

JOURNAL 1991

JAMES W. BEE

1991

JOURNAL J.W.B.

Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.

Jan 1, 1991

Day warm and sky partly cloudy.

Jan 2, 1991

Water quiet and without wave action entering cove, the debris left straight out from cove of ebb flow. 46 American Crows at feeding at one time.

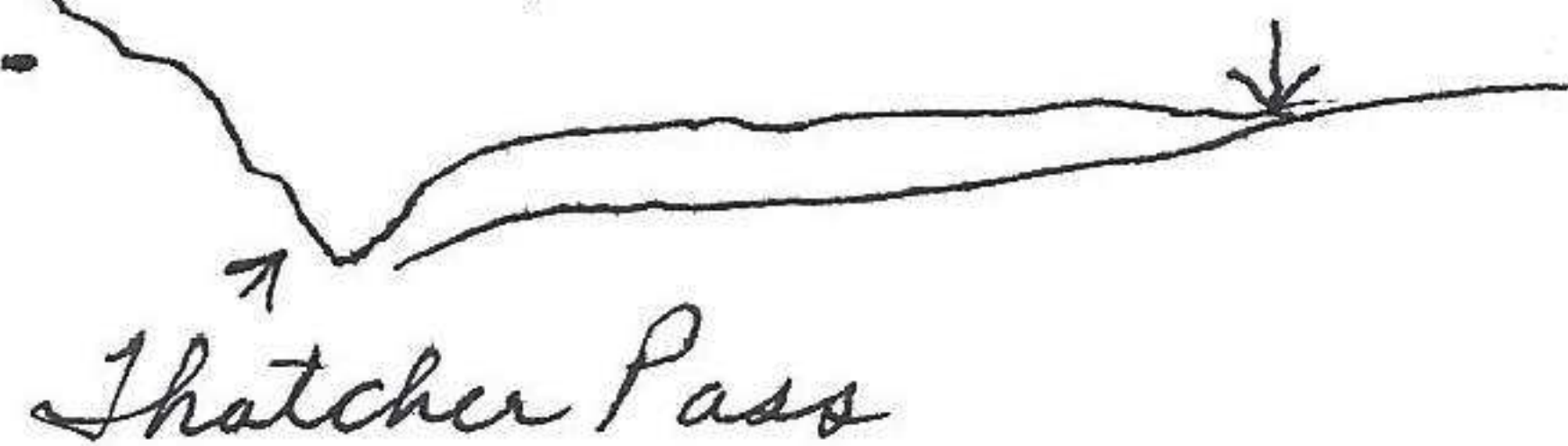
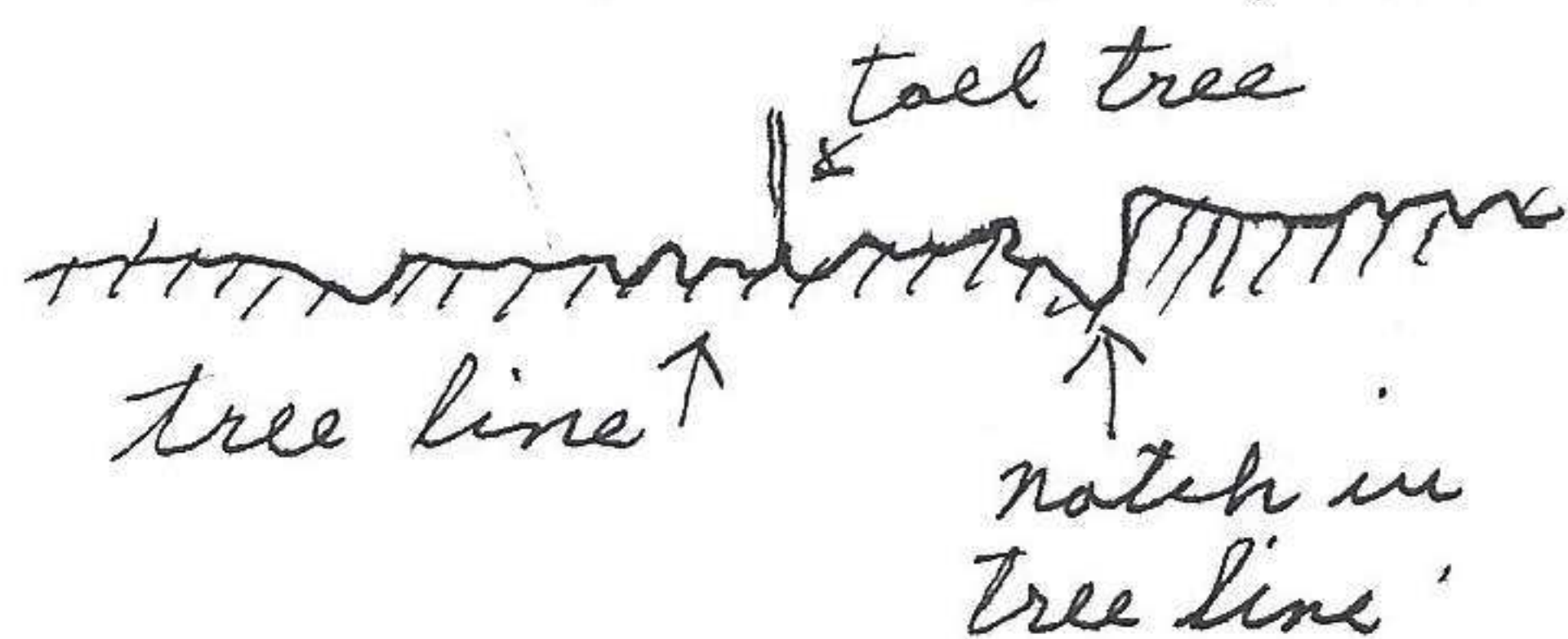
Jan 3, 1991.

48 American crows at feeding and in yard. Wind velocity sufficient to drive a crow backwards for 80 feet. Certain speeds of wind are used by birds for pleasure.

Last shore ice left today. At road culvert water flow 1 quart per 60 seconds. Storm winds this winter reached 100 mi per hour. No take on Thistle seed so far this winter. More trees down this winter than 2 years ago.

Jan 4, 1991

7:36 A.M. bald eagle flew N 60' above water and 20' from shore in front (SE) Bee House. 7:42 A.M. 2 ad. bald eagles flew S in same pattern. Sunrise 8:09:20 at solstice.



7:41 26 American crows at feeder at Bee House. Sky clear except 3 to 5 low on horizon

10:42 To Friday Harbor via Nyack ferry. no clouds to E. At Lopez Island ferry terminal observed approx 600 mew gulls forming a raft of 4/10 mi. in middle of north Lopez Sound N of terminal. On pilling at terminal 9 glaucous-winged gulls and 2 mew gulls. 1 pelagic cormorant and 1 common merganser in sound at terminal. Left Lopez Island. 10:49 A.M. NE of Shaw Island are 21 patches of ice on shoreline wall approx 4 sq feet each. From here to next point W are 9 patches of ice from 1 sq. feet to 1 sq. yards. In sound are

1 double-crested cormorant and one marbled murrelet. 10:54
 next point w on Shaw Island: marbled murrelet, glaucous-winged
 gull, red-necked grebe, bald eagle on Oreas Island; common murre,
 glaucous-winged gull. Shaw ferry terminal 10:59 AM. Left Shaw
 10:02 AM. Glaucous-winged gull, 2 single mew gulls, pelagic
 cormorant 11:09 Oreas. 6 pelagic cormorant, 18 mew gulls,
 18 glaucous winged gull, at terminal. Rock pigeon here, 2 at Shaw
 12 American crows. Left Oreas 11:22 A.M. 2 individual pigeon
 guillemots, marbled murrelet, glaucous-winged gull, common merganser,
 pelagic cormorant. First reptile 190 mew gulls, 16 marbled
 murrelets, 2 pelagic cormorants, marbled murrelet. 11:32 A.M.
 Bell Island. Belted kingfisher. 11:35 House point south side channel,
 pelagic cormorant, Harlequin duck, pelagic cormorant, glaucous-
 winged gull, 3 marbled murrelet, 1 marbled murrelet, pelagic cormorant,
 8 common merganser. 11:43 A.M. at green no. 3 marker pelagic
 cormorant. 8 smoke columns so far. 11:44 A.M. no. 1 green
 marker. 11:56 double-crested cormorant. 11:58 tide gauge, red-
 necked grebe, 3 glaucous-winged gulls, 1 common loon, 4
 red-necked grebes, western grebe. 12:04 P.M. Friday Harbor. Left
 Friday Harbor 4:09 P.M. 4:14 P.M. N end Brown Island, no
 clouds, pelagic cormorants. 4:21 P.M. Turn Island, 2 mew gulls,
 1 glaucous-winged gulls. 4:23 green beam right. 2 double-crested
 cormorant. 4:33 P.M. Flat Point, 2 glaucous-winged gulls. 4:36
 5 pelagic cormorants on floating log. 4:47 P.M. Lopez Island
 ferry terminal.

Jan 5, 1991 Steve Kaufman
 Chris, Steve, Matthew and Samuel and Mary Pauline Bee arrived at
 Lopez Island this evening. At Swift Bay 1 group 32 mallards
 all along shoreline.

Jan. 6, 1991
 measured water flow at Culvert into Spring Cove on Lopez Island
 at 1 gal. per second.

Jan. 7, 1991
 Snowed 2 3/4 inches snow last night, water content of snow 200 ml.
 to 500 ml of snow or 40% water or 1.09 inches of H₂O per 2 3/4" water
 Steve and Mary presented to us a snowy owl photo (my number 910107-1
 taken at Camden Bay, N Alaska in spring of 1981 by Steve.

Jan 8, 1991

To Chris' with Mary Pauline and Steve. 2 redtail hawks in Skagit Flats.

Jan 9, 1991

Took Mary Pauline and Steve to Seatac Airport for their trip to Anchorage and Homer, Alaska. Returned to Lopez Island.

Jan 10, 1991

An adult bald eagle flew S at 7:35 A.M. past Bee House. a spike mule deer still with right antler.

Jan 11, 1991

adult bald eagle flew past Bee House at 7:30 P.M.

Jan 12, 1991

adult bald eagle flew S past Bee House at 7:35 A.M. a group or groups visited feeder at Bee House, 4 times this A.M. approx 45 in each group. One group left and started to fly S then returned to feed. One, however, continued to Flower Island.

11:30 A.M. water 1 gal per sec. at culvert head of Spring Cove.

when an eastern grey squirrel is on feeder (overage 5-) crows in a group (12-40) will air hop above the squirrels until the squirrel leaves. One on one however, the squirrels are dominant.

Raccoon track measured 100 mm hind foot, 70 mm front foot.

3:10 P.M. adult bald eagle perched top of large Douglas fir at Boundary Point. It flew straight to Leo Reef and at Leo Reef, dropped to 3' above water and then sailed up abruptly a steep angle, circled once and alighted 4' from another ^{adult} bald eagle feeding on prey on the reef. Both left the reef at same time and the one on reef pursued the other for 8 encounters enroute to perching trees on Lichen Point.

Jan 14, 1991

Rain last night and in morning to 11:00 A.M. 9 mule deer at feeder.

Trip to Lopez Village; Hummel Lake. 3/4 frozen, 86 mew gulls, 4 hooded mergansers, 4 mallards, 1 common merganser. At Swift Lagoon, ^{1/2 open} 3 mallards, 6 buffleheads. In Swift Bay along beach and water, 18 buffleheads, 3 common goldeneyes, 2 glaucous-winged gulls, 4 Barrow goldeneyes, 6 American crows, at causeway S end Fisherman Bay on west side, 2 common mergansers

1 common loon, 6 buffleheads, On E side Causeway w lagoon.
 11 buffleheads, 2 northern pintails, 5 mallards, 1 greater scaup, 2 glaucous-winged gulls.

Made circuit trip on trails & road to Shoal Bay Marina.
 At junction of logging trails just n of divide on W side Humphrey Head, 1 ♀ mule deer and last years young. No buds observed.

at Bee House ♂ mule deer with 3" long antlers, right one 1/2" longer

Jan. 18, 1991

To Univ. Washington Medical Center. 3 roughleg hawks in Skagit River Valley (9:20 AM). Stayed Chris' place tonight.

Jan. 19, 1991

Returned Lopez Island this A.M. Day clear.
 ♀ (21" high at shoulders). An Eastern grey squirrel fed from 2" to 8" from nose of feeding ad. ♀ mule deer. At one time the deer put nose toward squirrel to 2" away. The squirrel reacted by placing its nose against the deers nose. This behaviorism has been repeated several times.

1:30 P.M. a harbor seal (all white) on Leo Reef from 11:00 A.M. to at least this time. 1:30 P.M. adult bald eagle of nest on NE side Frost Island. Anna hummingbird at Bee House today.

Jan 21, 1991

11 whitish harbor seal on Leo Reef.
 ad ♀ and her 2 fawns. The young are 24" and 26" high at shoulders. Another young measured 23" high at shoulders.

Jan. 22, 1991

Pond SE of Cross Road and Port Stanley Road junction. 29 Canada geese, 37 American widgeon grazing adjacent to pond (30'), pond 2/3 open. Hummel Lake 3/4 open at n end. Swift Lagoon 1/3 frozen. At Swift Bay Low Beach, 30 mew gulls, 6 great blue herons, 8 glaucous-winged gulls, 8 mallards, 11 American widgeon, 42 American Crows.

4:30 P.M. 3 harbor seal Leo Reef. 5:30 same 3 harbor seal on Leo Reef.
 First banded pigeon since last recorded.

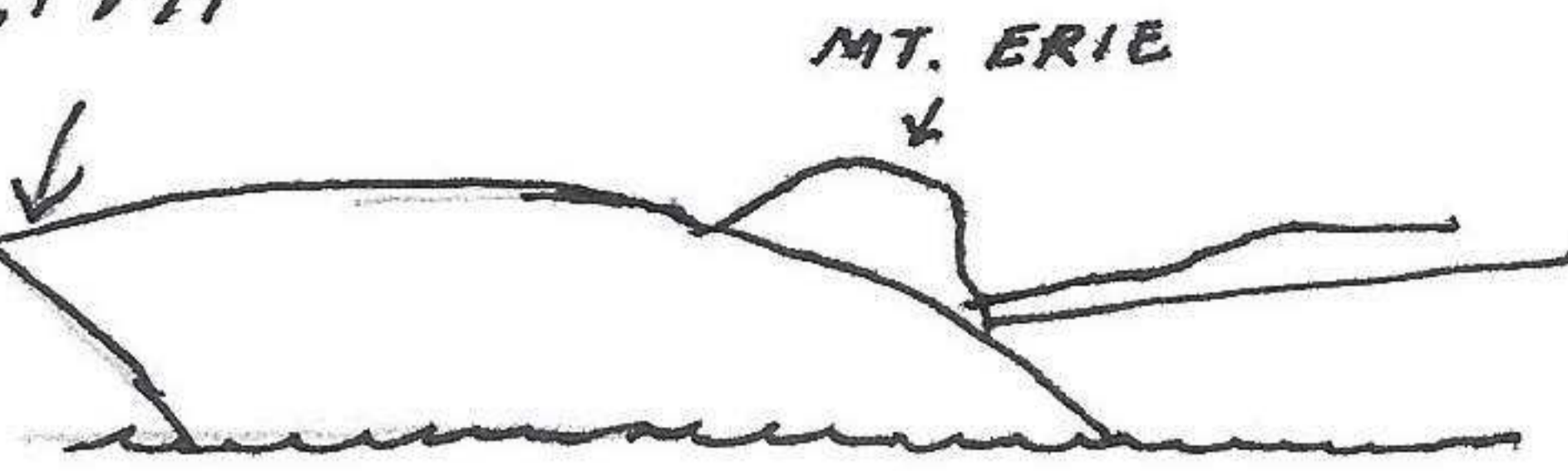
On Stanley Road near Baker View Rd. a great blue heron ^{in field} 1/2 mi. from water

Jan. 25, 1991

Day clear. 2:30 P.M. no harbor seal on Leo Reef. No bald eagle on

nest NE Frost Island.

Jan 26, 1991
 Sunrise approx, 7:52 A.M.
 ♂ mule deer with 2 points
 (one side) and right eye tine;
 1 mule deer with 3 points and one left eye tine; one mule deer with
 1 spike on right, left deciduous; 2 mule deer both 2 points each and
 no eye tine.

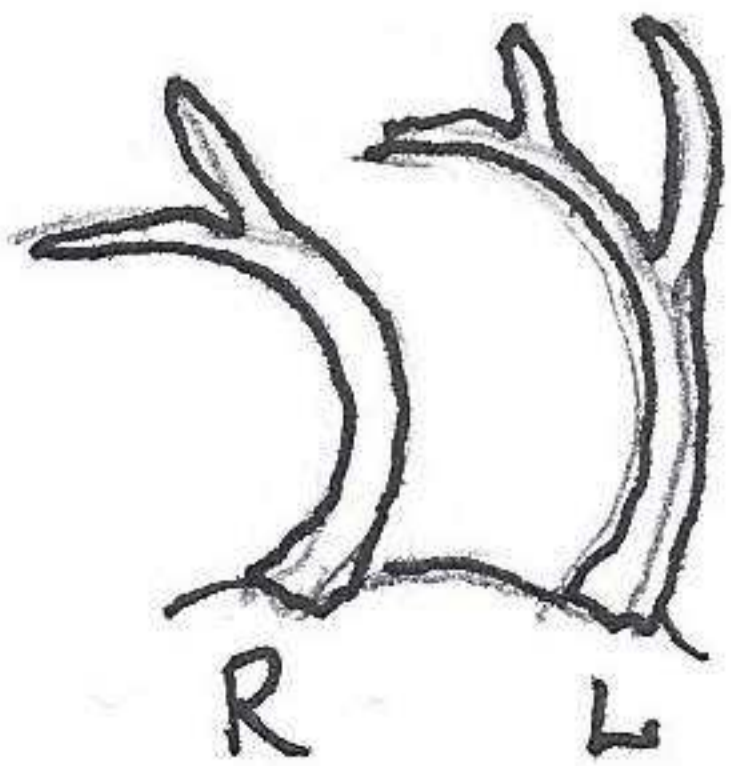
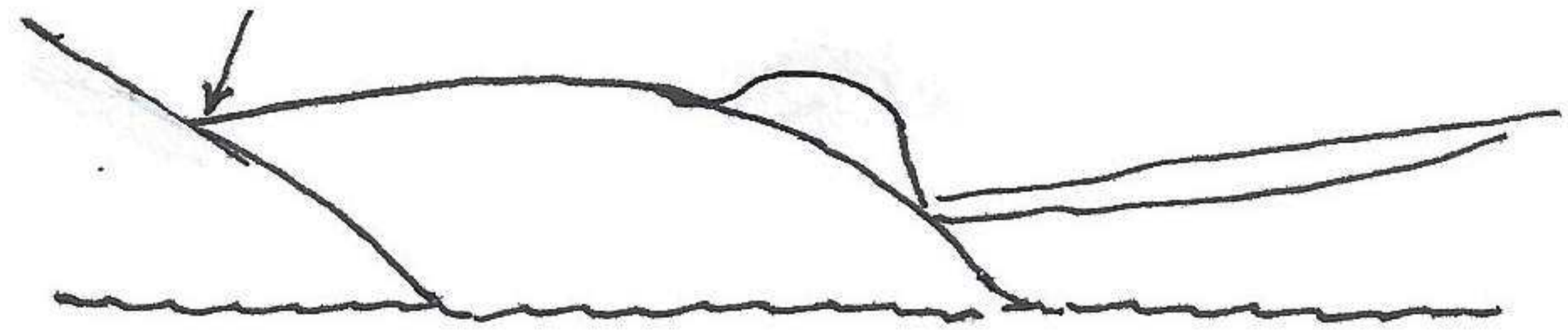
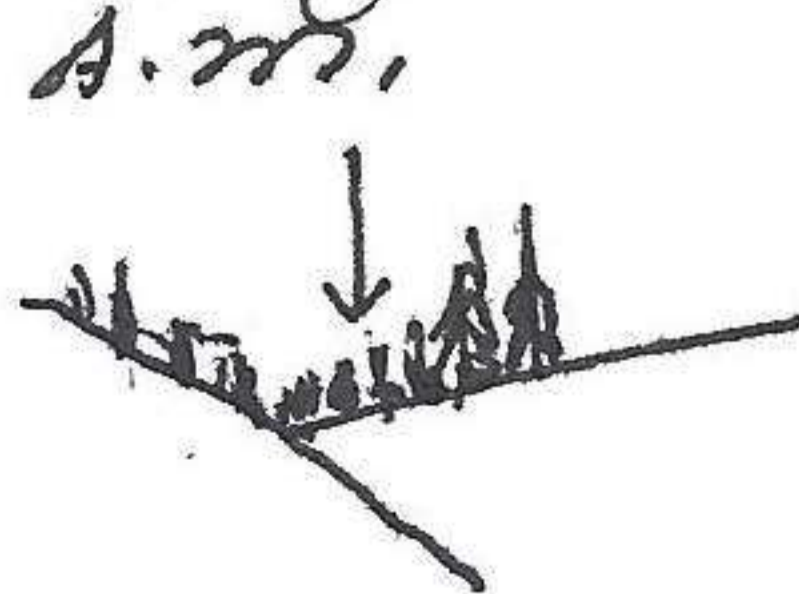


Noticed today that a large boulder weighing an estimate 800 lbs. that had come to rest in tidal pool below Bee House, had been displaced 10' to 5 and over edge to depths beyond. Also 3 new bare surfaced rocks approx 40lbs each had been moved into the second tide pool and occupied most of the bottom area. These rocks had been moved by wave action of the last storm when winds attained a velocity of 90 MPH.

Trip to Anacortes and return: Left 10:59 A.M. Complete census. mew gull, glaucous-winged gull, 37 glaucous-winged gulls, 9 mew gulls, 18 western grebes, 6 western grebes, 11 glaucous-winged gulls. 11:12 A.M. Willow Island, 3 mew gulls, experiment whitewash on SW end island 95% gone from rain action. The rock 5 years ago was used by cormorants and other marine birds but less so today. 3 glaucous-winged gulls. 11:20 A.M. S of Lawson Rock, new beason. 21 glaucous-winged gulls on Painter Island and generally distributed there; 2 mew gulls. 11:30 A.M. S of beason SW of Cypress, glaucous-winged gull. Arrived Anacortes 11:43 A.M.

At Boomers Landing NE of Anacortes observed: horned grebe, hooded merganser, red-breasted merganser, glaucous-winged gull, American crow. The docks at Boomers Landing between lumber loading dock and Wymans Marine were destroyed by NE winds during severe storms. Returned to Lopez Island.

Jan 27, 1991
 Sunrise 7:53:32 A.M.



