62

630103-41

630106-59

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680823-6	690812-1	700806-5	710426-3
680823-7	690812-2	SKU 700806-6	710430-4
680823-8	690812-3	700806-7	710430-7

	710501-2		720801-7
710501-1	SKU 710729-3	SKU 710731-6	720801-8
710501-4	710729-8	710731-7	720801-9
710501-5	710729-9	710731-8	720802-1
710501-6	710729-10	710731-11	720802-2
710501-7	710729-11	710802-1	720802-3
SKU 710501-10	710729-12	710802-2	720802-4
710502-4	710729-13	710802-3	720802-5
ski 710502-5	710729-14	710802-4	720802-6
710503-1	710729-15	710803-2	SKU 720802-7
710503-2	710729-16	710803-3	720802-8
710503-3	710729-17	710803-4	720802-9
710516-1	710729-18	710803-5	720802-10
710516-2	710730-1	710803-6	720904-1
710516-3	710730-2	710803-7	720929-3
710516-5	710730-3	710803-8	720929-4
710516-8	710730-4	710803-9	720929-7
710516-9	710730-6	710803-10	721030-1
710516-10	SKU 710730-7	710803-11	SKU 730319-1
710517-1	710730-8	710803-12	SKU 730319-4
ski 710517-2	SKU 710730-9	710803-13	730319-6
ski 710517-3	SKU 710730-10	710803-14	730319-7
710520-1	710730-11	710803-15	730321-3
710520-2	SKU 710730-12	710804-1	ski 730322-1
SKU 710520-4	710730-13	710804-2	730322-2
710520-5	710730-14	SKU 710804-3	ski 730323-1
710520-6	710730-15	710804-4	730407-1
710521-1	710730-16	710806-1	730407-2
710521-2	710730-17	SKU 710930-8	730407-3
710521-3	710730-19	720506-1	730407-13
710523-1	710730-20	SKU 720506-2	730407-27
710524-1	710730-21	SKU 720506-29	SKU 730407-31
710526-1	710730-22	SKU 720506-45	SKU 730407-32
710526-2	710730-23	SKU 720506-51	SKU 730407-33
710526-3	710730-24	SKU 720722-1	SKU 730407-36
710526-4	710730-25	720801-1	SKU 730407-38
710526-5	710731-1	SKU 720801-2	730609-1
710526-6	710731-2	720801-3	730724-1
710526-7	710731-3	720801-4	730724-2
710526-8	710731-4	720801-5	SKU 730728-20
710729-1	710731-5	720801-6	730730-1

	SKU 730812-23	SKU 740314-17	740330-6
730730-2	SKU 730812-24	SKU 740314-18	740330-7
730730-3	SKU 730812-25	SKU 740314-19	740330-8
730730-4	SKU 730812-26	SKU 740314-20	740331-1
730730-5	SKU 730812-27	740316-1	740331-2
730731-1	SKU 730812-28	740316-2	740331-3
730731-2	SKU 730812-29	740316-3	740331-4
730802-2	SKU 730812-30	740316-4	740331-5
730803-1	SKU 730812-31	740316-5	740331-6
SKU 730803-2	SKU 730812-32	740316-6	SKU 740331-8
730803-3	SKU 730812-33	740316-7	SKU 740331-9
730803-4	SKU 740302-1	740316-8	740331-10
730803-5	740302-2	SKU 740316-9	740331-11
730803-6	740302-3	SKU 740316-10	740331-12
730803-13	740302-4	SKU 740316-11	740331-13
730810-1	740302-5	SKU 740316-12	740331-14
730810-2	740302-6	SKU 740316-13	740331-15
730810-3	740302-7	SKU 740316-14	740331-16
730810-6	740302-8	SKU 740316-16	SKU 740331-27
730811-1	740302-9	SKU 740316-17	SKU 740331-28
730811-2	740302-10	SKU 740316-19	SKU 740331-29
730812-1	SKU 740302-11a	SKU 740316-23	SKU 740331-30
730812-2	SKU 740302-22	740317-1	SKU 740331-31
730812-3	SKU 740302-23	740317-2	SKU 740331-32
730812-4	SKU 740302-24	740317-3	SKU 740331-33
730812-5	SKU 740302-25	740317-4	SKU 740331-34
730812-6	SKU 740302-26	740317-5	SKU 740331-36
SKU 730812-7	SKU 740314-1	740317-6	SKU 740331-37
SKU 730812-8	SKU 740314-2	740317-7	SKU 740331-42
SKU 730812-9	SKU 740314-3	740317-8	740408-1
SKU 730812-10	SKU 740314-4	740317-9	740408-2
SKU 730812-12	SKU 740314-5	740317-10	740408-5
SKU 730812-13	SKU 740314-6	740317-11	740408-6
730812-15	SKU 740314-7	740317-12	740408-7
730812-16	SKU 740314-8	740317-13	740408-8
SKU 730812-17	SKU 740314-9	740317-14	740408-10
730812-18	SKU 740314-11	740330-1	740408-11
730812-19	SKU 740314-12	740330-2	740510-1
SKU 730812-20	SKU 740314-13	740330-3	740706-1
SKU 730812-21	SKU 740314-14	SKU 740330-4	740717-1
SKU 730812-22	SKU 740314-15	SKU 740330-5	740717-2