Jan. 28, 1991

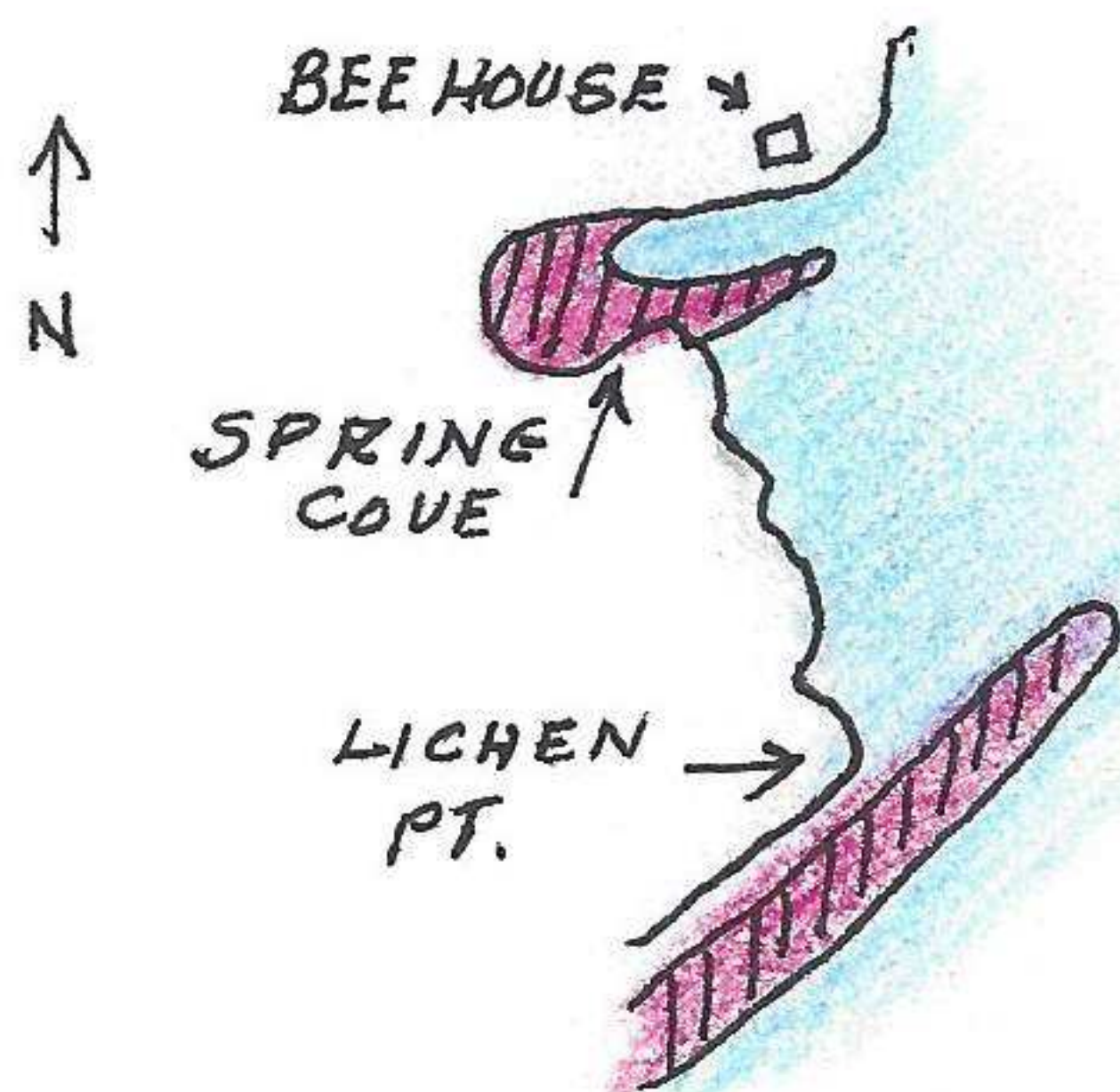
Day clear, temp. 28°F. One of the larger male mule deer lost antlers.

Jan. 29, 1991

♀ mule deer 1½ years old and an Eastern grey squirrel feeding from 1' to 2' apart. Deer placed nose on tail of squirrel and no reaction from squirrel. When deer places nose in direction of head of squirrel, the squirrel move about a foot away. Occasionally deer gently thrust foot toward squirrel but not contact.

Raven called from Humphrey Head ridge top from 11:05^{AM} to 1:30 P.M.

Bee Estate, Humphrey Head, Lopez Island San Juan Co., Wa.



Feb. 1, 1991

High wind this A.M. from S. Silt from Spring Cove slide and shoreline erosion S of Lichen Point has produced the following pattern of grayish silt against blue water and conforms to tidal currents.

Feb. 2, 1991

4:22 P.M. 2 harbor seal on Leo Reef. no eagles on nest NE Frost Island. at sundown 3 glaucous-winged gulls from top of Bee House called 45 minutes until an adult bald eagle left perching tree at Boundary Point, at that time the gull stopped their calling.

Feb. 3, 1991

Silt more pronounced and extension of condition of Feb. 1, 1991. 2 adult bald eagles chased ^{Feb. 4, 1991} an immature bald eagle who had a scrap of food in talons, to a tree where they finally secured the food.

10:50 A.M. Two black turnstones and 2 surfbirds fed and rested on rocks of shoreline below Bee House.

4th instance of conifer trees ^{on Humphrey Head} having upper 20'-25' of top blown off trees by strong S winds.

Smallest deer at Bee House feeding area is 23" high at shoulders and is an orphan. This deer is the lowest in the dominance order.

Trip to Lopez Village. at Fishermans Bay Causeway: Low tide and extensive mud flats in lagoon. On west side of causeway, 4 buffleheads, 2 common goldeneye ducks, 11 glaucous-winged

gulls, 11 mew gulls feeding at edge of water. at one instance counted 14 glaucous-winged gulls using road on causeway for dropping molluscs onto the macadam. Shells average 1 per 100'. On E side of causeway in lagoon area, 48 glaucous-winged gulls generally distributed and feeding, 62 mew gulls feeding along water edge and there generally distributed, 1 great blue heron, 7 black-bellied plover, 4 black oystercatchers, 2 red-breasted merganser, 4 common goldeneyes, western sandpipers, 8 American widgeon, at Hummel Lake 2 common goldeneye ducks.

Pond at Port Stanley - Cross roads () 17 Canada geese

Swift Lagoon. 3 buffleheads, 4 greater yellowlegs,

Swift Bay at Low Beach. 68 mew gulls, 60 glaucous-winged gulls, 13 American widgeons, 23 American crows, 4 buffleheads.

4:05 P.M. 3 harbor seal on Leo Reef, 3 on N Flower Lark, 4 on Little Flower Lark. No eagles on nest on NE Frost Island.

Feb. 6, 1991

Left 8:00 A.M. from Lopez Island to Anacortes. Complete census. 16 pelagic cormorants flying NE out of Shoal Bay. 2 Glaucous-winged gulls. 2 adult bald eagles on Flower Island. W. Thatcher Pass. E Thatcher Pass. 1 glaucous-winged gull. Double-crested cormorants N Cypress Island. mew gull. Arrived Anacortes ferry Terminal. Continued to Chris' at Lost Lake.

Feb. 8, 1991

Left Chris' for Lopez Island. Along river road at first oxbow observed 61 mallards, 12 green-winged teal, 86 American widgeons, and 7 gadwalls. At flooded field S of Snohomish where road leaves highway 9 and passes airport to north (area of 2 old cedar trees) observed 2 Canvas back ducks, 130 lesser scaup, 31 ringed-necked ducks, 42 American widgeon and 46 Common goldeneyes. Fields in valley eroded roads in some places 4' deep with grovels into field.

at Mc Murry Lake noted 3 common mergansers, 1 double-crested cormorants, 2 bufflehead. Continued to Anacortes ferry terminal.

Left for Lopez Island 5:24 P.M. Birds observed enroute. 3 surf scoters, 1 pigeon guillemot, red-breasted merganser, double-crested cormorant, glaucous-winged gull, pigeon guillemot; glaucous-winged gull (brilliant sunset sky) glaucous-winged gull, 7 glaucous-winged gulls, 7 mew gulls on floating log N of James Island, another 11 mew gulls on log, 3 mew gulls, 2 marbled murrelets. Arrived Lopez Island at twilight.

Feb. 9, 1991

3 harbor seal on Leo Reef.

Feb. 10, 1991

no harbor seal on Leo Reef today.

The other day during a high wind, an American crow left feeder at Bee House and was blown into a Douglas fir tree.

Feb. 13, 1991

11:25 A.M. Largest group of American crows at feeder to date, 62 total. They left, flew as one group to Lichen Pt, circled once and continued to beach at SW part of Swift Bay. At 1:10 P.M. 18 American crows left Bee House feeder and flew straight to Swift Bay. Crows invariably come from Swift Bay, sometimes as a single group but usually in groups of 2-6.

1-3 glaucous-winged gulls perch on top of Bee House and when a bald eagle flies by usually 50' above water and 20 or 30 feet out from house, the gulls leave as eagles approach to within 60-100'. The gulls leave in front of their approach, sail down toward water, circle and return to Bee House just as eagle pass by. at one instance a second eagle followed the first one and ^{the gulls} barely evaded a collision. The eagle did not react to near presence of the gulls.

Anna hummingbird at Bee House.

Feb. 17, 1991

11:30 A.M. bald eagle in nest cup on nest NE Frost Island. It left 45 min. later. at the same time (11:30) 2 bald ad. bald eagles sitting together (almost touching) on Flower Island. They remained in same position for 1 1/2 hrs. 3 harbor seal on Leo Reef.

Feb. 18, 1991

3:30 P.M. no bald eagles at nest on NE Frost Island. 1 ad. bald eagle on Leo Reef, no harbor seal. 4:45 P.M. river otter swam n past Bee House. 4:50 P.M. a single western grebe fed 100' out from Bee House and remained for 2 hours.

Feb. 19, 1991

11:30 A.M. no harbor seal on Leo Reef or elsewhere. no bald eagles on nest NE Frost Island. 2 red-necked grebes feeding out 100' or so from Bee House. They remained for 2 hrs.

2:10 P.M. 7 harbor seal Leo Reef, and 15 on n Flower Rock. (n Flower Rock is name of outlier rock n of Flower Island).

2 adult bald eagles, ^{together} on ridge of Flower Island. Another bald eagle (not either of the 2 above) alighted on nest NE Frost Island for 10 seconds, then left and perched on top of tree 15' to E. 2:30 P.M. the 2 bald eagles still in same position on Flower Island. 2:40 P.M. the bald eagle on tree next to nest NE Frost and one of the 2 on Flower left at same time.

Trip to Lopez Village. at Humphrey Lagoon 6 buffleheads. at Swift Bay near beach 28 glaucous-winged gulls, 8 mew gulls, 69 american crows, 8 buffleheads and 5 mallards. at Swift Lagoon; 9 gadwall, 6 mallards. On causeway SW Fishermans Bay. (S Fishermans Bay Lagoon) in San Juan Channel (at low tide), 1 common loon, 8 surf scoters, 1 red-breasted merganser. On causeway proper at any one moment can see an average of 6 glaucous-winged gulls flying back and forth across the road. They are dropping mollusks on either the road or rocks on the beach. 6 buffleheads near shore. On E side causeway in lagoon, 2 great blue herons, 75 glaucous-winged gulls, all searching for mussels and clams at low tide. 21 buffleheads, mostly along shore at S end of lagoon, 1 red-breasted merganser, 8 mallards and 7 gadwall. no buds on Hummel Lake, 2 fishermen in boats on lake.

Feb. 20, 199

Between 10:15 and 10:45 A.M. a river otter moved along water about 5-10' from shore between Lichen Point and Boundary Point. It spent 15 minutes in front of Flat Rock and 5 minutes in front of shoreline below Bee House. A red-tailed hawk flew n across Spring Cove.

6 eastern gray squirrels at Bee House feeder at one time.

The smallest falcon of last year with 1 sq. foot on either side of body a light faded brown in contrast to darker body and produced by constant glooming.

11:30 A.M. no harbor seal in area, ^{no} 1 bald eagle on nest NE Frost Island, ¹ eagle on Flower Island.

1:40 P.M. an adult bald eagle top conifer tree on Lichen Point. It left at 2:00 P.M. At this time ^{harbor} no seal in area, no eagle on Flower. One bald eagle on nest NE Frost Island. It left nest and move 1 1/2 feet to limb at side of nest.

4:00 P.M. ^{bald} no eagle on nest NE Frost Island, 1 on Flower Island. no harbor seal.

10:30 P.M. bald eagle on nest NE Frost Island.

Feb. 21, 1991

9:20 A.M. River otter swam n past Bee House.

1:39 P.M. 16 harbor seal Leo Reef. On Flower Island 24 glaucous-winged gulls on territories (15 pairs, 9 singles). ~~no~~ bald eagle on nest NE Frost.

3:00 P.M. no glaucous-winged gulls on Flower Island. no bald eagle on NE Frost nest. 15 harbor seal Leo Reef.

4:45 P.M. no harbor seal Leo Reef or elsewhere. no bald eagle on nest N.E Frost Island. no glaucous-winged gulls on Flower Island. 4:50 P.M. Immature bald eagle on E end rock water barrier n Shoal Bay marina. 2 glaucous-winged gulls harassed eagle which left barrier and flew to conifer trees on Humphrey Head above marina.

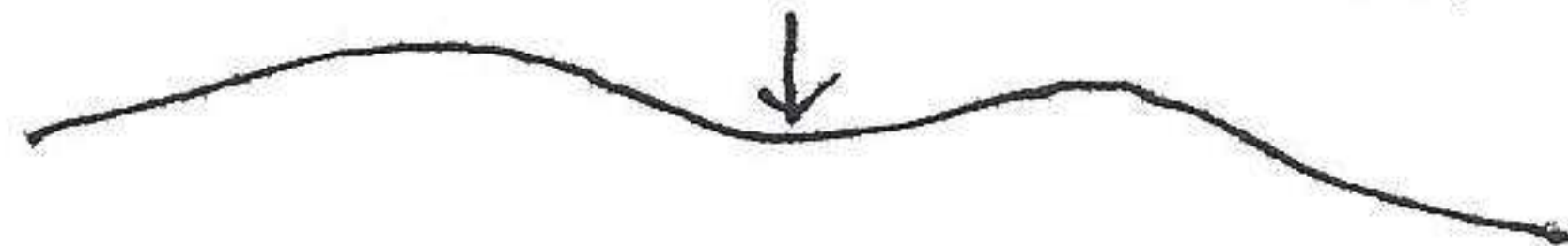
Feb. 22, 1991

Sunrise 7:26 A.M. half way from South Blakely Peak to divide.
3:05 P.M. 3 harbor seal Leo Reef, no others in area. ^{visible} no bald eagles at nest NE Frost Island. 10:12 A.M. river otter (1) swam n past Bee House, 8' from shoreline.

Feb 23, 1991

Sunrise, (as observed from bedroom of Bee House) at 7:24:30 A.M.

N PEAK S PEAK



BLAKELY ISLAND.

- Photo 910223-22 mule deer, Boundary Point, Bee Estate, Lopez Is.
 Photo 910223-23 " " " " " " " " " " " "
 Photo 910223-24 mule deer at Boundary Point, Bee Estate.
 Photo 910223-27 ibid
 Photo 910223-28 ibid
 Photo 910223-29 2 mule deer at Boundary Point with shoreline S of Spring Cove in background.
 Photo 910223-35 mule deer on ^{above} shoreline below Bee House.
 10:35 A.M. Great blue heron in top Douglas fir tree ^{100'} S Bee House (above Draben Ridge).
 2:00 P.M. 11 harbor seal on Leo Reef, all whitish, no other seal in area. no bald eagles at nest NE Frost Island.

Feb 24, 1991

Townsend Chipmunk observed for first time this year. at 1:30 P.M. it was at woodpile at Lower parking and was noted to pass by at

my position cutting wood every 20 or 30 minutes from feeder at Bee House to woodpile carrying cracked corn and wheat feed.

3:00 P.M. 9 harbor seal on Leo Reef, no others elsewhere. no eagles visible at nest NE Frost Island. Temp. 43°F, day clear.

4:45 P.M. 3 harbor seal on Leo Reef, none elsewhere. no bald eagles at nest NE Frost Island.

Anna hummingbird at Bee House.

Feb. 25, 1991

To Lopez Village: at Hummel Lake, 1 common loon, 17 greater scaup ducks, 14 common mergansers, 3 buffleheads. In wetlands E of 1916 School House, 1 bufflehead, 2 mallards. at pond Crass and Port Stanley rds, 33 american mergansers. at Swift Bay Lagoon, 8 gadwalls. at Low Beach Swift Bay 38 mew gulls, 4 glaucous-winged gulls, 21 american crows. at Humphrey Lagoon, 3 buffleheads.

4:00 P.M. 7 harbor seal Leo Reef, no others elsewhere. no bald eagles NE Frost Island. no glaucous-winged gulls on Flower Island. Townsend chipmunks (2) active. The average number chipmunks last year was 3, 2 years ago was 2.

at Bee feeder an adult ♂ mule deer approached the feeder slowly, raising each front foot one at a time and forcefully thrusting them down into the ground. at 10' away from feeder it snorted and all young deer left and reformed 50' away. The male came to feeder. Two of the 5 young returned to feeder and fed with ♂.

1:45 P.M. One river otter arrived Leo Reef. The 11 harbor seal on the reef were not disturbed by its presence. at 2:15 the otter was still on the reef and had ascended and descended the beacon support 2 times, at one time it remained on beacon platform for 4 minutes.

American robin[♂] flew into window at Bee House. It was 237 mm total length and weighed 81 gms.

Ocean spray buds 1/4 green.

Feb. 28, 1991

Sunrise 7:15 A.M., top of N Blakely Peak. wind all day and at 4:00 P.M. waves 16 per minute and 6-7' high. Townsend Chipmunk not active today. Large harbor seal in rough water below Bee House.

Gusts of wind blew spray across whitecaps and waves to almost complete obliteration. The waves are mainly E and S of Leo Reef. Sun on mist produces a faded rainbow. Greatest wave action on shoreline is Aleator where 2 boat anchored on buoys bodded like corks. more wave action on Frost than on Flower Island. a double-crested cormorant flew n 2'-4' above waves and once every 10 or so waves flew up 20 feet and ^{then} forcefully glided down to water level.

Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.
~~March 1, 1991~~
 March 1, 1991

Snow mid-morning, 1". Townsend chipmunks active.

March 3, 1991

To Lopez Village, 2:00 P.M. checked following localities: Humphrey Head Lagoon 5 glaucous-winged gulls, 3 buffleheads; Low Beach Swift Bay, 35 glaucous-winged gulls, 18 mew gulls, 17 American crows, 8 buffleheads, 2 American widgeons; Swift Lagoon, no birds; Cross and Port Stanley rds (pond SE), 2 mallards, 2 buffleheads, 1 northern shrike; w side causeway at Fishermans Bay, 14 surf scoters, 6 black-bellied plovers generally distributed at edge of water, 4 glaucous-winged gulls, 3 American crows, 8 buffleheads, 1 common loon; E side Causeway at Fishermans Bay, 17 buffleheads, 54 glaucous-winged gulls, 29 mew gulls, 3 great blue herons; Hummel Lake, 9 hooded mergansers, 6 common mergansers.

Townsend chipmunks active last 2 days at Bee House. ad. bald eagle flew S past Bee House at 30' high and 40' out from shoreline.

March 4, 1991

2:05 P.M. 9 harbor seal on Leo Reef, no others in area, no bald eagles at nest. no glaucous-winged gulls on Flower Island.

March 5, 1991

Snow 1/2" last night. 9:00 A.M. 13 mule deer at Bee House feeder, 4 of them left at high speed up slope and beyond, remaining deer at feeder not disturbed.

a glaucous-winged gull dominant over American Crow at feeder.
 12:00 P.M. 31 harbor seal on Leo Reef at low tide. Rock no 10 (smallest) not yet visible.

1 adult bald eagle on nest NE Frost Island, another perched top

Douglas fir 20' beyond. At same time, 2 adult bald eagles together (1 foot apart) on top middle ridge of Flower Island. The ad. eagle on nest stand up, adjusted its feathers for 2 minutes then left nest.

1:00 P.M. 34 harbor seal on Leo Reef.

3:10 P.M. 2 ad. bald eagles still on Flower Island and in same position.

3:45 P.M. 24 harbor seal on Leo Reef.

March 6, 1991

Ferry to Anacortes. Last night snow 1/2 way down Cypress and mt. Constitution but not on Blakely Island. Glaucous-winged gulls covering Pointe Island and on territories. From Anacortes continued to Chris' on Lost Lake in Snohomish Co.

March 7, 1991

Left Chris' and returned via Whidbey Island. At Mukittes ferry terminal observed; mew gulls, white-winged scoters, pigeon guillemots, surf scoters, double-crested cormorant, 8 glaucous-winged gull, 3 red-breasted mergansers. Continued to Anacortes ferry terminal, thence to Lopez Island.

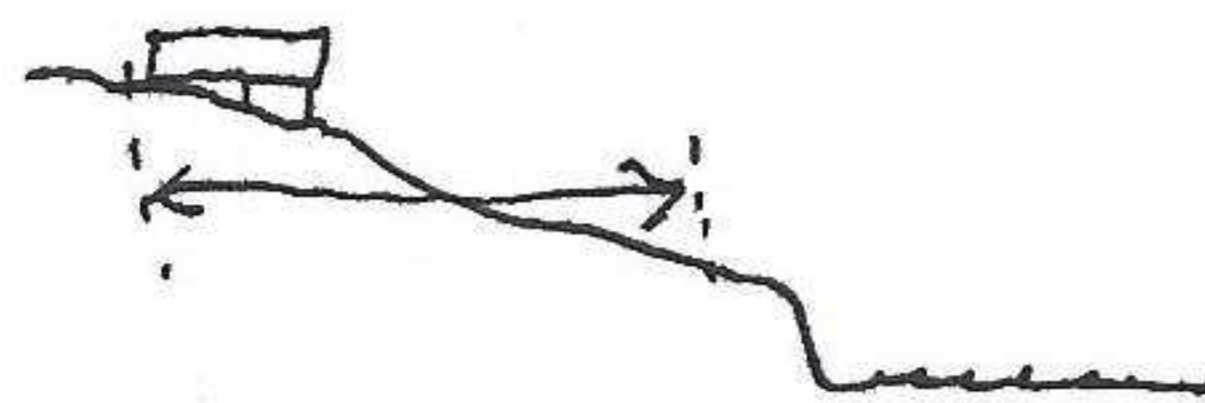
March 9, 1991

To Lopez Village 2:45 P.M. Observed a sparrow hawk at Dill-Center rds; W side causeway at Fishermans Bay, 8 glaucous-wing gulls, 4 American crows, 7 surf scoters, 5 buffleheads. E side causeway, 3 great blue herons, 46 mew gulls, 22 glaucous-winged gulls, 3 American crows, 11 buffleheads, 2 mallards, 1 red-breasted merganser; Sumner Lake, no birds; pond at Cross-Port Stanley Pkds, 2 American widgeons, 2 buffleheads; Swift Lagoon, no birds; Low Beach Swift Bay, 8 American crows, 8 American widgeon, 25 mew gulls, 18 glaucous-winged gulls, 8 buffleheads, 4 gadwalls; Humphrey Head Lagoon, 4 glaucous-winged gulls. at Bee House, 20 out from shore, 1 harbor seal.

4:40 P.M. 2 adult bald eagles 1 foot apart on ridge of Flower Island. no bald eagles at nest NE Frost. 6 glaucous-winged gulls on Flower Island, 8 mew gull in front Bee House.

March 10, 1991

T.A. Ellis our neighbor to N cut all dead trees and shrubs on E and S side of her house!



4:20 P.M. 23 harbor seal Leo Reef. One adult bald eagle on Flower Island on same perching rock as has been used for last week. 1 nest fledging bald eagle on nest facing N (NE Frost Island).

March 11, 1991

8:55 A.M. adult bald eagle on n NE Frost. It faced n. also 1 adult bald eagle on ridge of Flower Island.

Mule deer pelage faded. Young with irregular pelage change. Mrs. Adeline Simmons of Humphrey Head on Lopez Island reports entire mt. side forest downed by wind at Windy Bay, South Moresby Island, Queen Charlotte Island, Canada. I will check with Canadian Forest Service for facts about condition of forest prior to windfall.

from Lopez Island March 13, 1991

Left 7:55 A.M. by ferry for Anacortes, will keep complete list; 6 double-crested cormorant, 2 double-crested cormorants (singles). adult bald eagle on Leo Reef, 35 glaucous-winged gulls on territories on Flower Island. W. Thatcher Pass, 5 mew gulls, 3 glaucous-winged gulls, 108 glaucous-winged gulls on territories on Pointer Island, 3 mew gulls, 1 pigeon guillemot. Profile of W side Cypress showing erosion of Cypress from lateral drainage of glacier, at that height during the Pleistocene, lateral drainage. Pelagic cormorant, pigeon guillemot, pelagic cormorant, glaucous-winged gull, 2 pigeon guillemots. SW Cypress Island beacon. Rhinoceros auklet, 2 pigeon guillemots, pelagic cormorant, mew gull, pelagic cormorant, mew gull, glaucous-winged gull, 7 brant, rhinoceros auklet, 35 brant, 3 glaucous-winged gulls, 3 surf scoters. Arrived Anacortes approx 8:35 A.M.

Left Anacortes ferry terminal 8:30 P.M. Prior to arrival at Anacortes checked marsh Point E of Anacortes and observed: (mainly E & NE of point) 1300 brant, 1 harbor seal, 81 pintail ducks (northern), 130 bufflehead, 300 scaup, 3 bald eagles, 42 green-winged teal, 17 common goldeneye ducks, 72 red-breasted mergansers, 2 common loon, 8 glaucous-winged gulls, 2 mew gulls and others ^{kinds} at a distance that I could not positively identify. Red-winged blackbirds on territories.

Now back to Anacortes ferry terminal. In bay SW of terminal: 1 oldsquaw duck, 3 red-breasted mergansers, 4 common goldeneye,

1 common loon. ^{freshwater} at pond N of ferry terminal: 1 mallard.
 on old piling in bay SW terminal: 29 glaucous-winged gulls, 20
 mew gulls, 7 double-crested cormorant.

Left Anaortes ferry 5:53 P.M. for Lopez Island. 3 double-
 crested cormorant, 1 pelagic cormorant flying together, mew gull.
 E Thatcher Pass, 1 mew gull, W. Thatcher Pass. no birds on
 white wall perching area on Willow Island. mew gull, 2
 pelagic cormorant, 6 harbor seal on S side Leo Reef, none on N
 side.

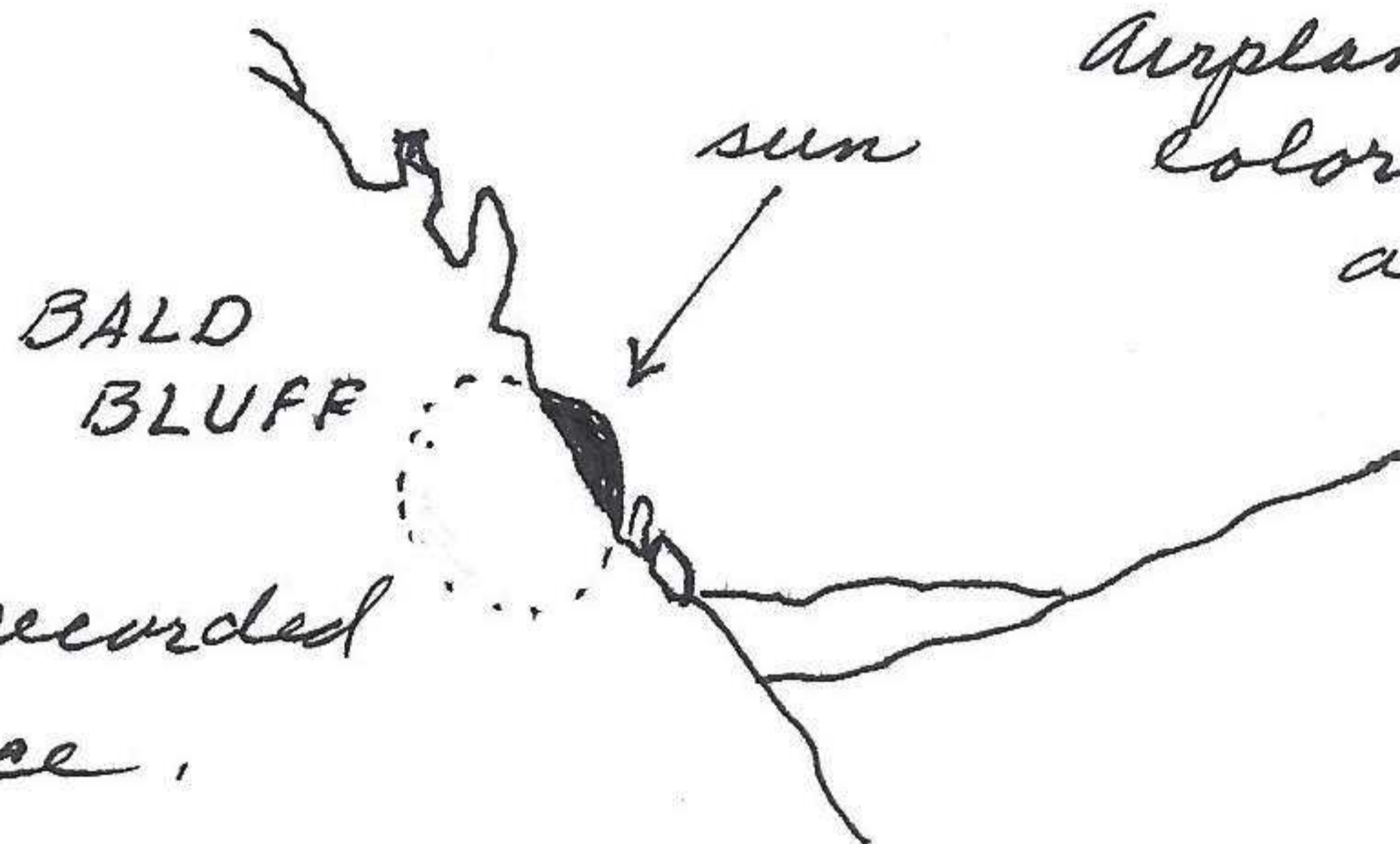
March 15, 1991

A.M. at Swift Lagoon 18 pintails, 2 buffleheads, 1 greater
 yellowlegs sandpiper. In Swift Bay 28 buffleheads and
 other birds. An imm. bald eagle harassed by 18 American
 crows and 2 glaucous-winged gulls. Last week including every
 day, 5-12 mew gulls foraged above water or on water in front
 of Bee House.

March 16, 1991

Sunrise 6:39 A.M.

This is the first
 day in weeks that
 the sun has been
 observable. Every
 day since last sunrise recorded
 has had cloud interference.

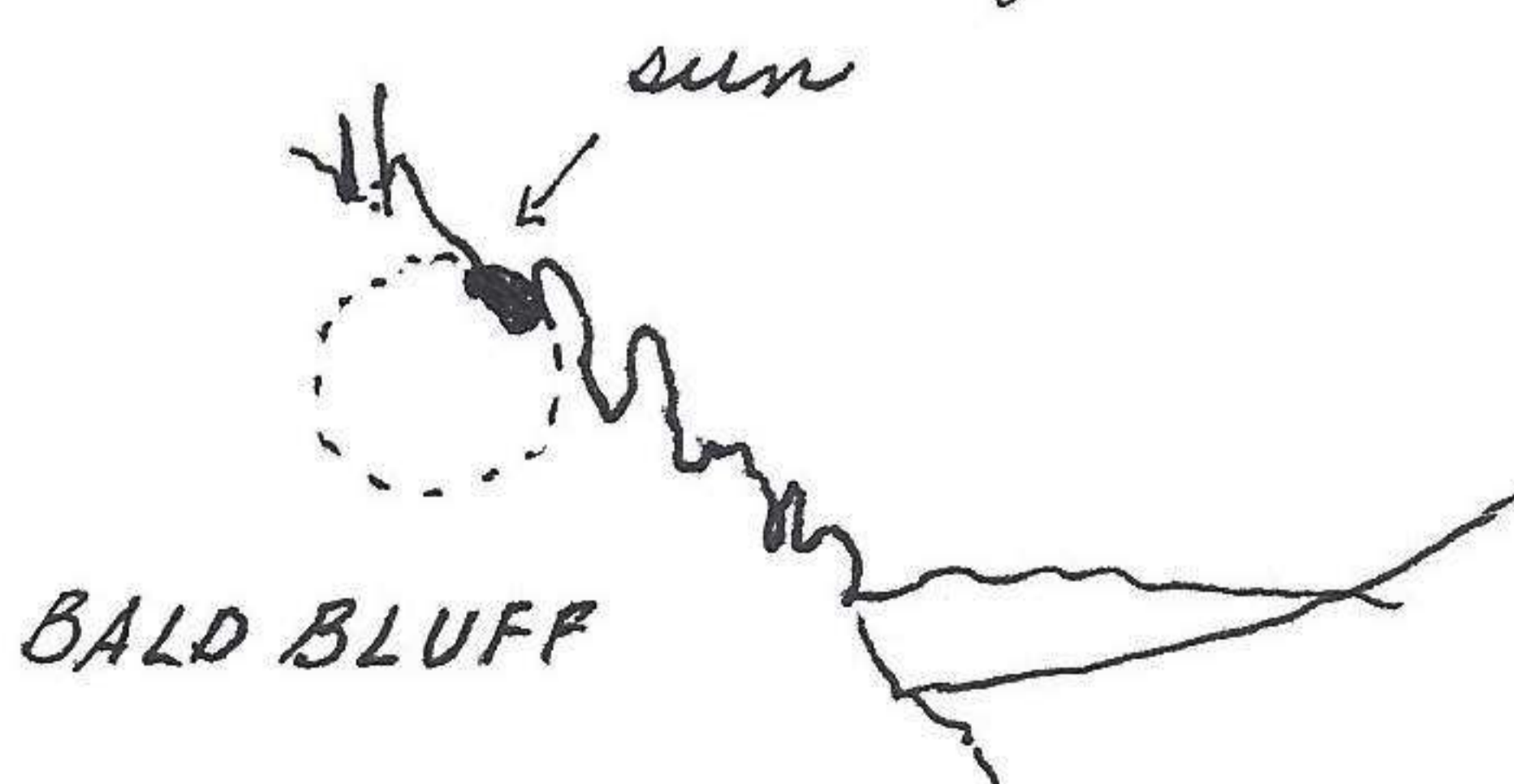


March 17, 1991

a single ♀ hooded merganser and no other birds in water
 10'-100' SE of Bee House. It remained here for approx 3 hrs.

Collected 4 black wasps from Bee House, nos 910317-1, 910317-2,
 910317-3, 910317-4.

Adelie Simmons reported 10 pileated woodpeckers in one tree
 on her property.



March 18, 1991

Sunrise 6:37:56 AM.

Two photos of Eastern gray squirrel at suet feeder.
 at Bee House, nos 910318-1 and 910318-2.

12:10 P.M. 13 harbor seal on Leo Reef.

2:35 P.M. To Lopez Village: no birds Hummel Lake; pond SE Cross-Port Stanley rds, 22 American widgeon, 2 Canadian geese; Swift Lagoon, 28 northern pintail, 4 mallards, 8 green-winged teal, 1 greater yellowlegs; Swift Bay 47 mew gulls, 38 American crows, 27 glaucous-winged gulls, 16 northern pintails, 2 black-oystercatchers, 21 American widgeon, 9 gadwalls, 18 bufflehead, 2 scarp, 3 common goldeneye ducks; Humphrey Lagoon, 5 bufflehead, 3 glaucous-winged gulls, 2 American crows.

One of the smallest mule deer of last year ^{age} is 25" high at shoulders.

March 19, 1991

2:00 P.M. 10 harbor seal Leo Reef, 2 glaucous-winged gulls and 1 pigeon guillemot near shore. On Rock #10 of Leo Reef, 6 harbor seal. 6 harbor seal Little Flower Rock. no bald eagle on nest or near nest NE Frost Island.

at Bee House 2 rufous hummingbirds, 1 band-tailed pigeon.

March 20, 1991

2:45 P.M. 15 harbor seal on Leo Reef (rocks 4 to 6), 3 harbor seal on Leo Reef Rock #10. No seal on Flower Island Rocks. 1 adult bald eagle on Flower Island ridge, 28 glaucous-winged gulls on territories. no bald eagle at nest NE Frost but one ad. bald eagle 1/2 way down ridge to E in a tree.

mule deer at Bee House, young ♀ of last year 26" high at shoulders, Buster, a ♀ mule deer 31" high at shoulders, largest male mule deer 32" high at shoulders, Adult bald eagle now on nest NE Frost Island.

In last 2 weeks tug boats, 3 to 5 for each raft towing held log rafts between Frost & Flower islands, but nearest Frost Island, one tug boat & log raft directly below bald eagle est NE Frost Island. Some nights search lights on all night and light covered all slopes

To Lopez Village: Humphrey Lagoon, 7 buffleheads, 3 glaucous-winged gulls; Low Beach Swift Bay, 125 mew gulls, 86 glaucous-winged gulls, 45 American crow, 3 gadwall, 8 American widgeon, 11 bufflehead, 2 common goldeneye; at Swift Lagoon 9 northern pintails, 5 green-winged teal; pond at Cross-Port Stanley roads 2 Canadian geese, 28 American widgeon; Hummel Lake 21 red-breasted mergansers, 2 buffleheads.

march 25, 1991

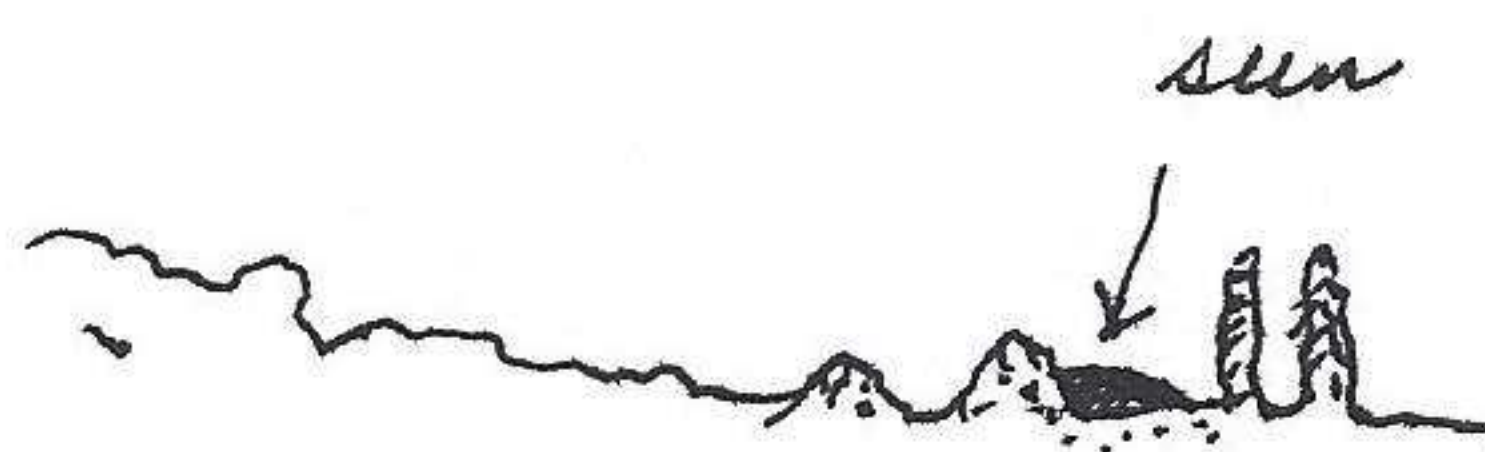
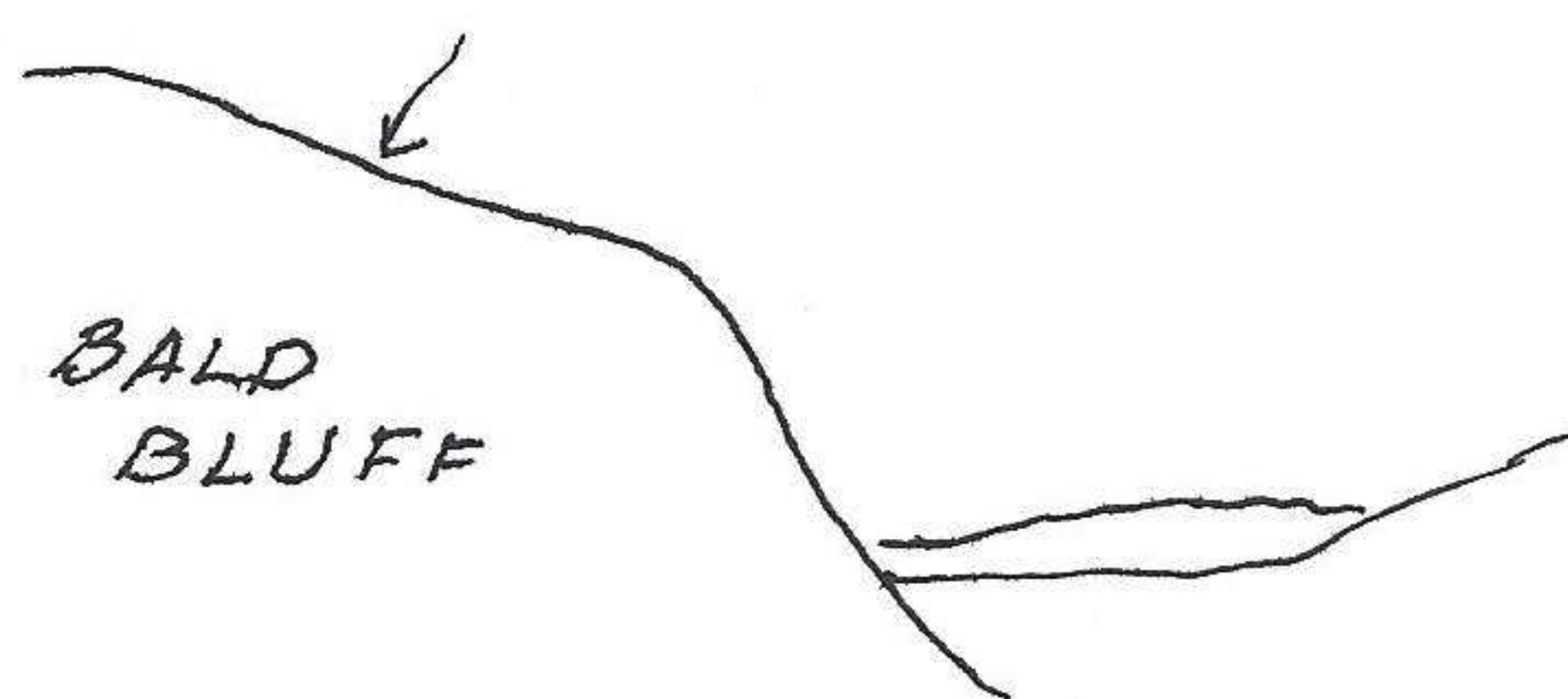
10:20 A.M. while waiting for ferry to Anacortes at Lopez Island ferry terminal an adult bald eagle circled the N end Upright Head and was harassed by 2 American crows, 2 common raven and 1 glaucous-winged gull. Another adult bald eagle perched top dead Douglas fir at N end Upright Head 40' above the water. 9 glaucous-winged gulls circled high above channel between Upright Head and Orcas Island.

Left Lopez ferry terminal for Anacortes at 11:00 A.M., high waves and whitecaps, some areas 30' x 90' or so without wave action. 2 glaucous-winged gulls and 1 common raven flew 1' above water and into the wind. no whitecaps wend Thatcher Pass. High waves again just beyond Armitage Island and coming from S. 2 glaucous-winged gulls. white streamers off whitecaps. Pelagic cormorant, pigeon guillemot, mew gull. One Douglas fir log 46 inches in diameter was on a logging truck from Orcas Island. The driver said "these are small and we have taken much bigger ones". To Mt. Vernon then return to Lopez Island.

Left Anacortes 5:25 P.M. 2 glaucous-winged gulls to E end Thatcher Pass. Between here and Lopez ferry landing only bird a pelagic cormorant. Wind and whitecaps entire trip. Arrived Lopez Island ferry terminal.

march 26, 1991

Sunrise 6:25:08 AM.



9:00 A.M. Photo 910326-1 shoreline S Spring Cove from Bee House, showing wave action.

young mule deer (last years) eating leaves of Douglas fir. An adult ate the root bark of a Douglas fir. Photo 910326-1 of young mule deer from Bee House.

march 27, 1991

9:05 A.M. Photo 910327-33, 910327-34, 910327-35, 910327-36 of mule deer at Bee House on Humphrey Head, Lopez Island.

2:04 P.M. River otter swimming N past Bee House.

4:30 P.M. One adult bald eagle on nest NE Frost Island, 2 adult bald

eagles on ridge of Flower Island.