740717-3	SKU 740802-12	740806-3	740813-11
740717-4	SKU 740802-13	740806-4	740813-12
740717-5	SKU 740802-14	740806-5	740813-13
740717-6	SKU 740802-15	740806-6	740813-14
740717-7	SKU 740802-16	740806-7	740813-15
740717-8	SKU 740802-17	740806-8	740813-16
740717-11	SKU 740802-18	740806-9	740813-17
740720-1	SKU 740802-19	740806-10	740813-18
740721-2	SKU 740802-20	740806-11	740813-19
740721-3	740803-1	740806-12	740921-1
740721-4	740803-2	SKU 740806-13	SKU 740921-2
740731-1	SKU 740803-3	SKU 740806-14	740921-3
740731-2	740803-4	SKU 740806-15	740921-4
740731-3	740803-5	SKU 740806-16	740921-5
740731-4	740803-6	SKU 740806-17	SKU 740921-6
740731-5	740803-7	SKU 740806-18	SKU 740921-7
740731-6	740803-8	SKU 740806-19	SKU 740921-8
740731-7	740803-9	SKU 740806-20	740921-9
740731-8	740803-10	SKU 740806-21	SKU 740921-10
740731-9	SKU 740803-11	SKU 740806-22	750126-1
740801-2	SKU 740803-12	SKU 740806-23	750126-2
740801-3	SKU 740803-13	SKU 740806-24	SKU 750126-16
SKU 740801-4	SKU 740803-14	SKU 740806-25	SKU 750126-19
740801-5	SKU 740803-15	SKU 740806-26	SKU 750126-27
740801-6	740803-16	SKU 740806-27	SKU 750126-29
740801-7	740803-17	SKU 740806-28	750126-30
SKU 740801-8	740803-18	SKU 740806-29	SKU 750126-34
SKU 740801-9	SKU 740803-19	740806-30	SKU 750126-37
SKU 740801-13	SKU 740803-20	SKU 740806-37	750302-1
740801-15	SKU 740803-21	740807-1	750302-2
740802-1	SKU 740803-22	740807-2	750302-3
740802-2	740804-1	740813-1	750302-4
740802-3	740804-2	740813-2	750302-5
740802-4	740804-3	740813-3	750302-6
740802-5	740804-4	740813-4	SKU 750302-7
740802-6	740804-5	740813-5	750302-8
SKU 740802-7	740805-1	740813-6	750302-9
SKU 740802-8	740805-2	740813-7	750302-10
SKU 740802-9	SKU 740805-3	740813-8	750302-11
SKU 740802-10	740806-1	740813-9	750302-12
SKU 740802-11	740806-2	740813-10	750302-13

SKU 750302-14	SKU 750726-11 750716-1	750718-16	750724-1
SKU 750302-15	750716-2	750718-18	750724-2
SKU 750302-16	750716-3	750718-19	750724-3
SKU 750302-17	750716-4	SKU 750718-20	750724-4
SKU 750302-18	750716-5	750719-1	750724-5
SKU 750302-21	750716-6	750719-2	750724-6
SKU 750308-3	750716-7	750719-3	750724-7
SKU 750308-4	SKU 750716-8	750719-4	750724-8
SKU 750309-1	SKU 750716-9	750719-5	750724-9
SKU 750309-2	750717-1	SKU 750719-11	750724-10
SKU 750309-3	750717-2	SKU 750719-17	750724-11
SKU 750309-4	750717-3	750720-1	750724-12
SKU 750309-5	750717-4	750720-2	750724-13
SKU 750309-6	750717-5	750720-3	750724-14
SKU 750309-7	750717-6	750721-1	750724-15
SKU 750309-12	750717-7	750721-2	750724-16
SKU 750309-29	750717-8	750721-3	750724-17
SKU 750309-32	750717-9	750721-4	SKU 750724-18
SKU 750309-39	750717-10	750721-5	SKU 750724-19
750321-1	750717-11	750721-6	SKU 750724-21
SKU 750323-1	750717-12	750721-7	750724-22
SKU 750323-2	750717-13	750721-8	750724-23
SKU 750323-10	750717-14	750721-9	750724-24
SKU 750323-11	750717-15	750721-10	750724-25
SKU 770323-12	750717-16	750721-11	750724-26
SKU 750323-13	SKU 750717-17	750721-12	750724-27
SKU 750323-19	750717-18	750721-13	750725-1
SKU 750323-20	750717-19	750721-14	750726-1
SKU 750323-21	750717-20	750721-15	750727-1
SKU 750323-22	750718-1	750722-1	750727-2
SKU 750323-29	750718-2	750722-2	750727-3
SKU 750323-37	750718-3	750722-3	750727-4
SKU 750323-38	750718-4	750722-4	750728-1
SKU 750323-39	750718-5	750722-5	750728-2
SKU 750323-40	750718-6	750722-6	750728-3
SKU 750323-41	750718-7	750722-7	750728-4
SKU 750323-42	750718-8	750722-8	750729-1
SKU 750323-43	750718-9	750722-10	750729-2
750422-1	750718-10	750723-1	SKU 750729-3
SKU 770426-1	750718-11	750723-2	750729-4
SKU 750426-2	750718-13-	750723-22	750729-5
SKU 750426-3			
SKU 750426-8			

SKI 750729-6	750811-2		
750729-7	750811-3	770306-5	SKI 780719-7
750729-8	750811-4	SKI 770315-9	780719-8
750729-9	750811-5	SKI 770320-3	780719-9
750729-10	SKU 750811-6	SKI 770320-4	780719-10
750729-11	750811-7	SKI 770320-5	780719-11
750729-12	750811-8	770621-1	780719-12
750729-13	SKU 750811-9	770621-2	780719-13
750729-14	750811-10	770621-3	780719-14
750729-15	750811-11	770628-1	780719-15
SKI 750729-16	750811-12	770628-2	780719-16
SKU 750729-17	750811-13	770628-3	780720-1
SKU 750729-19	750811-14	770804-1	780720-2
SKU 750729-21	750811-15	770804-2	780720-3
SKU 750729-24	750811-16	770804-3	780720-4
SKU 750729-31	750811-17	770805-1	780720-5
SKU 750729-35	750811-18	770820-1	780720-6
SKU 750729-37	750811-19	770820-2	780720-7
750729-51	750812-1	770820-3	780720-8
750729-52	750812-2	770820-4	780720-9
750729-53	750812-3	770820-5	780726-6
750730-1	750812-4	770820-6	780729-1
750730-2	SKU 760227-1	770820-7	780729-2
750730-3	760314-33	770820-8	780730-1
750730-4	760315-1	770820-9	780730-2
750730-5	760315-2	770820-10	780730-3
750730-6	760315-3	770820-11	780730-4
SKU 750730-10	760315-4	770820-12	780730-5
SKU 750730-15	760315-5	770820-13	780730-6
750731-1	SKU 760315-9	770820-14	780730-7
750731-3	SKU 760325-74	780718-1	780730-11
750731-4	SKU 760326-1	780718-2	780809-1
750810-1	760527-1	780718-3	780809-2
750810-2	760527-2	780718-4	780809-3
750810-3	770217-6	780718-5	780810-1
750810-4	770217-10	780719-1	780810-2
750810-5	770217-11	780719-2	780810-3
750810-6	770217-12	780719-3	780810-4
750810-7	770306-2	780719-4	780811-1
SKI 750810-8	770306-3	780719-5	780811-2
750811-1	770306-4	780719-6	780811-3