March 28, 1991

Left 8:00 A.M. on ferry from Lopez Island to Anacortes. Low tide, overcast. 6 glaucous-winged gulls, 1 glaucous-winged gull. 8:07 AM pelagic cormorant, glaucous-winged gull. No birds on white wall of SW Willow Island. white on wall diluted from recent rains. Wind from W but under whitecaps. 8:13 A.M. glaucous-winged gull 5 of red light beacon SW Blakeley. 8:14 A.M. glaucous-winged gull, 8:15 AM ibid. Pointer Island with usual glaucous-wing population, 2 island rocks exposed on n end. 8:17 A.M. Lawson Rock. 8:18 A.M. glaucous-winged gull, 8:21 glaucous-winged gull. 8:22 few small whitecaps and swells from S. 8:23 A.M. 2 glaucous-winged gulls. 8:24 2 rhinoceros auklets. 8:26 SW Cypress beacon, 8:26 glaucous-winged gull, 1 rhinoceros auklet. 8:27 2 rhinoceros auklet. Small whitecaps. 8:29 glaucous-winged gull. 8:31 glaucous-winged gull. 8:31 ibid. 8:38 Arrive Anacortes, (38 minutes from Lopez).

Between Swinomish Canal and Best Road, both on highway 20, 4 great blue herons on right of way, 8 others to mt. Vernon (along road and in fields away from water. Adult Bald eagle 5 end of E side marsh Point. along E side of marsh Point to n end of peninsula counted or estimated larger group of birds: 1200 brant generally distributed, some along and on shore, 18 American widgeon, 5 red-wing blackbirds, 9 common goldeneyes, 22 bufflehead, 9 glaucous-winged gulls, 6 American crows, 8 god-walls.

at Anacortes ferry terminal in bay to SW noted 33 surf scoters, 3 red-breasted mergansers, 9 bufflehead, 1 mallard, 3 common goldeneye ducks, 3 double-crested cormorant, 2 pelagic cormorant and 2 glaucous-winged gulls. Left Anacortes ferry terminal for Lopez Island at 12:02 P.M. glaucous-winged gull, 3 double-crested cormorant, 1 pigeon guillemot, 1 pelagic cormorant. 12:05 2 pelagic cormorant, 1 double crested cormorant. 12:10 glaucous-winged gull. 12:11 pigeon guillemot. 12:24 5 of red light beacon Blakeley Islands. 12:35 4 pigeon guillemot, 12:36 marbled murrelet. 12:28 5 glaucous-winged gulls on water. 12:39 2 pigeon guillemot, 2 double-crested cormorant. Arrived Lopez Island ferry terminal 12:43 P.M. or 41 minutes trip.

March 29, 1991

Townsend chipmunks chasing each other all day.

Bee Estate
Humphrey Head, Lopez Island, San Juan Co., Washington
 march 31, 1991

Left Lopez Island at 7:50 A.M. on ferry for Easter at Mariana Endoetto in Seattle and thence to New York State by air. Mariana, ^{+ daughter,} Jim, Chris B. Kenagy, Steve, Matthew, Max + Phyllis Bee, Annette and I at Easter. In evening Annette and I drove to Sea Tac and stayed at Sandstone motel where we also left car until our return.

Sea Tac Airport, Seattle, Wa.

April 1, 1991

Left Sea Tac 6:09 A.M. and cruised at 41,000 ft. Landed Salt Lake City 7:38 A.M., temp 47°F. Left Salt Lake airport approx 9:26 A.M. and arrived Dulles International airport at 3:15 P.M. Route along S side Uinta mts, Kansas-Nebraska border, across Missouri + E. From Seattle to Dulles airport at 41,000 ft is a band of yellow air pollution consistently about 500' thick that can only be seen when looking horizontally thru the clouds, above and below one cannot see the pollution. From Dulles airport rented a car and drove to Yoki and Lucille Kaufman's home in Patomac where we stayed for overnight.

Home of Yoki and Lucille Kaufman, Patomac, New York.

April 2, 1991

Lucille and Bob treated us royally today. First a tour of Washington, D.C., then a helicopter tour ^(hr.) of the city and in the evening an evening meal overlooking D.C. from the W. On the helicopter tours made following Kodachrome shots:

910402-11 Jefferson Memorial Building, Washington D.C.

910402-12

910402-13 Pentagon Building, Wash D.C. in background.

910402-14

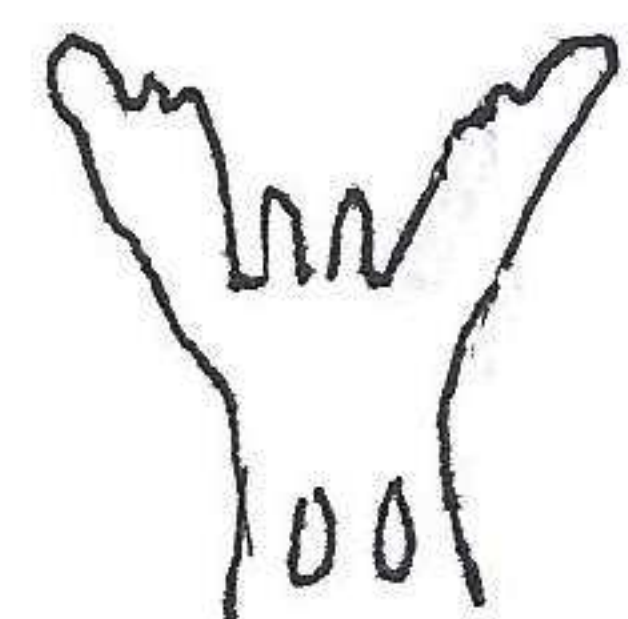
910402-15

910402-16

910402-17

910402-18

Yoki needs info. on a photo of a Blue Ribbon Eel, Rhinomuraena amboinensis taken at the national aquarium. He is especially interested in the head appendages.



DORSAL HEAD



VENTRAL JAW.

BIRD LIST UP TO
APRIL 2, 1991

- ① Cardinal
- ② Blue Jay
- ③ Eng. Sparrow
- ④ Song "
- ⑤ White throat "
- ⑥ Chipping "
- ⑦ Junco
- ⑧ Chickadee
- ⑨ Tufted Titmouse
- ⑩ Starling
- ⑪ Crow
- ⑫ Goldfinch
- ⑬ House Finch
- ⑭ Mourning Dove
- ⑮ Cowbird
- ⑯ Mockingbird
- ⑰ Downy Woodpecker
- ⑱ Cedar Waxwing
- ⑲ Redwing Blackbird
- ⑳ Towhee (11/80!)
- ㉑ Bald Eagle
- ㉒ Kestrel
- ㉓ Turkey Vulture
- ㉔ Broadwinged Hawk
- ㉕ Purple Grackle
- ㉖ Purple Martin

60. Great Horned Owl
 61. Mallard
 62. Yellow Billed Cuckoo
 63. White br. Nuthatch
 64. Red br. Nuthatch

27. House Wren
28. Chimney Swift
29. Boat Tailed Grackle
30. Robin
31. Catbird
32. Northern Oriole
33. Redstart
34. Rubythroat Hummingbird
35. Red bellied Woodpecker
(first 8-21-81)
36. Nighthawk
37. Prairie Warbler
38. Yellow Warbler
39. Flicker
40. Carolina Wren
41. Merlin
42. Field Sparrow
43. Pine Siskin
44. Myrtle Warbler
45. Br. Thrasher
46. Yell. Billed Cuckoo 5/16/83
47. Canada Goose
48. Little Green Heron
49. Evening Grosbeak
50. Tundra Swans (19) 3/18/84
51. Herring Gull
(Yellow phase House Finch)
(chisocristic House Sparrow)
52. Fox Sparrow
53. Rosebreasted Grosbeak
54. Yellowthroat
55. Blackburnian Warbler
56. Greener Kingfisher
57. Purple Finch
58. Vesper Sparrow
59. Sharp-shinned Hawk

From the residence of Mr. adm. Robert Yoki and Lucille Kaufman, 11906 Whistler Court, Patomac, Maryland 20854.
(301) 762-5843.

April 3, 1991

Left Kaufmans 10:22 AM for Lutherville. Arrived 12:40 P.M. at home of Eric T King (son of Annettes mother first Cousin) and Isabel King (Bo and Betty) where we stayed. (112 Craftly Rd, Lutherville md. 21093. (301) 321-7127. That evening Bo gave Annette a photo of Annette Pistor (great aunt of Annette^{see}).

Lutherville, Maryland.

April 4, 1991

This morning to Annapolis for tour of area. Several photos (Kodakolor) of this area: (Annapolis)

910404-1 Submarine, Bo and Annette,

910404-2 Chapel

910404-3

910404-4

910404-5 Bo, Betty and Annette with background of foxglove.

April 5, 1991

Left Kings and drove to Winterthur to visit the Estate museum. Enroute observed 35 individual turkey vultures.

Winterthur, Maryland.

April 6, 1991

Returned from Ramada Inn to N and checked museum leaving at 1 P.M. for Moravia, New York. Photo 910406-1 of trees at Winterthur, arrived Scranton 6:20 P.M.

Scranton, New York State.

April 7, 1991

Left 10:21 A.M. Arrived Moravia. at James & Liz Malseeds. SE of town. at Box 368, zip 13118. (315) 0497-0384 Jim's son James P and Mary live at 3187 Myers Rd, Genoa, New York 13071.

April 8, 1991

at Jim & Liz

April 9, 1991

at Jim and Liz

April 10, 1991

Jim & Liz

April 11, 1991

Jim and Liz. Snow last night. Trip to Ithaca. Birds observed

starling, red-tailed hawk, american robin, redwing, killdeer, slate-colored junco, ^{american} crow, mallard flew along at 55 MPH, small gull sp.?

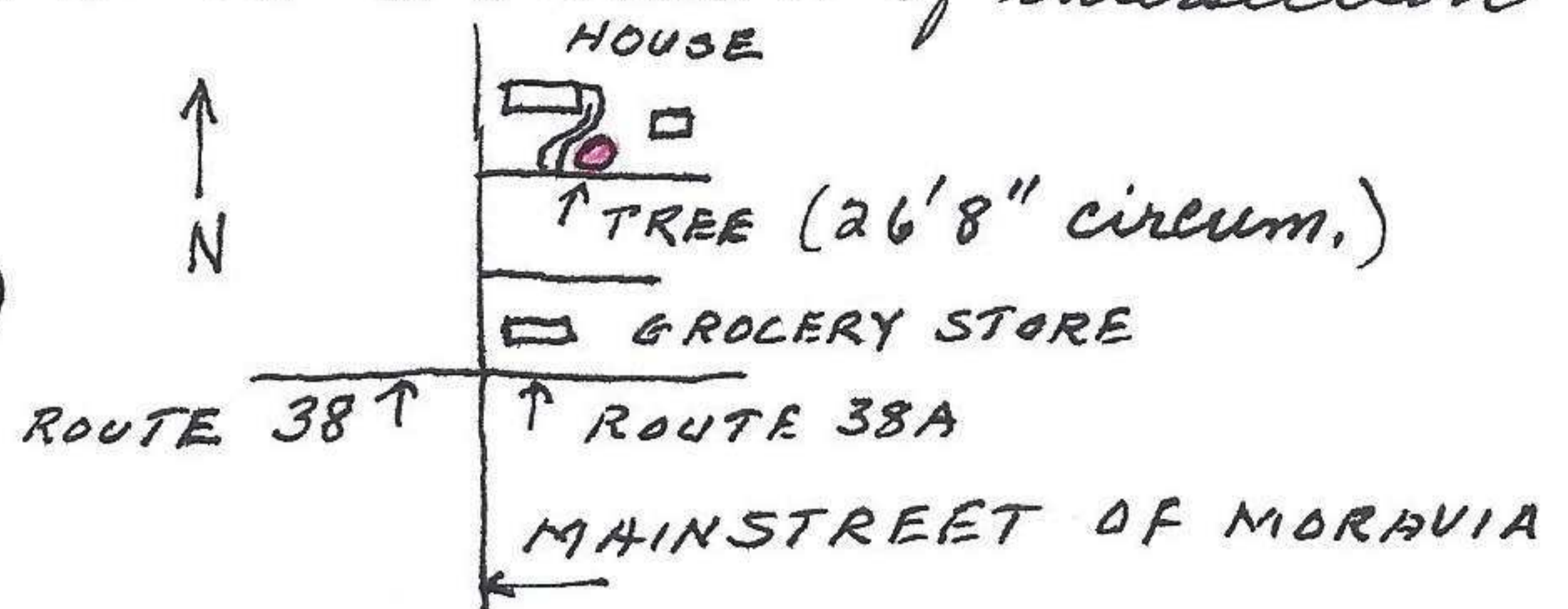
Moravia, New York

April 12, 1991

Photo of Cottonwood tree in Moravia at 2 blocks N of intersection of route 38 and Main Street.

Photos (Kodacolor)

- 910412-1 Annette + Cottonwood
 910412-2 " " "
 910412-3 Cottonwood tree.



This tree was measured several years ago and will check to determine incremental growth. Checked and on July 24, 1972 this tree measured 25'9" at chest height, so in 20 years it grew 11" in circumference or approx 1/2" in circum. per year. On this basis if growth was constant the tree would be 110 years old.

In this same general area as above, a pileated woodpecker chipped a maple tree and produced chips measuring 6" x 2", 3" x 3 1/4", 2" x 3/4", 2" x 1" (some of the large pieces in approx. 60 chips on ground below the tree).

April 14, 1991

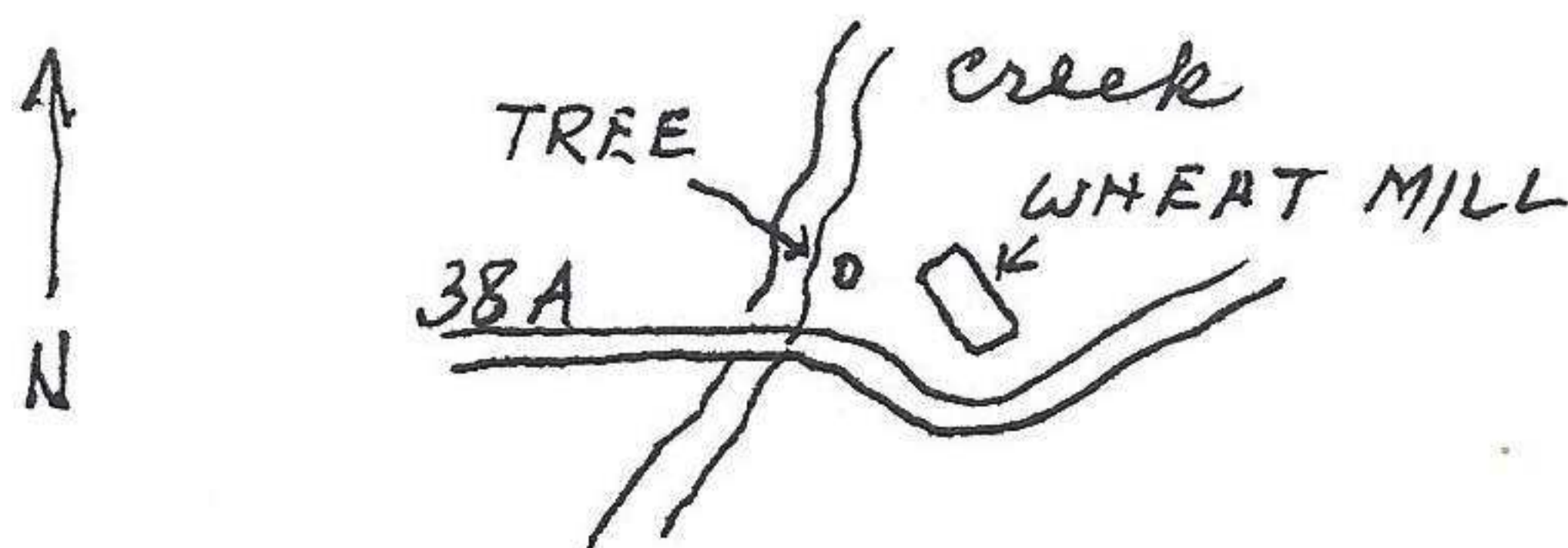
To Genoa to have dinner with Jim and Mary Malseed. Enroute observed 1 crow, 1 ring-necked pheasant, 10 gulls sp.?, 1 red-tailed hawk, 1 white-breasted nuthatch, 1 phoebe, 2 mourning doves. At Jim's place in Genoa observed a ruffed grouse that had flew into the window of their home, purple grackle, black-capped chickadee, 1 red-tailed hawk, 1 sparrow hawk (nest), american robin, phoebe nested 2 consecutive years above back door, titmouse, 2 woodrats had nests on his property, no beaver along creek, Indian site top hill to N E house, stripped skunk road kill. Jim's dog carried a dead rabbit wherever the dog went. This is the third day of this behaviorism.

Three photos:

- 910414-1 Jim & family
 910414-2 Annette & Jim
 910414-3 Jim's house.

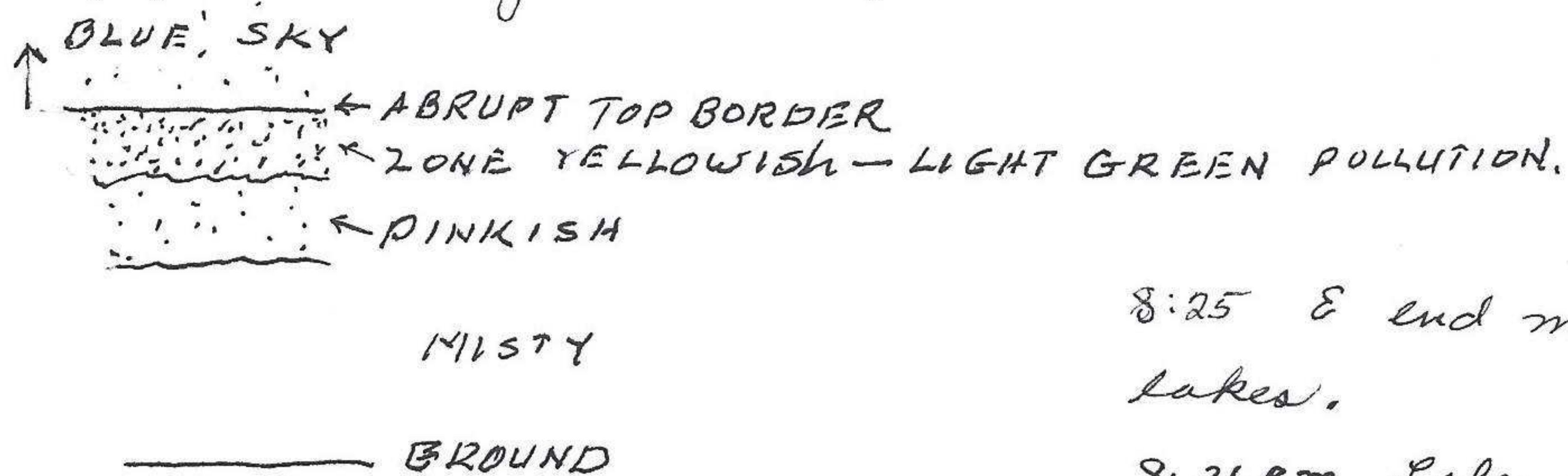
Returned to Jim's home in Moravia.

Measured a sycamore tree along creek at 15'27" (or 17'3"?) E of town



April 15, 1991

Left Moravia 9:50 AM for airport in Syracuse. Enroute observed 1 red-tailed hawk only. Left on ^{1:59 P.M.} Delta flight to Atlanta, thence to Kansas City. Clouds parallel over Appalachian mts. (lines of clouds) Habitation mainly in floodplains along rivers. 3:30 P.M. descent to Atlanta, Arrive Atlanta 4:00 P.M. Left Atlanta 7:16 P.M. for Kansas City, 7:37 P.M. photo of clouds 910415-1, 910415-2, 910415-3, 910415-4, 910415-5. meanders at 7:40 P.M. W of Appalachian. Considerable disfunction of mining lands. Farms in Tennessee lined with hedgerows. Pollution all the way, at 40,000 ft.



8:25 E end Missouri - Arkansas lakes.

8:36 P.M. Lake, reservoir

8:43 descending, fields greener than to east. Arrived K.C. 8:00 PM (EST). James Robert Bee picked us up at airport and drove to one of his farms near Perry Reservoir on Buck Creek in Jefferson Co., Kansas. (14 mi from his farm to his house ^{21st. Terrace St.} in town (Lawrence)) via highway 24 and Buck Creek Rd.

James Robert Bee Farm, Buck Creek, Jefferson Co., Kansas
April 16, 1991

At the farm noted Coyote tracks in creek, a raccoon rd. kill and an opossum. Coyote tracks in sand and mud of Buck Creek. ^{E. grey squirrel, raccoon, opossum, whitetailed deer.} Birds in area (farm) - ♂ red-wing blackbird, whip-poor-will (after dark), 1 bald eagle, 1 great blue heron, 1 meadowlark, 6 goldfinch, 2 English sparrows, 1 blue jay, 1 American Crow, 1 cardinal, 1 red-tailed hawk, 2 American robin, 2 turkey vultures, bob-white (northern), Harris sparrow, white-breasted nuthatch, mourning dove, Unonids in Buck Creek, northern flicker, small frog 1" long, downy woodpecker, house finch, purple martin. fossils in creek - coral, bryozoa, fusulinids, crinoid, house wren.

Jays neighbor Loyd (Cap) La Duke reports wild turkey in area. He remembered a -32° F temp. On Mr La Duke's property in plowed field E of his house collected a fat scroper no. 910416-1 He said about a bushel of artifacts have been collected from his field. He pointed out several other sites on his property.

April 18, 1991

We drove over to a friend of Jays. He presented me a selenite crystal, no. 910418-1, collected 10 mi S Walker, Kansas collected by Allen Kamb of Univ. Kansas.

This evening at 8:00 P.M., after dark, a copperhead was killed in road. It measured 24" Total length. at 1 mi S jays farm on Buck Creek a ring-necked snake measured 16" total length. Photo 910418-1 jays home on farm. 910418-2 jay & me with thistle plant

April 19, 1991

Jay burned an old wooden box car (R.R.) on his property in afternoon at one time when entire box car was in flame, a striped skunk came to the entrance of a burrow leading to underneath the floor of the car and paused for 3 minutes then walked out to hot burning wood & coals of the fire and then returned and never returned again as fire and smoke completely consumed the ^{upper} box car. The fire continued all night and into the next day. Redbud in blossom.

April 21, 1991

Prepared to leave for Utah. Jay, Annette and I, this evening a striped skunk ran down road for 100' in front of car lights.

April 22, 1991

Left Lawrence 11:01 A.M. Before departing visited Bob Still and his wife, ^{Melba}. He said, when he was 12 years of age he shot a whooping crane in fields of midland. It was one of 50 crane flying in a line. also the bald eagle nested at Clinton Reservoir.

Left Lawrence at 7497.1 mileage. Turkey vulture on Wellman Rd at turnoff. Stopped at Jays farm on Buck Creek and from there left at 12:45 P.M., red-tailed hawk. 2:04 P.M. red-tailed hawk, redwing blackbird, purple grackle. Continued to Wilson, Kansas.