780811-4	790725-18	790801-44	800801-8
780811-5	790725-19	790802-1	800801-9
SKU 780811-6	790725-20	790802-2	SKU 800801-12
SKU 780811-7	790725-21	790802-3	800801-24
SKU 780811-8	790725-22	790802-4	800802-1
SKU 780811-9	790726-1	790802-5	800802-2
780812-1	790726-2	790802-6	800802-6
780812-2	790726-3	790802-7	800802-7
780812-3	790727-1	790802-8	800802-8
780814-1	790727-2	790802-9	800802-9
780814-2	790727-3	790802-10	800802-10
SKU 780814-3	790727-4	790802-11	800802-11
SKU 780814-4	SKU 790727-5	790802-12	800802-12
SKU 780814-5	790727-6	790802-13	800802-13
SKU 780814-6	790727-7	790802-14	800802-15
SKU 780814-7	790727-8	790802-15	800802-21
780814-8	790801-1	790802-16	800804-1
780814-9	790801-11	790802-17	800804-2
790723-1	790801-12	SKU 790802-18	800804-3
790723-2	790801-13	790802-19	800804-4
790723-3	790801-14	SKU 790802-20	800804-5
790723-4	790801-15	SKU 790802-21	800804-6
790724-1	790801-16	790803-1	800804-7
790724-2	790801-17	790803-2	800804-8
790724-3	790801-18	790803-3	800804-9
SKU 790724-6	790801-19	790803-4	800804-10
790724-7	790801-20	790803-5	800804-11
790724-8	790801-21	790814-1	800804-12
790725-1	790801-22	790814-12	800804-13
790725-2	790801-32	790816-1	SKU 800804-16
790725-7	790801-33	790816-2	800804-17
790725-8	790801-34	790816-3	SKU 800805-2
790725-9	790801-35	790816-4	800805-3
790725-10	790801-36	790816-5	800816-1
790725-11	790801-37	800801-1	800816-2
790725-12	790801-38	800801-2	800816-3
790725-13	790801-39	800801-3	SKU 810504-1
790725-14	790801-40	800801-4	SKU 810506-1
790725-15	790801-41	800801-5	SKU 810506-2
790725-16	790801-42	800801-6	SKU 810507-1
790725-17	790801-43	800801-7	841007-1

841007-2
841007-3
841007-4
841007-5
841007-6
841007-8
841007-8
841007-9
841007-10
841007-11
841007-12
841007-13
841007-14
841007-15
841007-16
841008-1
841008-2
841008-3
841008-4
841008-5
841008-6
841008-7
841227-1
841227-2

1662 specimens (total)
1263 skins and skulls
363 skull only
37 skin only.