Wilson, Kansas.

April 22, 1991

First stop Garden of Eden. Three photos 910422-1, 910422-2, 910422-3, ^{and 910422-4} of concrete statuary. All decoration made of concrete. Up to this point observed: 3 striped skunk roadkills, 13 red-tailed hawks, 5 turkey vultures, 6 meadowlarks, 11 red-winged blackbirds, but few other birds. Wakeeney first irrigation by sprinkler system. From Hayes to Collyer 10 red-tailed hawks (no high utility lines but fence posts. American crow nest in willows quarter. Red-tailed hawks all facing sun. To Oakley: 5 red-tailed hawks, horned larks,

8:30 P.M. sundown, 8:48 Big brown bat flying. Continued to Sharon.
3 red-tails enroute on highway 40. 439 mi. today (from Lawrence.)

Sharon, Kansas (highway 40)

April 23, 1991

Left 7:25 A.M. at mileage 75410. 7:28 A.M. 17 antelope, red-tailed hawk. ^{Sapsucker} ~~giggingo~~ average 1 per mile. 7:31 sparrow hawk, meadow lark, mourning dove, horned larks, red winged blackbirds.
7:42 A.M. Kansas state border at mileage 75428. 7:45 red-tailed hawk.
9:00 A.M. beginning artemisia, prairie falcon. 5 mi. W of here 7 red-tailed hawks approx 100' apart on utility poles, meadowlarks average 1 per 1/10 mi, jack rabbit road kill. 9:11 saw 3 on highway 287, prairie dog towns and 7 antelope. 9:37 Eads. now 96 W highway. 4 red-tailed hawks. 10:01 Haswell. ^{no red-tailed hawks,} 10:20 Arlington, 2 redtail hawks.
10:39 Sugar City no red-tailed hawks, 10:45 Ordway. ^{10:55 A.M.} ^{To} ~~String-necked~~ pheasant, no hawks. ^{10:55 A.M.} ^{To} Olney Spring. 11:01 ^{To} Fowler Bridge at Otero Co 45 mallard ducks, Fowler 11:03 A.M. now 167 South. 2 flocks of 20 birds each flock, farther on more mourning doves, now 2 mourning doves per 1/10 mi. in most favorable areas. 11:36 A.M. first junipers. 11:41 Los Animas Co. line, Wallensburg 12:20 P.M. no hawks, 2 common raven. Left 1:00 P.M. ^{on highway 160} 12 antelope. 1:22 into mts. Oak with reddish leaves of last fall, 1:27 P.M. first magpie, 1:30 now pines and snow on 7 exposures. 1:32 Costella Co. line. 1:38 P.M. Artemisia and beaver ponds. 2:05 turnoff to white sand national monument, raven. 2:13 P.M. magpie nest common across this valley, 2:19 P.M. Rio Grande in Alamosa. Left 4:43 P.M. at mileage 75720. to W on highway 160. 5:26 P.M. first prairie dog. At Highway Spring hiked to gorge, 3 mallards. 7:17 P.M. along route in this area were, ^{Rocky mt} elk in groups of 21-25-26-18-11, and 6 mule deer. 7:41 Gem Village. 7:43 51 rocky mt. Elk, another group 28. Arrive Durango. An informant said he saw 150 elk yesterday. These elk and deer were in open field at mouths of canyons and most of them approx 300' from highway. photo somewhere E of Durango? 910423-1

Durango, Colorado

April 24, 1991

Left 9:01 A.M. 9:26 manlos. 9:30 2 kestrel, 9:40 AM mesa Verde turnoff. Snow on top mesa in 7 exposures 9:47 A.M. 15 turkey vultures at tunnel. 9:52 turkey vulture. 10:25 Natl Park Headquarters photo (Kodacolor) ⁹¹⁰⁴²⁴⁻¹ Cliff House from visitor center. Trip to Cliff House and return via circuitous route. Cops not in leaf, Stellers jay, rock wren. 910424-2 annette + jay. 910424-3 cliff House. 910424-4 Cliff House, all mesa Verde.

Left area. Photo (Kodacolor) ^{to 910424-8} 910424-2 of clouds + high country at n. end of mesa. ^{and arrived} descended to highway 160 at 1:16 P.M. 2:07 new mexico of highway 666, 1 common raven. 2:23 Sheppard, common raven. 3:48 turnoff to Chaco Canyon national monument from Nageezi and highway 44, 1 common raven. 3:57 utility line crosses area. 2 small sparrows sp.?, 4:35 natl. monument (Chaco). This monument is reached only by long dirt-gravel roads. It is one of the final Anasazi communities that developed villages with predetermined master plans for a complete, ^{and balanced} structured unit. They also had communication routes connecting major Anasazi communities. Access to upland routes by trail or stairway behind each village. Took the following photos (Kodacolor) of these villages:

910424-9 James Robert Bee on Indian trail above Pueblo del Arroyo? (first site visited). Access to this vantage point by Indian trail thru rocks and fractures of cliffs. note change in meander creek below. 910424-10 from top.

and 910424-12
910424-11 rock work from one of the rooms of above site.

910424-13 Great Kiva in Casa Rinconada area. Pueblo Bonita can be seen at base of cliff on n side canyon. The lower windows or niches were sealed originally and more recently opened but they are not windows. The larger window, concerns astronomical sitings.

910424-13a a Great Kiva as above showing 2 of four round holes in floor that supported logs ^(26" dia.) to support the roof. They are masonry lined. The square enclosures are fire boxes? The logs projecting from near top of kiva tied in somehow to the supporting upright logs, the center may have been open. Two benches mark the base of the inner wall.

and 910424-15
910424-14 wall in one of the rooms of Pueblo Bonita. The bulk is made of rough unshaped stones in mud mortar and veneered inside and adjoining room with fitted and quarried stones. There are several patterns of walls. 910424-15 is the straight n wall.

910424-16 and 910424-16a panorama of wall back (n) of Pueblo Bonita. Fallen rock (1941), some on pueblo. Anasazi recognized danger and shared base with stones. Cliffs are Cliff House formation a member of the Mesaverde Cretaceous rocks and near edge of a shallow sea. note lack of talus below cliffs except where cliffs fell. ^{see 910424-16a} all talus might have been used for building. 5 common ravens in cliff area.

and 910424-18
910424-17 E end Pueblo Bonita. Chukar partridge in area.

and 910424-20
910424-19 Part Pueblo Bonita covered by cliff broke away & fell.

910424-21 Pueblo Bonita. Jan, Annette and I (shadow) on sandstone boulder.

910424-22, Pueblo Bonita. Wall 4 stories high, thick at base thinner upwards.
910424-24 general view.

arrived Gallup where we met Debbie Baxter from the ^{or Zuni} Ramah Indian Reservation S of Gallup. She said archeological pot hunting is less discussed than it was a few years ago. Spring is not the the most desirable time of the year to visit this area because of persistent winds. autumn and December best months.

Gallup, New Mexico.

April 25, 1991

Left Gallup 11:28 A.M. on highway 666 N, ^{5 common roven in town.} 11:48 A.M. Considerable earth removal in The Navajo Indian Reservation. Mining responsibility is less critical on Indian lands than elsewhere, 3 common roven so far. 11:52 AM Arizona line. 12:33 junction 191. 1:23 P.M. Keams Canyon. Sand in air all the way from Gallup, especially in denuded lands surrounding and in villages. 1:33 P.M. Polacca. 2:07 Old Oraibi 2:13 P.M. Hoteville. 2:22 Coconino Co. line. 3:05 P.M. Moenkopi. 3:38 The Gap. 3:46 Cedar Ridge, kestrel. 4:22 P.M. prairie falcon in aerial exhibit. 4:26 kestrel. 4:30 P.M. Page at mileage 76527. 6:48 P.M. Utah State border. 8:11 Cornelia. 9:15 P.M. arrive St. George at Mary + Dons.

St. George, Utah.

April 26, 1991

Trip to Snow Canyon N of St. George. (Kodachrome) and 910426-2 Photo 910426-1^A of James Robert Bee from top of ridge at State Camp grounds. He ascended via black desert varnish to crack in wall, thence up diagonal fault to top. Photo 910426-3 in same area with Mary Bee Jensen with James Robert. The lava from Cinder cone to N came down this canyon to this point. The main canyon carried lava down to near center of main valley of St. George. Photo 910426-4 in same area as above and to N. Sands are red from sandstones. ^{910426-5, 910426-6, in same area.} Navajo sandstone makes up the greater part of Snow Canyon. Pine mts beyond view to N are of Oligocene age and they are ^{Photo 910426-7 N end Snow Canyon. View to SW} laccoliths. Artemisia in area. From E of St. George photo 910426- of Zion area + Kaiparowits Plateau

April 27, 1991

Left St. George for Zion Nat'l Park. made the following photos (Kodachrome)

910427-1 Zion	910427-6 Great White Throne
910427-2 Lower Zion	910427-7 Wall butte
910427-3 Wall of Zion	910427-8 Great White Throne
910427-4 Angel's Landing.	910427-9 Angel's Landing.
910427-5 Rock walls + Clouds.	

910427-10 Angel's Landing
 910427-11 Weeping wall
 910427-12 Lower zions
 910427-13 " "
 910427-14 " "
 910427-15 " "

910427-16 Lower zions

910427-17 " "

910427-18 Tunnel area Lower zions.

Left zion nat. Park 3:26 P.M and returned St. George.

St. George, Utah

April 28, 1991

Temp. St. George this Am. 44°F. *Venessa virginienensis*^{am}, Painted Lady dominant butterfly on car radiator picked up across Nevada, S Utah. Annette, I, Don and Mary circled Pine mts. via I-15 Interstate, to Mesquite, thence Shivwits, Dunlock, New Castle, Cedar City, Kolob and back to St. George: at Joshua Tree forest beyond Utah State line photos (Kodachrome) 910428-1 and 910428-2. At divide (E) of Pine mts. Photo 910428-4 volcanic Cinder Cone before Vega. At massacre meadows, photo 910428-5 and 910428-6 of Cottonwood tree, Turkey vulture in area. Enterprise, raven. 14 Common raven between Enterprise and Cedar City. From Cedar City to Kolob. In Kolob made following photos (Kodachrome). 910428-7 Lowest layer Kayenta, then main unstratified Navajo. 910428-8 Stratified Kayenta, above Navajo lower and upper. 910428-9 ibid with Mary Bee Jensen in photo. 910428-10 Lower stratified Kayenta, upper Navajo, light on top is upper Navajo. 910428-11 ibid with dead and live juniper. 910428-12 ibid. 910428-13 Annette & Mary with Kolob in background. 910428-14 Stratified Kayenta base, lower and upper Navajo above. 910428-15 ibid & red soil. 910428-16 Lower & upper Navajo. at one time main Canyon height of mid-wall Canyon. 910428-17. Best exposure upper Navajo, may be some Carmel Capping. 910428-18 good exposure of Jurassic.

April 29, 1991

Left St. George 10:33 AM for Bryce Canyon National Park. Cottonwood leaves^{yellowish-green} out in last 3 days. On road in zions leading to Mt. Carmel via tunnel photo (Kodachrome) 910429-1 and 910429-2 of W wall of zion showing Kayenta & Navajo exposures. Mt Carmel road east of tunnels photos 910429-3 and 910429-4 and 910429-5 both lower and upper Navajo. photo 910429-6 of solid wall of Navajo cross-bedded sandstone. 910429-7 Don at base cross-bedded sandstone (Checkerboard mesa) Continued to Mt Carmel. Cottonwood there not in leaves.

at Alton, Kestrel. Continued to Bryce Canyon National Park. 2:00 PM
 Following Kodachrome photos from there, all from main observation point:
 910429-8 to NE, Kaiparowits Plateau left distance. This formation at Bryce is Tertiary (Claron Formation, all freshwater lake deposits). This formation is equivalent to Paleocene Flagstaff Formation of central Utah. The vertical joints encourage erosion to form pillars. Photo 910429-9 to E showing white resistant cap producing hoodoo formations. 910429-10 to SW. 910429-10a to NE clouds moving in on Kaiparowits Plateau. 910429-10b pinyon pine on edge Bryce Canyon. 910429-11 to SE. 910429-12 ibid. 910429-13 to S of Bryce Canyon. 910429-14 resistant white cap in foreground. 910429-15 to SE. 910429-16 general view NE, remnant plateau as tableland isolated. 910429-17 to S, in evening this would look like a fiery furnace. 910429-18 to S from edge. 910429-18a general to S. 910429-19 showing deep narrow canyons. 910429-20 to S, showing shrubs at edge of canyon. 910429-21 to E, ponderosa pine at edge. Resistant gray cap rock holds up canyon edge. 910429-22 old tree and roots of coniferous tree at edge. 910429-23 to S ^{910429-23a} many left. 910429-24 coniferous tree bordering canyon. Left Bryce Canyon 5:25 P.M. at junction with 89 highway pintail in pond. To S on 89 and 16 Rocky Mountain Elk at junction (4 mi. N) 89 and 16. Photo 910429-25 high country between 89 highway and Cedar City. Photo 910429-25 between Cedarbrahes turnoff Cedar City, of fault. St. George 8:21 P.M.

April 30, 1991

Don and I drove to Leeds Silver mine and returned.

St. George, Utah.

May 1, 1991

James Robert returned from Calif and we left at 8:05 AM at mileage 77000. for Provo, Utah. at Hurricane 12 greater yellowlegs, 1 common raven. Continued to Zions National Park and from an lower section took photo no. 910501-1 (Kodachrome) of good exposure of Navajo. Photo 910501-2 of columns of rock. 910501-3 at narrows with cottonwood in foregrounds. Photo 910501-4 of Great White Throne and Angels Landing from narrows. Photo 910501-5 Cottonwood trees at open field before narrows. Photo 910501-6 Great White Throne. Photo 910501-7 Great White Throne. 910501-8 Column at head of canyon. Photo 910501-9 S end Zions, W side. Kayenta lower levels, Navajo upper reaches. 910501-10 S end park, W side. now on mt. Carmel road going E

before tunnel. Photo 910501-11 to W just before tunnel. Photo E side mt Carmel Rd tunnels no 910501-12. Photo 910501-15 of Checker-board mesa, E side, Navajo sandstones. Photo 910501-15a ibid and James Robert Bee on slope wall. Photo 910501-16 ibid. Continued to Bryce Canyon. Photo 910501-17 at Bryce Canyon featuring Queen Victoria. Photo 910501-18 general view Bryce Canyon. 910501-19 Bryce Canyon close view. Photo 910501-20 general view, good capping layer in middle field. 910501-21 close view of canyon. 910501-22 general view Bryce Canyon. 910501-22 Bryce Canyon, some ridge completely eroded to smooth surfaces. 910501-25 Bryce Canyon general. Left Bryce Canyon and on way n out of park photo 910501-26 of 4 mule deer. Birds ^{and mammals} in Bryce Canyon National Park: Say's ground squirrel, Eutamias, Clark's raven, mule deer.

Continued E on highway 12. at mile post 46 raven and 1 mule deer. at mile post 52 scrub jay. now Calif. Creek, Boulder. First turkey vulture 4 mi. n Boulder. at divide on Boulder mt, 1 raven. at mile post 105 marmot. at Wayne Co line, snowshoe rabbit and raven. Torrey at 6:09 P.M. Checked in at motel (old hotel) and then drove down to Fruita and returned. On way down photo 910501-27 of large concordal fracture in Wingate formation. Photo 910501-28 just W of Fruita showing Moenkopi, Shinarump, Chinle, Wingate, Kayenta & distant Navajo. 910501-29 ibid minus Navajo. Photo 910501-30 ibid. Mileage at Torrey 77310

Torrey, Utah

May 2, 1991

Left for Capital Reef Nat'l Park. Ranger Bradford Frye, Capital Reef Nat'l Park, Torrey, Utah, 84775 425-3791 is writing an article about Dr. Ingelsby. The old home of Ingelsby in Fruita was recently razed. Continued S to Grand Wash. Enroute and at mouth of Grand Wash photo (Kadocaler) 910502-1^{and 910502-1a} of Wingate capped with Kayenta, Navajo upper left corner. As we entered Grand Wash, photo 910502-2 of Kayenta base and Navajo above. Photo 910502-3^{and 910502-3a} Annette and Jay among Navajo formation, approx 2/3 way thru wash. Photo 910502-4. On return to Fruita, photo of Moenkopi to remnants of Shinarump (white layer right 1/4 up side photo, Chinle to perpendicular. Wingate and Kayenta on top. Photo 910502-5. old cottonwood tree (22 in circumference) in front of Dr. Ingelsby's home, recently razed, Fruita. Left Fruita and continued to Hanksville via highway 24. photo 910502-6 of Wingate, Kayenta on base Chinle.

Left Hanksville 1:20 P.M., arrived crossover to Hite. Photo 910502-6 of sterty level River, 2:49 P.M., 2 raven, at white Canyon (Bridges National Monument) two photos of bridges, 910502-7 meander S. of next and 910502-8 of a bridge in SW part of monument. 910502-9 white Canyon, bridge area, also 910502-10. 910502-6a, and 910502-6b, 910502-6c, 910502-6d, 910502-7a of bridge, of next. Continued to - ward moab and just N Monticello Look road to Elephant Rock and re-turned. Before Monticello coming out of white Canyon Photo 910502-11 of fault line and straight cliff.

moab, Utah
 um, um

May 3, 1991

Left 10:24 AM for Arches National Monument. Took several photos there:

- 910503-1 Park Avenue near entrance, E side. Original trail here.
- 910503-2 also photos 910503-1a, area Courthouse Towers
- 910503-3 along the Great Wall.
- 910503-4 ibid
- 910503-5 North Window. also 910503-5a and 910503-5b.
- 910503-6 N of north window. also, 910503-6a + 910503-6b. area of
- 910503-7 In Window Section, Double Arch in distance.

now to Dead Horse Point. Took 13 photos at Dead Horse Point State Park.

- 910503-9 E side Dead Horse Point to S. Kayenta sandstone top, Wingate cliffs, Chinle base.
- 910503-10 ibid
- 910503-11 ibid
- 910503-12 ibid.
- 910503-13 From Point to S. Wingate cliffs upper (top) photo, white rim sandstone (Permian) white ledge & white boulder talus
- 910503-14 ibid, Lower Permian Elephant Canyon Formation banks of river. Moenkapi & Chinle between Wingate and white rim sandstone. white left side same level of white rim S.S.
- 910503-15 ibid
- 910503-16 West side Dead Horse Point. Annette, Jay upper left.
- 910503-17 E side to NE.
- 910503-18 E side toward moab & La Sal Mts.
- 910503-19 Juniper to SE.
- 910503-20 dead juniper? Dead Horse Point, to SW.
- 910503-21 Root system dead conifer to SW. West side.
- 910503-21a gw 13 + Annette at Dead Horse Point.

Left Dead Horse Point and near Green River (village) photo 910503-22 of. Book Cliffs (Cretaceous) mesa Verde Group made of Castle Gate Sandstone rising above the more easily eroded Mancos Shale. Between Arches and Green River, 2 common raven. Left G.R. 4:20 P.M. 5:30 P.M. Price. up to railroad crossing Soldier Summit, 31 mule deer, 200 Rocky mt. elk. From Soldier Summit to Thistle, groups of 9, 5, 4, 8, 5, 21, 3 mule deer, 3 roven, jack rabbit, cottontail, marmot, Peromyscus. Arrive Pervo in evening. Stayed with Mary & Don in cabin at Sundance. Photos of Temperogus mt. Penruite to Sundance (Pervo Canyon): 910503-23, 910503-24, 910503-25

Sundance, Stewart Flat, Mt. Timpanogas, Utah Co., Utah

May 4, 1991

(see 910504-0 at last of this date)

Two photos (Kodachrome) of snow on Timpanogas, no 910504-1 from road below Aspen Grove, showing Elk Peak to left and Aspen Grove Canyon to right. Conifers to left, ^(out of photo) of ones along edge of creek were removed by snowslide years ago. This one and next are panoramic. Photo 910504-2 same area as above with Elk Peak right and Stewart Crag to left & center. Snowslide from Elk Peak keep base in successional stage of aspen.

Birds in area of Mary & Sons cabin W of Sundance: goshawk, white-breasted nuthatch, brown creeper, Steller's jay, Uinta ground squirrel, tree squirrel (chickoree), Audubon warbler, Townsend solitaire.

Left 11:17 A.M. with James Robert and checked area N of Aspen Grove thence top N Fork Ridge (Deer Creek Ridge) and return. Snow on all sides but were able to follow route with least amount of snow covering. Enroute observed active gopher diggings, badger diggings (fresh), Uinta ground squirrels, 5 American robins, 1 northern flicker, tree sparrow, elk tracks and droppings, mule deer tracks & droppings, Coyote tracks. Deer & elk tracks and scat common on trail that traverses N Fork Ridge from above lake to top of ridge. Took following photos along route (Kodachrome):

910504-3 From top glacial moraine to W. Elk Peak to left with major avalanche tract from top. Safest ascent up terraces of Aspen Grove Canyon is at base of Elk Peak, elsewhere avalanches completely central canyon surface. Summit Timp distant background.

910504-4. *ibid.* Extreme left avalanche tract.

910504-5 *ibid.* but farther to N.

910504-6 Timp background. From trail to top Deer Creek Ridge (North Fork Ridge) Douglas fir starting to dominate aspen. One reason conifer find it difficulty to dominate is because porcupines eat top of young trees (fir) when snow provides easy access to tops of young conifers. Lake just beyond foreground ridge.

910504-7 *ibid.* Trail canyon left leads to major road switch-back, trail to right to lake. Sundance below Cascade Peak. Squaw Knife Pass visible.

910504-8 From terrace trail to top North Fork Ridge show Timp to W. Shaben valley with ridge flatirons in center.

910504-9 Brink North Fork Ridge to W at Timpanogas, James Robert Bee in foreground. Original route of glacier to N above flatirons, since pirated by Stewart Canyon.

910504-9 *ibid.* James Robert Bee in foreground.

910504-10 *ibid.* same James Robert. Timpanogas in background. major flatiron continues S across Aspen Grove Canyon to another flatiron. These flatirons continue N and S across east side Timp.

910504-11 *ibid.* James Robert Bee in foreground.

910504-12 From near top N. Fork Ridge to W at Timp. This gully continues down to base ridge and is line with rocks.

910504-13 From near top N Fork Ridge showing traverse trail and head of N Fork creek to divide into American Fork Canyon. Granite Range to N. Beyond this range is *Snowbird & alta*. The leafless trees are aspen.

910504-14. Same area as (910504-12) with James R. Bee in foreground (area of cliff outcrops). Returned to Aspen Grove and thence to Sundance at Mary & Don's Cabin. Earlier this A.M. photo 910504-0 at Sundance & Mary & Don's cabin. And also photo 910504-15 and 910504-16 of Red Biddalops Cabin at Aspen Grove.

Sundance, Timpanogas mt., Utah Co., Utah
May 6, 1991

In leaving Mary's Cabin at Sundance for Lopez we stopped at Edith and Arnold Davis in Provo. Arnold informed me that he and Edith saw a black bear at Strawberry Reservoir while fishing in 1989. We returned via Provo Canyon which by the way, has undergone the most atrocious road building modification I have seen. This canyon should have been saved for people of Provo not raped for trans-state transportation. a tunnel connecting Utah Valley & Heber Valley would have saved this unusual scenic canyon. I had proposed this 65 years ago. at Deer Creek Reservoir, 9 loon sp., 1 ^{black-billed} magpie, 4 redwing blackbirds. Highway 80 at 11:36 A.M., redwing. Echo, mallards and several other kinds of ducks. Morgan, black-billed magpie, Huntersville turnoff, 2 black-billed magpies, 10 American crows and first ones observed on this trip, killdeer. Odgen, 2 black-billed magpies, mule deer road Kill in outskirts of city. at 12:39 P.M. between Odgen and Willard, 8 white-faced ibis. Willard, 210 white-faced ibis, Turnoff 15-84 red-tailed hawk, 2 black-billed magpies, 1 avocet, prairie falcon. Snowville, 1:49 P.M. Meles turnoff, 8 Brewer blackbirds, long-billed curlew. Burley turnoff. Jerome Co. line. Wendell, black-billed magpie, 2 common raven, 1 common raven, Boise, black-billed magpie, 2 mourning dove. Black Canyon Junction, black-billed magpie, common raven, beyond a ridge covered with diggings, Ontario, kestrel, red-tailed hawk. Oregon, 7:04 P.M. common raven. at Baker Co. line at lake, Eye Valley, 2 black-billed magpies, 3 Canada

geese, gophers active, black-billed magpie. Baldpate Slough, northern harrier, La Grande, 9:22 P.M. (mt. Time) at mileage 78622.

La Grande, Oregon.

May 7, 1991

Left 9:10 A.M. Common raven, hillside now green, black-billed magpie, prairie falcon, common raven, northern harrier, United Army Dept., long-billed curlew, Columbia River, 4 American crow, 28 gulls sp., 13 Brewer blackbirds, 2 great blue herons, 2 black-billed magpies, 4 mourning doves. John Day Dam, mallards, 40 gulls sp.. Deschutes River, 62 gulls sp. 2 American crows, 17 gulls sp. Dallas 2 American crows. Vancouver 6:00 P.M. Annette Christine Bee Kenagy home in Last Lake.

Last Lake, Snohomish Co., Wa.

May 8, 1991

Left Chris and to Lopez Island.

Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.

May 10, 1991

At Bee House, violet-green swallow at nesting box at 4:00 P.M. Checked birds: Humphrey Lagoon, 2 glaucous-winged gulls. Swift Lagoon, 28 northern pintail, 6 green-winged teal, 58 western sandpipers. Later in day at 7:30 P.M., bald eagle adult on nest NE Frost Island no harbor seal on Leo Reef or elsewhere, 29 glaucous-winged gulls on Flower Island and nesting. 9:02 P.M. first medium size bat active. Only 2 mule at house today. Fence going up on T.A. Ellis property adjoining Bee Estate to S.

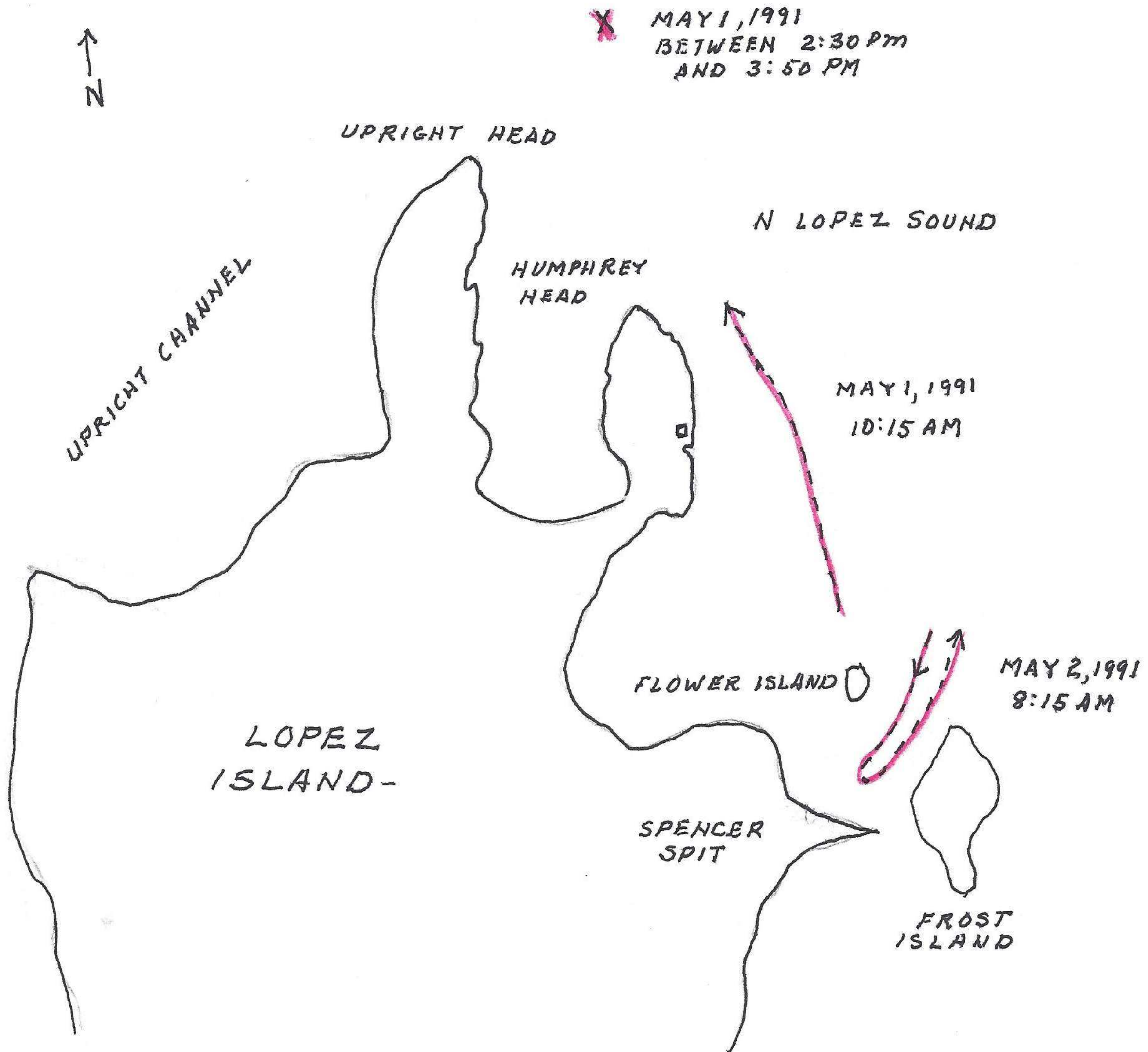
May 11, 1991

9:00 A.M. 33 harbor seal N Flower Rock, 6 Little Flower Rock. No harbor seal Leo Reef. Bald eagle on tree perch 20' east of nest. Usual glaucous-winged gulls on Flower Island. 1 pigeon guillemot in front Bee House.

Collected mammal from Bee House:

910511-1 Peromyscus maniculatus hollisteri 183-81-21-18-29gms ♀ ut. normal.

T.A. Ellis neighbor to N of us observed a gray whale Eschrichtius glaucus May 1, 1991 in N Lopez Sound at 10:15 A.M. She first heard and then located by wave and spout action. It was first observed E of Flower Island and from there moved N and passed Boundary Point.



GRAY WHALE OBSERVED BY
 T.A. ELLIS
 FROM RESIDENCE ON
 HUMPHREY HEAD
 ON
 MAY 1, 1991 AND MAY 2, 1991
 AND REPORTED
 MAY 11, 1991

(1/2 mi E) in regular surfacing and submerging to N end Humphrey Head, thence submerged and remained out of sight. Between 2:30 and 3:50 PM on the same day an informant on the ferry observed a gray whale at 1 mi. NE of Upright Head, at one time the whale remained motionless in the water. On May 2, 1991, next day (cont. below)

at 8:15 AM T.A. Ellis observed a gray whale 1 mi. N of Lower Island. It moved SW between Flower and Frost and then returned.

May 12, 1991

TO Anacortes for Mother's Day with Chris, Steve and family. Left Lopez Island on early ferry. 18 immature and 13 adult glaucous-winged gulls at Lopez terminal. no census to Anacortes. Had dinner at the marina at Skyline W of Anacortes.

Left Anacortes ferry terminal 7:00 P.M. to return to Lopez Island. At peling, SW of Terminal 9 subadults and 13 adult glaucous-winged gulls, also 2 pelagic cormorants. After leaving terminal observed 1 pigeon guillemot, 1 pelagic cormorant, 3 marbled murrelets. A ferry employee reports an adult and young gray whale remained in water at rear of ferry in Sidney terminal and for several minutes the ferry was unable to depart. One small boat approached whales to within 20'. Continuing ferry trip to Lopez Island observed 3 glaucous-winged gulls, 1 marbled murrelet, 2 glaucous-winged gulls. Pointer Island at 7:17 P.M. Approx 1000 glaucous-winged gulls left island, wheeled and returned. 1 marbled murrelet. 7:21 P.M. W Thatcher Pass, 1 glaucous-winged gull. Arrived Lopez Island.

From the Journal of the San Juans val. 85, no 14, April 3, 1991 occurred the following (Parks and Recreation Dept. of Wa) For Sale: 500 logging trucks [of logs] or 2.3 million board feet at Spencer Spit, Moran State Parks, Jones Island, Deception Pass, Hope Island. Some trees are years old. 20 acres cleared on Spencer Spit State Parks.

at Bee House on Lopez Island noted small deer of last summer is now 24" high at shoulders.

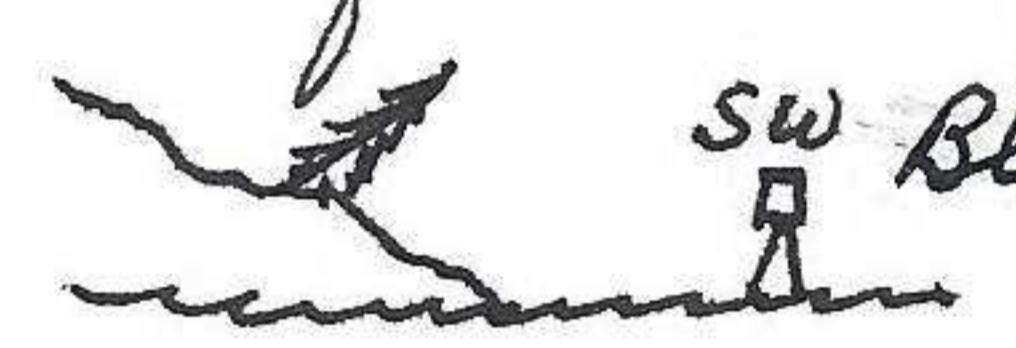
May 14, 1991

2 fishermen in a small boat (one a diver) fish in Spring Cove 200' E. between 8:00 AM and 9:45 A.M. Each net full approx. 40 sea cucumbers or 160 total. The posterior end was cut & internal organs fell to table. The

cucumbers ranged from 12" to 15" gray & white beneath, yellow tentacles. Their boat no. was 873.

On route to ferry terminal noted 2 american robins. at terminal, 1 barn swallow, 1 song sparrow, 1 goldfinch. Left Lopez Island 10:09 AM. pelagic cormorant. Rock out from Cove NE Humphrey Head 3' emergent. \uparrow N $\left\{ \begin{array}{l} W. Thatcher Pass, \text{ pigeon guillemot.} \\ E Thatcher Pass \end{array} \right.$ glaucous-winged gull, pelagic cormorant. Arrive Anacortes 11:51 AM. Left Anacortes to return Lopez Is. at 6:54 P.M., pelagic cormorant. 3 glaucous-winged gulls on Painter Island, 4 pigeon guillemots, 3 glaucous-winged gulls. W Thatcher Pass. Continued Lopez Island arriving 7:30 P.M. 37 glaucous-winged gulls on piling.

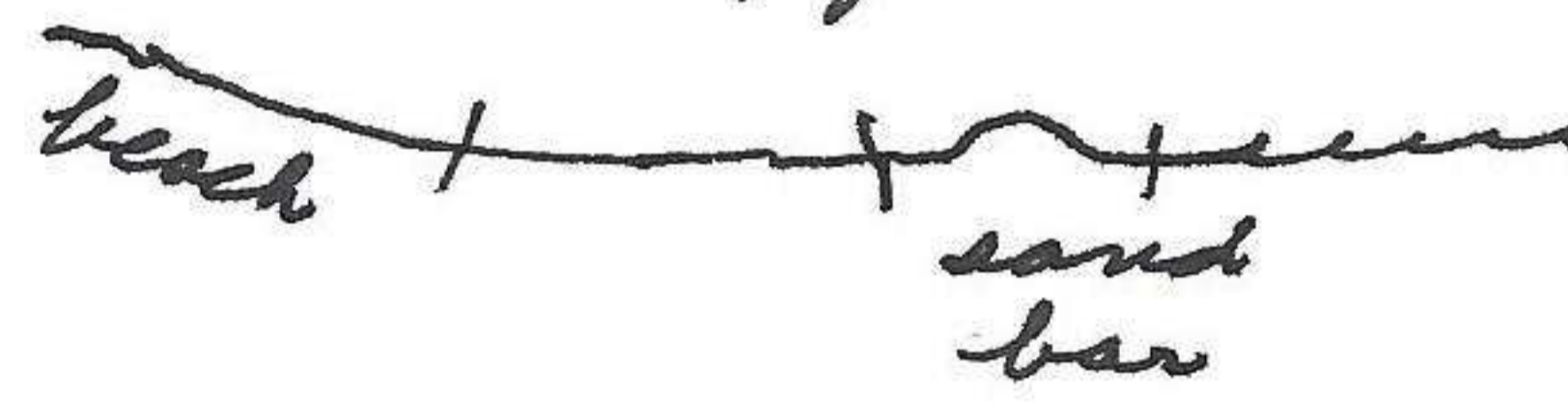
May 15, 1991

9:30 AM. 1 river otter, ^{to S} passed Bee House 10:30 AM 26 harbor seal Leo Reef. Tide a -3.4 at 12:00 P.M. Rock no 8 of Leo Reef 1 foot emergent. This rock is in alignment of Bee House and leaning conifer tree on S W end Blakely Island =  SW Blakely Island. All rocks of Leo Reef are above water.

• ← no 8 Rock

□ Bee House

Two American black oystercatchers, one in mutual display of bending head forward and down and held. Cucumber harvesting boat 40' W no 11 Rock of Leo Reef. No adult bald eagle on nest NE Frost Island. 3 glaucous-winged gulls on Flower Island.

Swift Lagoon 8 mallards, 6 bluewing teal. Pond SE Port Hardy - Cross roads, 1 Canada goose. W side Causeway SW Fisherman Bay, 6 bufflehead, 41 red-breasted mergansers, 8 (another group) red-breasted mergansers, 1 black-bellied plover, 9 dunlin, 2 glaucous-winged gulls, 1 American goldfinch. at this low tide there is an offshore sand bar beyond the gravel and sand beach  E side Causeway 62 glaucous-winged gulls, 1 great blue heron,

May 16, 1991

2 marbled murrelets feeding 15'-30' from shoreline below Bee House Rufous-sided Towhee carrying food.

Collected the following mammal from Bee House:

910516-1 skull only. Peromyscus maniculatus hollisteri. 196-88-24-20-♂ 30gms. Testis 10mm in length.

May 17, 1991

Raining 3:00 P.M. no harbor seal on rocks. Bald eagle on nest NE Frost Island. 12 glaucous-winged gulls on Flower Island, none on territories of which 35 on territories. 5:30 P.M. 52 glaucous-winged gulls on Flower Island. Bald eagle on nest. no harbor seal in area on rocks. 7:00 P.M. 6 river otter swim past Bee House, alternately swimming and diving in forward motion. 3rd year mule deer 30" high at shoulders and with 2 knobs $3/4$ " high and $3/4$ " wide, a female, same size and in winter pelage starting. A young mule deer of last year, 26" high at shoulders $1/2$ in summer pelage. The eastern grey squirrel dominates 1 to 4 American crows but large numbers of crows dominate squirrels. O'Leary cutting Spring Cove trees.

May 23, 1991

910523-1 Peromyscus maniculatus hollisteri 173-81-21-19-21 gms, ♂, testes 19 mm
From Bee House.

at 6:10 A.M. hail and rain for 7 minutes, largest hail 9 mm dia. first hail clear, later opaque. Temp. 50°F. The mule deer left the area of Bee House because of hail striking ears. The rufous humming birds fed during the last part of the hail storm.

8:30 A.M. 62 glaucous-winged gulls on Flower Island, 29 of which were on territories. Bald eagle 4" from nest NE Frost Island.

May 24, 1991

First fawn this year and already capable of running. 5:35 P.M. 70 glaucous-winged gulls on Flower Island. A fawn was observed last week off the Bee Estate.

From Journal of San Juan dated May 22, 1991, Selstrom estimates 2,000 trees down in Spencer Spit State Park. Jim Farmer camp manager said 30,000 trees fell in Moran St. Park, on Orcas ^{5,500 acres} compared to 2000 in February 1989. Least damage on Cascade Trail around lake. 350,000 board feet stacked mostly mt. Lake and mt. Constitution Road. One Douglas fir 150' high and 5' diameter at Camp Okela, also 750-1000 down there. Brown Island 400 logs enough to fill 15-20 logging trucks. Johns Island 400 year old virgin timber, root balls 20' high.

May 26, 1991

To Anacortes approx 11:00 A.M. Selective observation. Adult bald eagle top tree above beach 20' W of Cable Crossing SW Blakely Island.

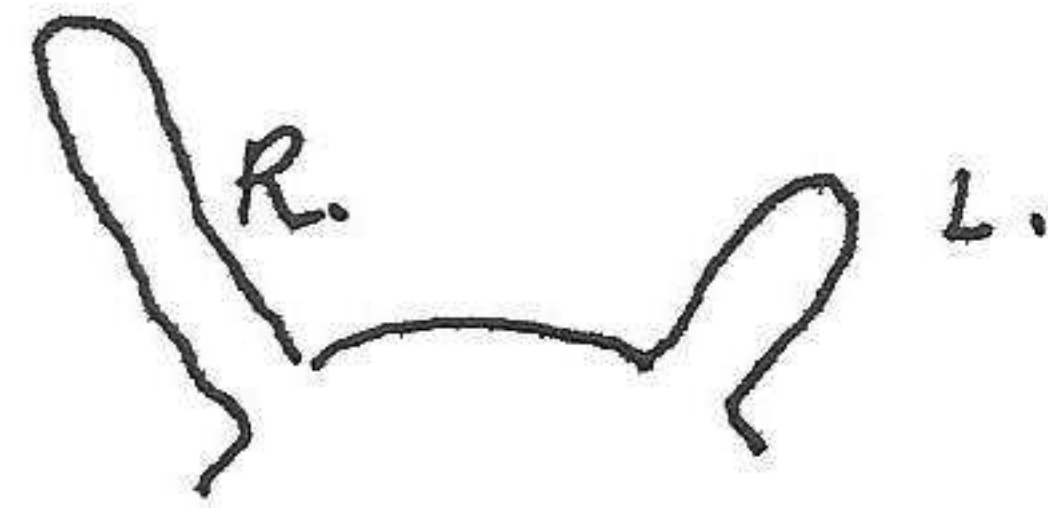
13 pleasure craft visible at one time, 90% going E. Only 2 glaucous-winged birds observed on entire trip. Returned to Lopez Island approx. 7:00 P.M. 2 pigeon guillemots, 7 pigeon guillemots, 2 great blue herons flying 100' high in middle Rosario Straits, they flew to James Island then S. 2 glaucous-winged gulls w Thatcher Pass. Continued to Lopez Island.

May 27, 1991

Deer at Bee House feeder: mule deer.

♂ 25" high at shoulders, fawn this year 18" high at shoulders, mother of fawn 30" high at shoulders, ^(lean) male with antlers 1" high, ♀ 27" high at shoulders, 1/2 molted.

♂ 33" high at shoulders →



May 28, 1991

Leo Rocks 4 to 7, 30 harbor seal.

" " 9, 20 " "

Little Flower Rock, 9 " "

Flower Island, 9 glaucous-winged gulls.

at bird feeder, American Crow and eastern gray squirrel 6" apart.

no boats at Spencer Spit, because of cold weather.

May 29, 1991

910529-1, ^(imm.) Junco hyemalis ^{imm} 151 TL, 73 wing, 59 tail, 22 tarsus, 9.5 exposed culmen, 240 wing spread, 18 gms wt. Measurements only.

2:20 P.M. River otter swam N past Bee House. It fed within 1' from the shore all along the way. Bald eagle on nest SE Frost Island, 27 glaucous-winged gulls Flower Island. No harbor seal in area.

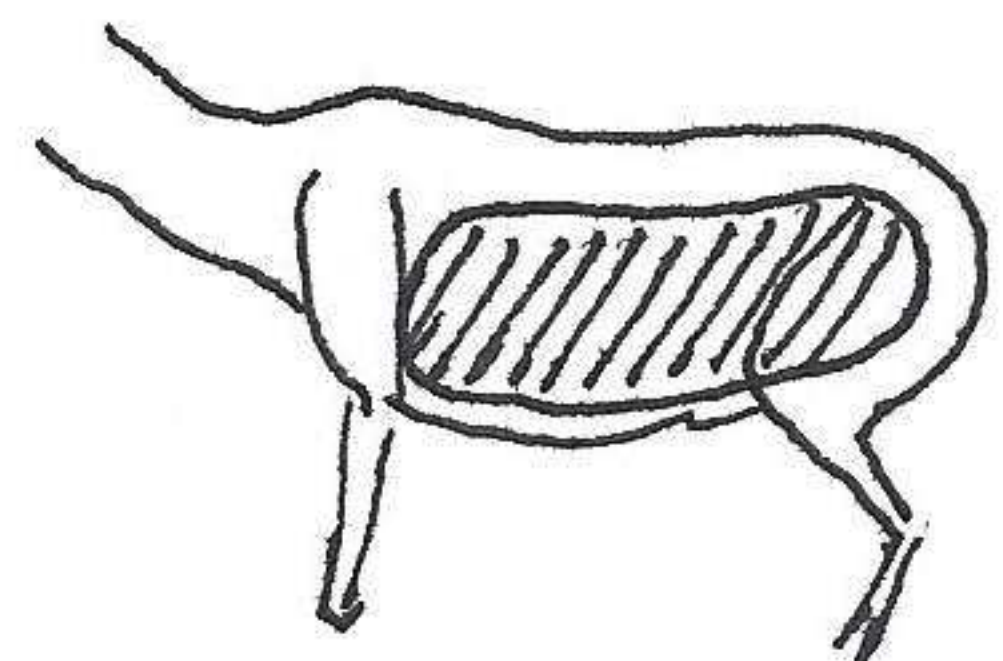
fawn ^(mule deer) this year 15" high at shoulders, mother left front leg injured, let fawn nurse. This fawn has white hair in tarsal leg gland, scratches ear with hind foot, licked tail area and after 1 min. difficult to use hind leg, bunts mother's head, frolics with and around mother, traverses rock slopes, touched tail of eastern gray squirrel and jumped back, reacts to squirrel, Townsend chipmunk, rufous-sided towhee more than adults of the mule deer, other deer accept fawn.