CATALOGUE - BIRDS

531008-1	540605-10	620415-1	631006-6
540511-1	540605-11	621019-1	631007-1
540516-1	550507-1	621103-1	631007-2
540516-2	601127-1	621103-2	631013-1
540516-3	610122-3	621110-1	631017-1
540516-4	610122-6	621202-1	631019-2
540516-5	610122-7	621202-2	631019-3
540516-6	610129-1	621202-5	631020-3
540516-7	610129-2	621209-1	631026-1
540516-8	610408-1	621209-2	631026-2
540519-1	610408-2	621209-3	631102-1
540522-1	610409-1	621209-4	631103-1
540522-3	620323-1	621209-5	631109-1
540522-4	620323-4	621215-1	631123-6
540522-5	620323-5	621215-2	631124-1
540522-6	620323-6	621215-4	631124-2
540522-7	620323-7	621215-14	631124-3
540522-8	620323-8	621225-1	631124-4
540522-9	620329-1	621225-2	640522-2
540522-10	620329-3	621225-7	640626-3
540522-11	620329-5	621226-1	650515-1
540522-12	620329-6	621226-1a	650515-2
540522-13	620401-1	621226-2	650715-3
540522-14	620401-2	630921-1	650516-1
540522-15	620401-3	630921-2	650516-2
540522-16	620402-1	630931-4	650516-3
540522-17	620402-3	630922-1	650516-4
540528-1	620402-6	630922-2	650522-1
540529-1	620403-1	630922-10	650522-2
540529-2	620403-2	630922-12	650523-1
540529-3	620403-3	630929-1	650523-2
540605-1	620403-4	630929-2	650523-3
540605-2	620403-6	630929-3	650523-5
540605-3	620404-1	630929-4	650524-1
540605-4	620404-2	631003-1	650524-2
540605-5	620404-9	631006-1	650527-1
540605-6	620404-10	631006-2	650527-2
540605-7	620405-4	631006-3	650527-3
540605-8	620414-1	631006-4	650527-4
540605-9	620414-2	631006-5	650529-2

650529-4

650530-1

661202-4

670226-1

CATALOGUE.

BIRD EGGS

750501-2

750523-5

790507-7

790517-1

790518-1

790518-2

790521-1

790521-2

790521-3

790522-1

790522-2

790522-4

790523-2

790523-3

CATALOGUE - HERPS (+ ONE FISH)

590214-13	590624-6	600409-16	600421-6
590607-1	590624-7	600409-19	600421-7
590607-2	590624-8	600409-20	600421-8
590607-3	590624-8a (?)	600409-21	600421-9
590607-4	590624-9	600409-22	600421-10
590607-6	590624-10	600409-24	600423-1
590607-9	590624-11	600409-25	600423-2
590607-13	590624-13	600409-26	600423-3
590607-14	590624-14	600409-27	600423-4
590607-16	590624-15	600409-28	600424-11
590607-17	590624-16	600409-29	600429-1
590608-1	590624-17	600409-30	600430-1
590608-2	590624-18	600409-31	600430-2
590613-1	590624-19	600409-32	600430-3
590613-3	590624-20	600409-34	600430-4
590613-4	590624-22	600409-35	600430-5
590613-5	590704-1	600409-36	600430-6
590613-6	590704-2	600409-37	600430-7
590613-7	590704-3	600409-38	600430-8
590613-8	590704-4	600409-39	600430-9
590613-9	590707-15	600409-40	600430-10
590615-7	590708-1	600409-41	600430-11
590615-8	590708-2	600409-42	600430-12
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CATALOGUE

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CATALOGUE

UNIONID

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770318-7	

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[see 680423-27 for additional
unionids]

In addition to the above catalogue numbers in the addendum there are:
 lichens and mosses from Labrador.
 plants from Kansas.
 Danish (300 years old?) artifacts from Virgin Islands
 mollusca (general) no data
 reprints and books
 mollusca from Virgin Islands (Lameshur)
 1 standard specimen case.
 mollusca (various localities)
 Journals (J.W.Bee.) 1927-1984