♂ 26" high at shoulders 1/3 molted on sides.

most all deer show new summer hair thru winter pelage on sides →

Large bucks complete body pelage (summer)

Some large ♀ just showing new hair.



May 30, 1991

Annette and I to Hunter Bay, Lopez Island to enjoy a dinner and ride on the nauticat 36 at the invite of Dick and Patty Dunkhapt and their daughter Sunny.

Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.
~~Humphrey Head, Lopez Island, San Juan Co., Wa.~~

June 5, 1991

Left 10:55 A.M. for Friday Harbor on the Bee. Arrived 12:40 P.M.

June 7, 1991

On W side Causeway SW Fisherman Bay 11 Harlequin ducks fishing in straight line ||||| with body width separating them. All dive and resurface same time which averaged 3 minutes. Also 2 glaucous-winged gulls and 1 common loon. High tide.

July 8, 1991

♂ mule deer 34" high at shoulders with 2 eye tines and 2 points one side. It passed a fawn (18" high at shoulders) which ran at top speed 100' and then returned and smelled the legs of the buck which in turn gently bunted the fawn away.

5:15 P.M. 62 glaucous-winged gulls Flower Island.
 young eagle on nest (bold eagle) NE Frost Island.
 Have noticed seal playing in water at edge Leo Reef.

June 9, 1991

Change of harbor seal populations on pull out this A.M.

	10:50 AM	11:00	11:10	11:20
Leo Reef 3-7 rocks	4	11	19	0 + displaced by boat
Rock 9	3	7	8	14
Rock 11	0	8	10	14
Little F. Is.	2	0	0	0
	<u>9</u>	<u>26</u>	<u>32</u>	<u>28</u>

All afternoon on a rising tide a brownish oily surface lined the shoreline in front of Bee House and Spring Cove.

7 mule deer rested in Bee House area until O'Leary dog started to bark at which time all deer immediately left area.

June 10, 1991

Albert and Sons
 To Jensen Shipyard, via Crane Passage. Enroute 2 pigeon guillemots, 1 marbled murrelet, 1 bald eagle dead tree N end Brown Island. Glaucous-winged gulls on piling at ferry terminals are: Lopez 81, Shaw 21, Oress 48,

9:30 P.M. Rainbow north Lopez Sound ^{observed} from Bee House from ridge
ward Spencer Spit to 1/10 mi. N Bald Bluff.

9:15 P.M. Rainbow disappeared at sundown.
Violet-green swallow active to at least 9:15 P.M.

June 11, 1991

910611-1 Junco hyemalis killed at window. It measured:
152 T.L. ^{mm}, wing 74, tail 47, tarsus 24, exposed Culmen 9, wing spread 243.
measurement only.

300 glaucous-winged gulls in raft, N Lopez Sound.

June 12, 1991

7:35 A.M. ad. bald eagle flew approx. 80' above water, over ferry terminal, Upright Head and thence S.

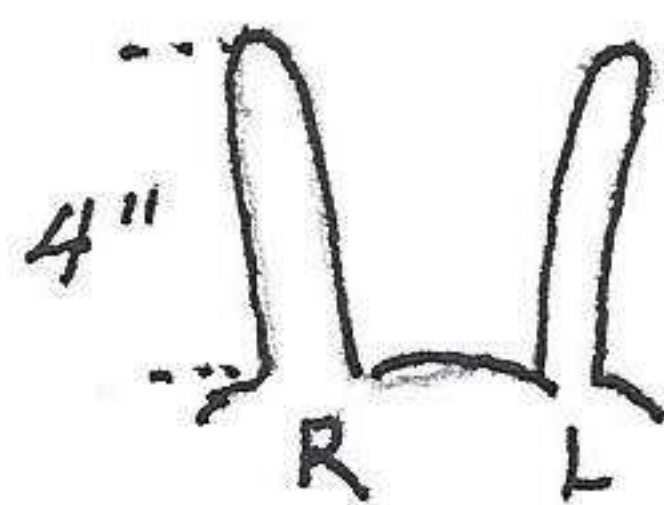
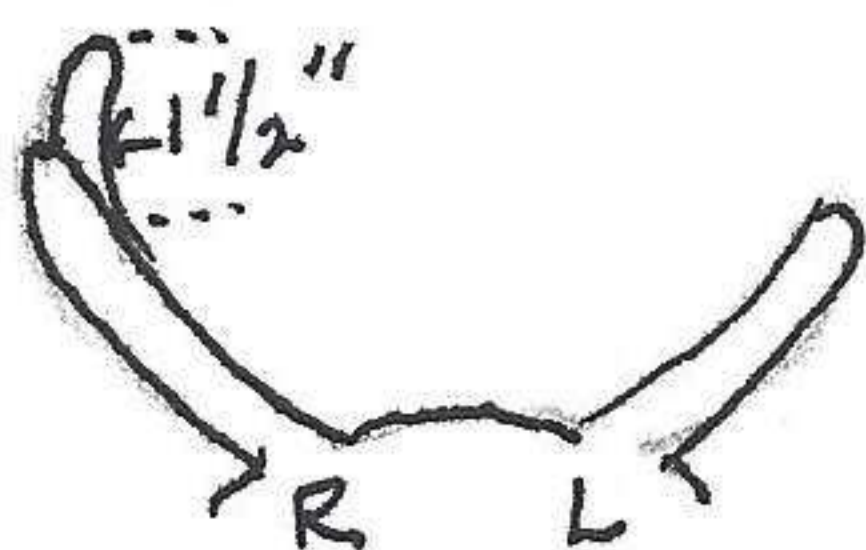
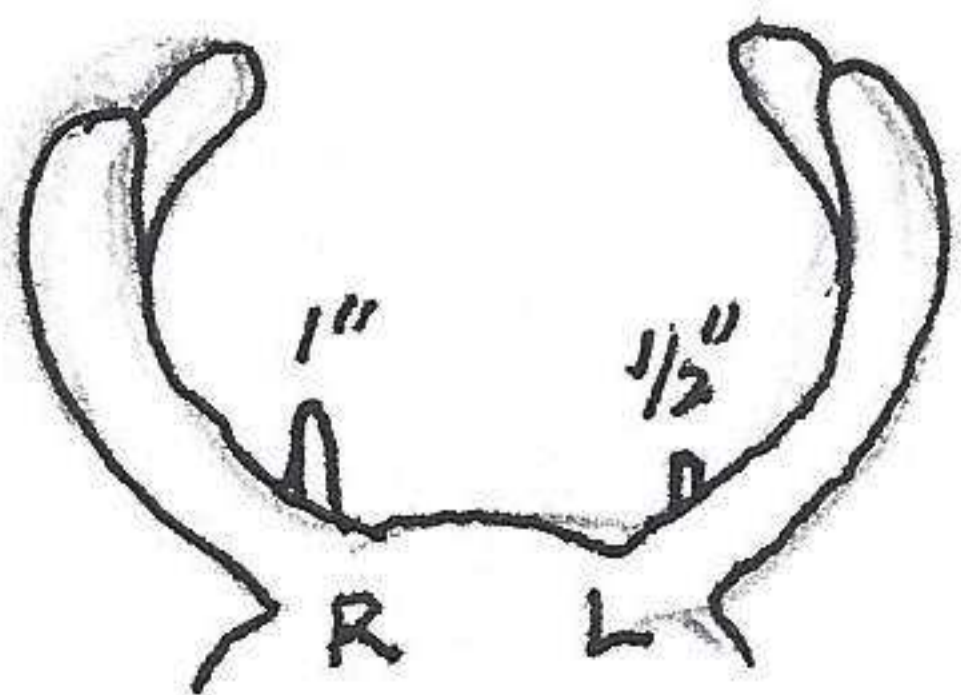
Left Lopez Island approx 8:30 AM for Anacortes. 2 Glaucous-winged gulls, marbled murrelet. Willow Island, glaucous-winged gull, 2 rhinoceros auklets. Blakely, SW beacon. Glaucous-winged gulls on Pointer Island. Tide - 3.6 Today. Rosario Straits waters active, there 34 glaucous-winged gulls, Cypress Island beacon. Arrived Anacortes. To United Hospital (Cedro-Woolley) for post cataract surgery. Returned to Lopez Island

June 14, 1991

at W side Fisherman Causeway (SW) at noon, 9 Harlequin ducks, 6 surf scoters, 300 glaucous-winged gulls. no birds E side causeway. -3.5 tide. Tide flats are green from vegetation.

at 1:00 P.M. 46 harbor seal on Leo Reef, 18 on N Flower Rock. 60 glaucous-winged gulls on Flower Island. ^{air} Temp. 50°F, overcast. at lowest tide -3.5 no 8 Rock of Leo Reef 6" high surrounded by kelp. Rock covered at 1:45 P.M.

Orphan mule deer of last year 25", shaggy light brown with new hair showing on sides and rear hips. Adult females gradually replacing summer hair thru winter pelage. Larger bucks in full summer pelage.



June 15, 1991

at 8/10 mi E Bee House in N Lopez Sound, 33 glaucous-winged gulls, 42 rhinoceros auklets and 2 harbor seal feeding together. Rhinoceros auklets difficult to count because of their unsynchronized diving. Glaucous-winged gulls are on Leo Reef when above water and range from 20-40 individuals. Groups of 20-60 are common throughout the San Juan Islands.

June 17, 1991

Left for Anacortes 11:41 A.M. 9 harbor seal on Leo Reef with glaucous-winged gulls every 1 1/2' apart. Painter Island had full complement of glaucous-winged gulls but not as close as the resting birds on Leo Reef. 3 pelagic cormorant, 1 marbled murrelet, 2 marbled murrelets, 6 rhinoceros auklets. Arrived Anacortes 12:30 P.M. Later left Anacortes 6:50 P.M. ad. bald eagle on S end Blakely across W from Armitage Island. Slopes in sounds brown. Trees on Willow Island are not tall compared to mainland.

June 19, 1991

To Anacortes, arrived 3:12 P.M. no census. at terminal 23 glaucous-winged gulls and 2 pelagic cormorant fishing together. One glaucous-winged gull nesting on dolphins.

June 21, 1991

Left Anacortes 3:17 P.M., rain and low clouds. 100' W of Lawson Rock to another 150', 56 rhinoceros auklets, 26 glaucous-winged gulls, 2 pelagic cormorants, 1 pigeon guillemot. Arrived Lopez Island.

June 22, 1991

On Leo Reef, Rocks 1-5 5 harbor seal, Leo Rock no 9, 11, Little Flower Rock 5, N Flower Rock 29 or total of 50 harbor seals.

Bald eagle on nest NE Frost Island. 41 glaucous-winged gulls on Flower Island.

Female mule deer 30" high at shoulders with scar on front cannon bone

June 23, 1991

On Leo Rocks 1-6 12 harbor seal

Leo Rock 9 21

" " 11 6

39 seals.

Bald eagle on nest NE Frost Island.

52 glaucous-winged gulls on Flower Island, 19 of which on nests.

June 24, 1991

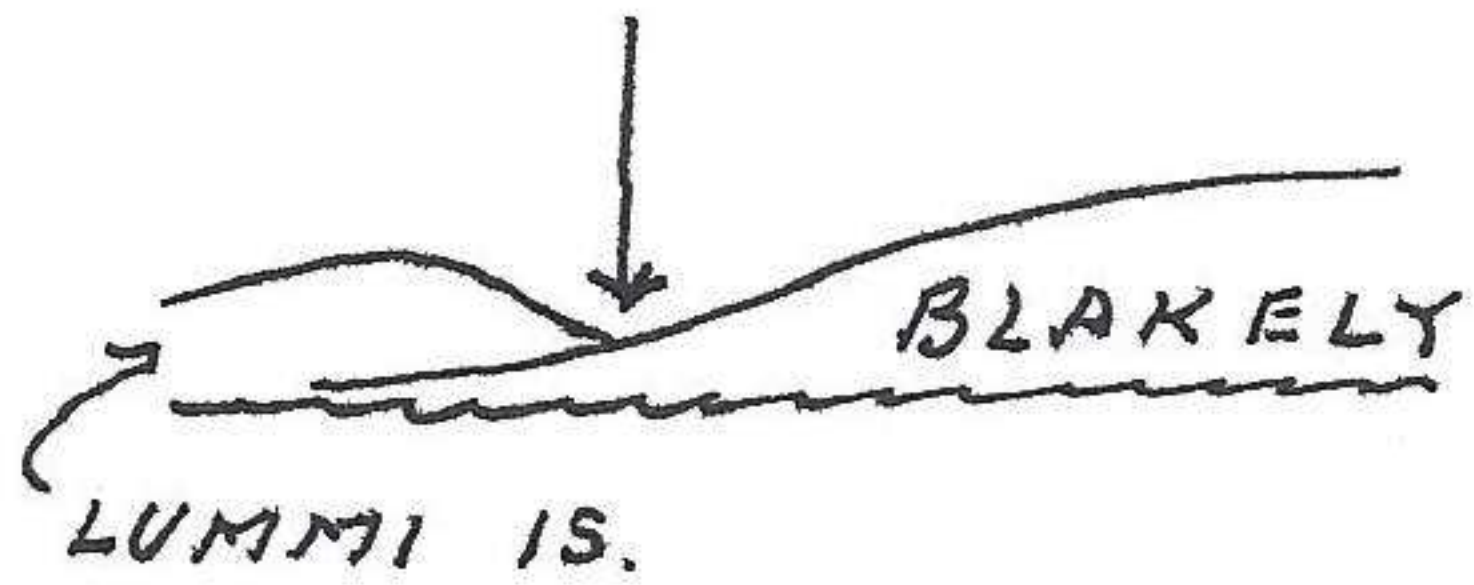
To Friday Harbor, at Shaw ferry terminal 8 glaucous-winged gull nests on dolphins, one with 2 eggs. 11 other gulls in area.

June 25, 1991

Left Friday Harbor 8:04 A.M. rain.

June 27, 1991

Sunrise 5:25 A.M.



This is 6 days after summer solstice (June 21.) violet-green swallow charged an American crow to within 6".

To Anacortes 6:51 A.M. by ferry. approx. 90

rhinoceros auklet in current middle Rosario Straits, also 26 glaucous-winged gulls. From Anacortes to Sedro-Wooley and return to Anacortes. Left Anacortes for Lopez Island 3:08 P.M. Clear, hot day. Double-crested cormorant, glaucous-winged gull, 3 rhinoceros auklets. Bescom SW Cypress. Lawson Rock. 43 rhinoceros auklet SE Armitage Island along with 35 glaucous-winged gulls. W Thatcher Pass. Lopez Island 3:56 P.M.

9:46 P.M. last activity violet-green swallow. 9:52 P.M. bald eagle flew N past Bee House. 9:55 P.M. first bat in flight. Earlier today violet-green swallows feeding young at entrance of nesting box. Egg shell of American robin in lower parking lot. Female mule deer 30" high at shoulders and her two fawn 20" each in height of shoulder.

June 29, 1991

Left for Anacortes from Lopez Island at 9:28 A.M. cloudy and rain in area. 2 harbor seal on Leo Reef, 21 on N Flower Rock. Bald eagle 10' from nest NE Frost Island. No birds to at least Lawson Rock. 38 rhinoceros auklets NE James Island. They were in same area last trip. 3 glaucous-winged gulls. Stayed Thousand Trails.

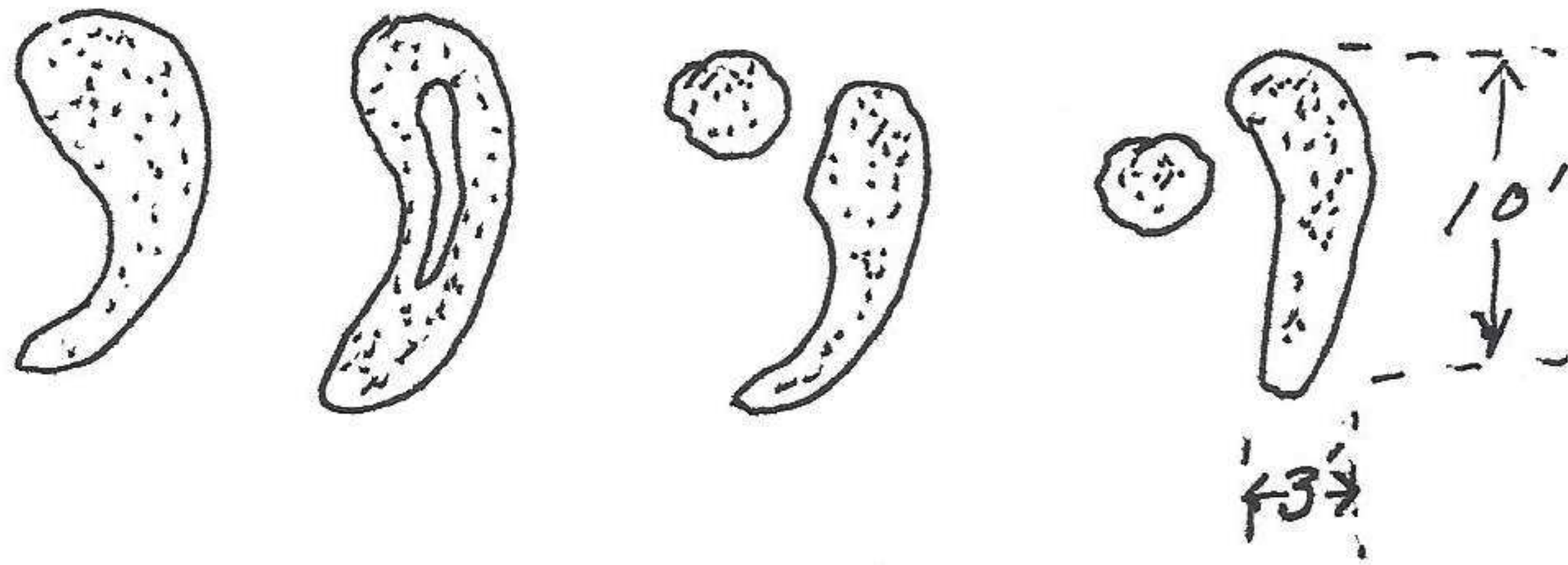
July 1, 1991

Left Thousand Trails for Lopez Island. Arrived and then left at 3:49 by ferry for Friday Harbor to pilot the Bee back to Lopez Island. On return 9 separate groups of total of 230 glaucous-winged gulls in San Juan Channel NE of Friday Harbor tide gauge (Univ Lab) in currents. Took 1 hr. 20 mins. from Friday Harbor to Lopez Island (Shoal Bay marina). From Shoal Bay marina to Bee House is 2.3 miles.

July 2, 1991

910702-1 *Peromyscus maniculatus talpiteri* 181-83-22-18-22 gms
 ♂ testis 11 mm. From Bee House.

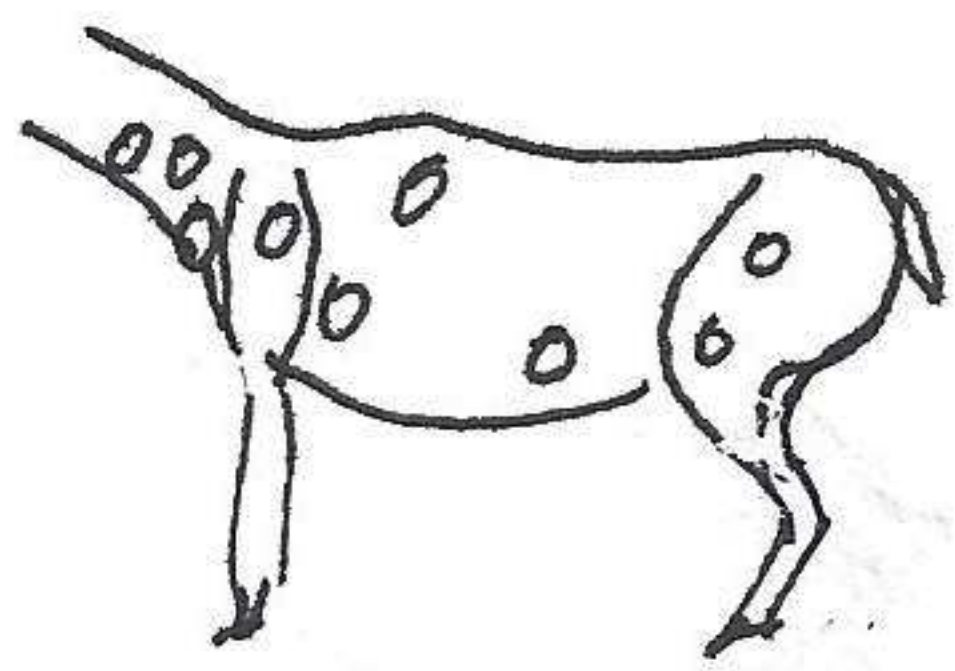
2:00 P.M. in front Bee House a solid school of 3" minnows moved 50' in 3 minutes changed pattern constantly:



July 3, 1991

Left Lopez Island 6:47 A.M. for Anacortes. Glaucous-winged gulls and rhinoceros auklets NE James Island. Arrived Anacortes, selective observations only. To Univ Wash. Med. Hosp and return to Anacortes 2 turkey vultures circled ^{200'} above ferry terminal there. Left 4:37 P.M. day clear & cool. Selective observation. Glaucous-winged gulls and rhinoceros auklets between Armitage Island and West Blakely.

At Bee House ♂ mule deer 23 1/2" high, old pelage, spotted in new fur. At Hummel Lake, Calif quail and 8 young 1" long each.



July 5, 1991

To Friday Harbor by Bee boat. Left 11:13. 3 glaucous-winged gulls Conna Island. 2 masses of flotsam (greenish skum). North Turn Island 2 rhinoceros auklets and 24 glaucous-winged gulls in single fishing group. Out from Friday Harbor in Straits, 68 rhinoceros auklets and 42 glaucous-winged gulls in one group. Left Friday Harbor 2:03 P.M. No census.

July 8, 1991

While waiting at Lopez ferry terminal a mule deer ran across 3 waiting lanes of car waiting for boarding ferry and 1 line of continuous car traffic for debarkation ^{from} ferry. Left on ferry for Anacortes. From 4th to this date (July 8) increase vegetational debris, 20' x 50' and lines of homogenized oil 15' x 200'. Returned from Anacortes 6:50 P.M. at Rosario Straits 45 glaucous-winged gulls of which 6 were subadults or 13%, another group 75 of which 13 were subadults or 17 per cent.

Included in the last group were: 14 rhinoceros auklets, 2 double-crested cormorant, 2 guillemots. Arrived Lopez Island.


July 10, 1991

To Anacortes by ferry. In Rosario Straits 108 rhinoceros auklets, reptiles well developed. Eclipse of moon tomorrow. Arrived Anacortes. Bird at terminal. 9 subadult + 72 adult glaucous-winged gulls (young approx 12%), 2 double-crested cormorant, 9 mew gulls, 4 brown leucobirds, cliff swallows, barn swallow and white-crowned sparrow.

Left Anacortes 6:57 P.M. Enroute to Lopez Island, 1 pigeon guillemot, 5 rhinoceros auklets, 2 rhinoceros auklets, 2 glaucous-winged gulls,

at Bee House: 3 year ♀ mule deer 29" high at shoulders, last year ♂ mule deer molt completed except neck, 3rd year ♀ mule deer has grizzled stripe back shoulders and neck.

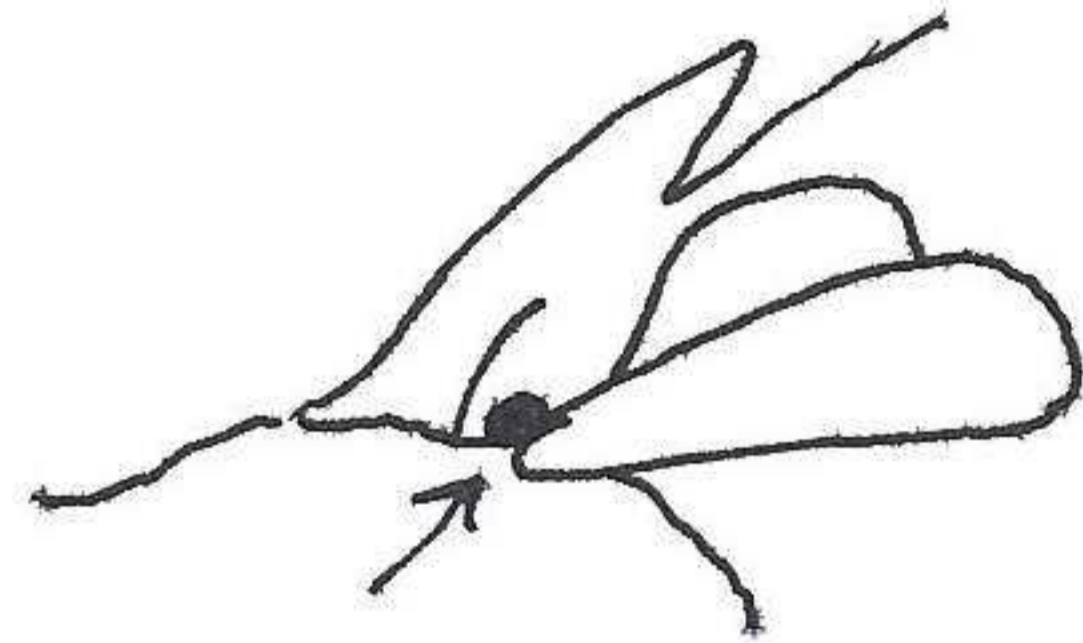
July 11, 1991

at 10:30 AM at high tide, on Leo Reef Rock ^{-3.4} is 6" ^{#8} above water. Eclipse of moon at about 11:00 A.M. 

July 12, 1991

Eastern gray squirrel fed with 5 Townsend chipmunk as close as 1 foot away. The squirrel jumped at one but the chipmunk reacted fast enough to evade the squirrel.

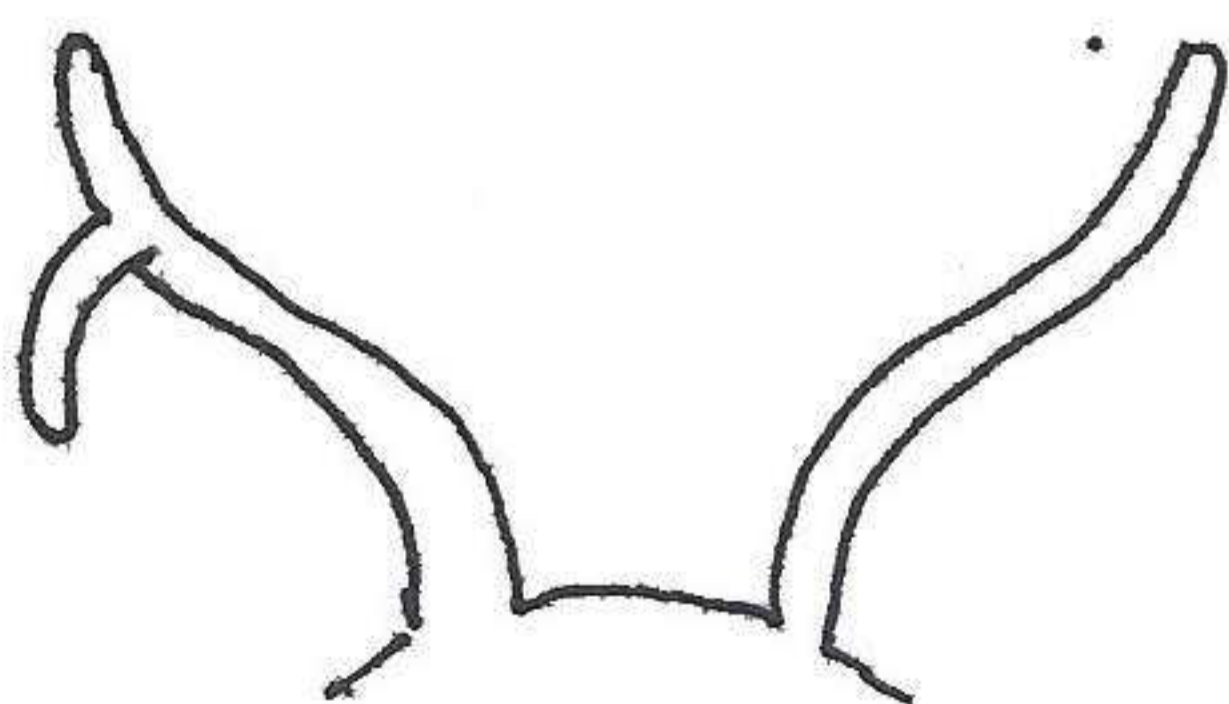
at 11:55 AM, tide -3.3. at 10:17 the water level on S side of entrance to Spring Cove was thus:



July 13, 1991

Rain this A.M. 22 harbor seal on Leo Reef, no others in area. Young bald eagle on nest. Glaucous-winged gulls on territories on Flower Island, 35 on Leo Reef.

At Swift's Lagoon 120 western sandpipers.



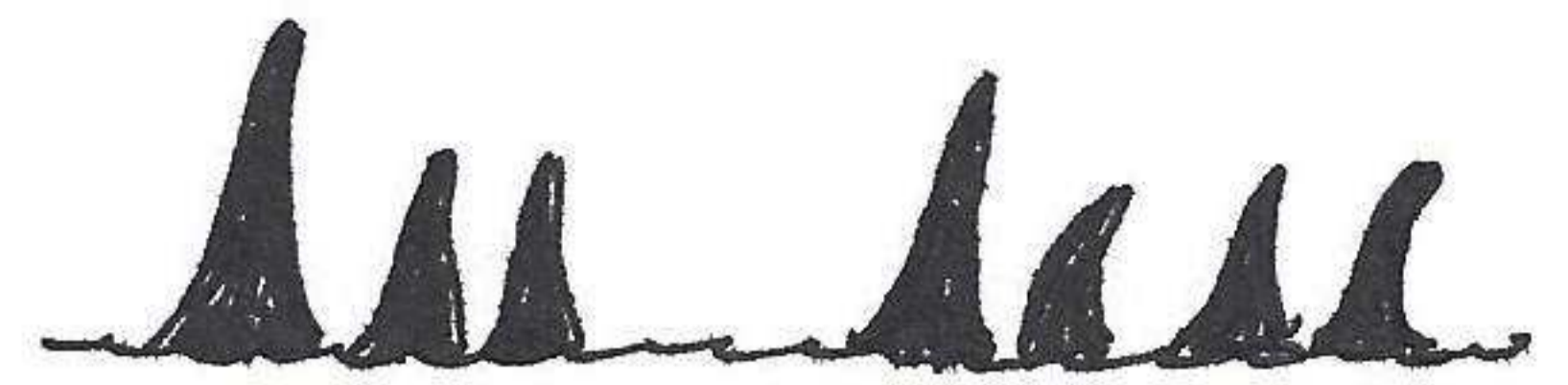
2 pointer mule deer 33 1/2" high at shoulders.

a 3 point mule deer with large antlers.

July 17, 1991

To Anacortes from Lopez Island, leaving 6:45 AM. Cloudy.

no birds to Willow Island. W Thatcher Pass 4 rhinoceros auklets.

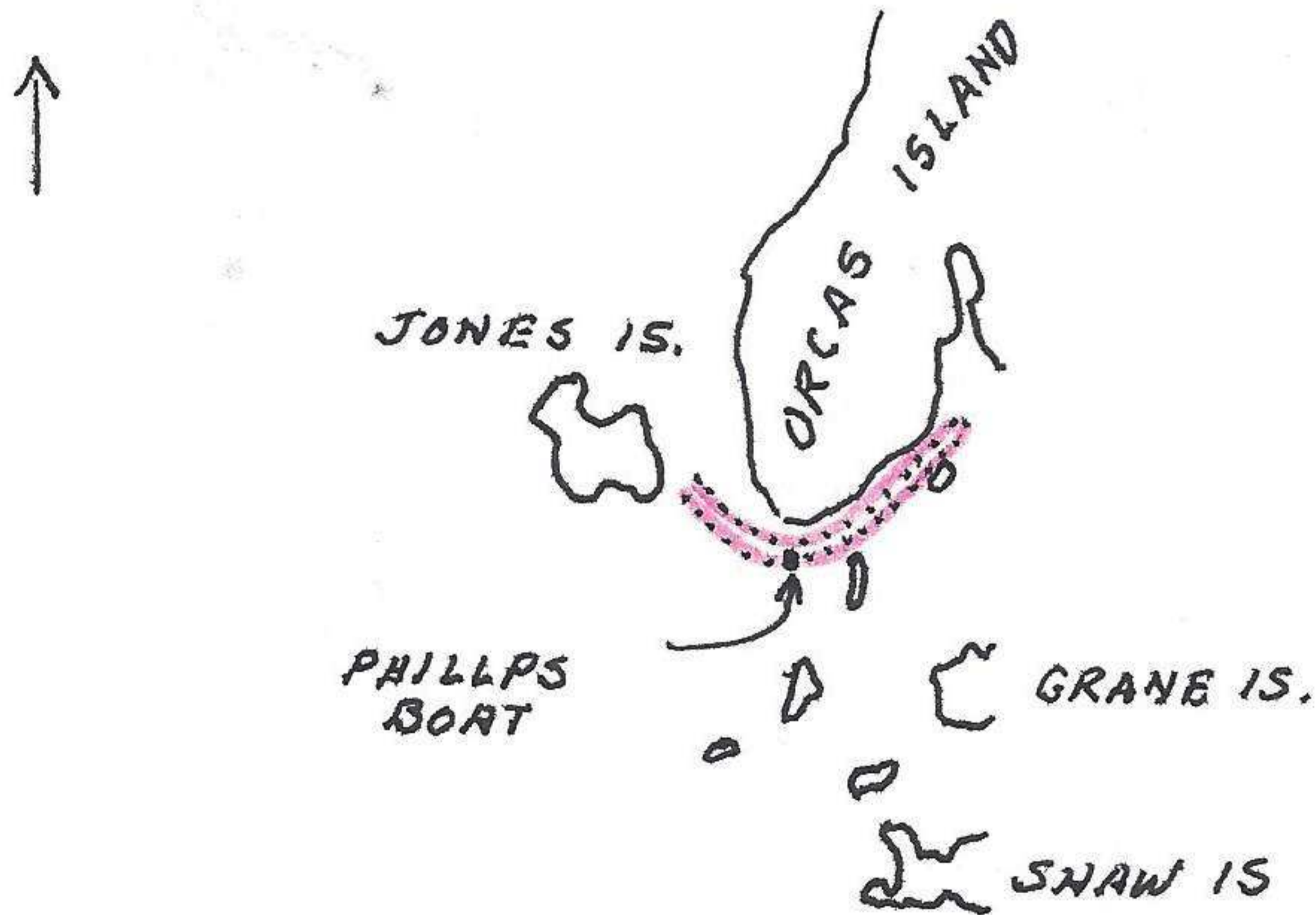


Relative size of orca, dorsal fins.

At E end Thatcher Pass the ferry slowed down to a near halt for approx 5 minutes to let 7 Orca cross ferry route on their passage to the south.

The Orca maintain regular speed and were last observed approach-

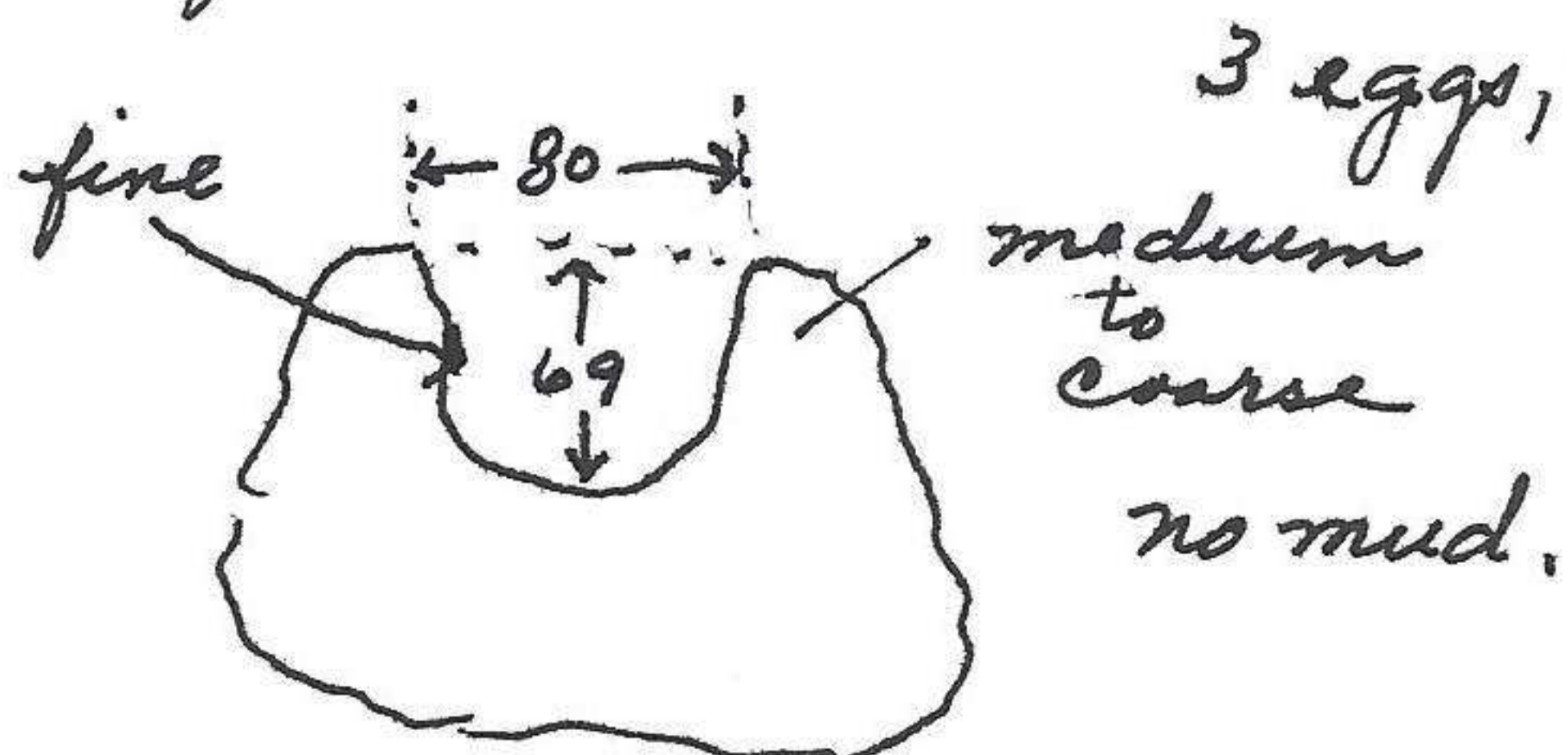
ing James Island but could not tell if they moved S along the E or W side of the island. Dr Theodore Phillips on the boat at the time and has commuted ^{daily} between Lopez ^{Island} and Anacortes for the last four years and has only observed 3 Orca and these N of James Island and travelling in the same directions as those observed today. Dr. Phillips also said that last year 9 Orca moved from E side Jones Island to Deer Harbor and out again to Jones Island. They divided into 5 and 4 as they passed around his sail boat.



32 rhinoceros auklet and 28 glaucous-winged gulls in middle Rosario Straits. Arrived Anacortes 7:28 AM. Continued at 3/10 mi. S on Best Road from highway 20 estimated 5,000 glaucous-winged gulls. Arrived Annette C. Kenagy residence.

In Trimming trees on their property at Lost Lake they found a nest of the Stellers jay 12' up in alder tree in a mixed alder

conifer stand.



3 eggs, blue, 30 mm length

July 19, 1991

Left Lost Lake and drove to Bellingham, thence back to Anacortes, where we departed at 6:58 P.M. for Lopez Island. 4 pigeon guillemots, 7 rhinoceros auklets, 5 rhinoceros auklets, 1 rhinoceros auklet, Lawson Rock, 1 rhinoceros auklet SW Blakely. Arrive Lopez Island.

July 23, 1991

Rufous hummingbird left the islands.

The dominate mule deer at Bee House feeder consumed half as grain as seven other deer ate continuously because the dominate deer was warding off sub-dominate deer.

July 29, 1991

♀ mule ^{deer} of last year 24" high at shoulders, right upper edge of ear crenulated. All deer are in summer pelage and last hair to is ventral neck. 2 fawns each 22" high at shoulder, both with bright spots.

July 31, 1991 ^{soed}

To Anacortes this A.M. An adult ^{soed} eagle chased an immature bald eagle NE Frost Island. NW James Island 54 rhinoceros auklets, 186 glaucous-winged gulls, 1 harbor seal. As we approach Anacortes ferry terminal 1 mi. away a belted kingfisher flew 1 foot above water along side of boat slightly faster than 18 knots. Sound calm. Arrived Anacortes. No gulls on piling SW bay and only 3 on dolphins at terminal.

Adult bald eagle 2 mi. E of S end Commercial Ave in Anacortes.

Left Anacortes ferry terminal 6:30 P.M. Usual glaucous-winged gulls Pointer Island. In Thatcher Pass, 18 Bonaparte gulls, 11 glaucous-winged gulls, 1 rhinoceros auklet, 3 pigeon guillemots, Willow Island. 2 glaucous-winged gulls, 12 on piling at Lopez ferry terminal.

Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.

Aug. 1, 1991

Trip to Nanaimo (Vancouver Island, BC) by ferry, bus, and return of Bee boat to Lopez Island. James Robert Bee and Carol Ann ^{and Annette} strong left boat their for our return to Lopez Island. Took car ^{to} Lopez Island ^{ferry terminal} at 12:00 P.M. and returned it to Shoal Bay marina and then

walked back to ferry terminal and at 2:24 P.M. Annette and boarded the ferry to Friday Harbor, thence to Sidney, Vancouver leaving at 2:24 P.M. Orca on W side of Sangou Channel at bend of San Juan Island W into Spieden Channel (1 mi. S Limestone Point) at 4:56 P.M. at E end Spieden Channel at 5:03 P.M. observed 350 glaucous-wing gulls, 180 Bonaparte gulls, 6 cormorants sp., 38 rhinoceros auklets feeding in fishing formation. Spieden Island has the best grass cover I have seen in 5 years, only 8 small deerlike animals observed. 8 common mures in channel below. mandarte Island orca To nesting capacity. 10 dead coriifers, one maybe live but could be vines. 98 cormorants sp. on low E point of island. 55 boats (90% sail) on W side Sidney Spit. Arrived Sidney 6:00 P.M. To Victoria by bus arriving 6:50 P.M. at Crystal motel, 1 block (SE) of Empress Hotel.

Aug 2, 1991

To Nanaimo by bus. Stayed in Bee boat tonight.

Aug 3, 1991

Left Nanaimo for Lopez Island at 10:41 A.M. (3159.2 hrs on hr dial). 2 rhinoceros auklet and 1 double-crested cormorant. Arrive Dodd 11:44 just in time for slack water thru rapids. Pollution 10 miles S of narrows. Only 2 glaucous-winged gulls and no other birds to Danger Reef. Running 11.5 RPM today, oil 25, Temp 145. Panther Point 3:21 P.M. (end Wallace Island), 2 gulls and 2 cormorants here. 2 double-crested cormorants at entrance of Ganges Harbor. Arrive Ganges 5:40 P.M. at hr. dial 3166.2.

Aug 4, 1991

In port all day and shaft stuffing box checked.

Aug 5, 1991

Left Ganges 10:30 at 3166.9. Clouds and fog. Sea lion 1 mi. N channel Island in Swanson Channel. Point Liddell 11:45 A.M. 7 harbor seal so far, 1 double-crested cormorant. 62°F. 12:10 P.M. Beginning Navy Channel, 3 Bonaparte gulls. 15 Dall porpoise 1 mi. N Colinton Cove, tidal currents in center of channel, followed for 200'. 12:33 Hope Bay Beacon. Bald eagle, ad., in tree. On W side Elliot Bluff, good bedding plane of basalt. 1:35 P.M. Blunden Point SE of S end Skender Island. Less log & debris in U.S. than in Canadian waters, at least so far this trip. From here directly to S end Johns Island at 2:30 P.M. 2:56 pass NE Spieden Island. 3:16 P.M. N end Jones Island.

3:30 P.M. Deer Harbor for diesel. Left 4:56. more gulls in US than Canada in area covered. 5:50 bald eagle NE Shaw Island. 6:26 P.M. Shoal Bay Marina at hr deal 31738.0. At home called Customs in Friday Harbor 7:00 P.M. but no answer.

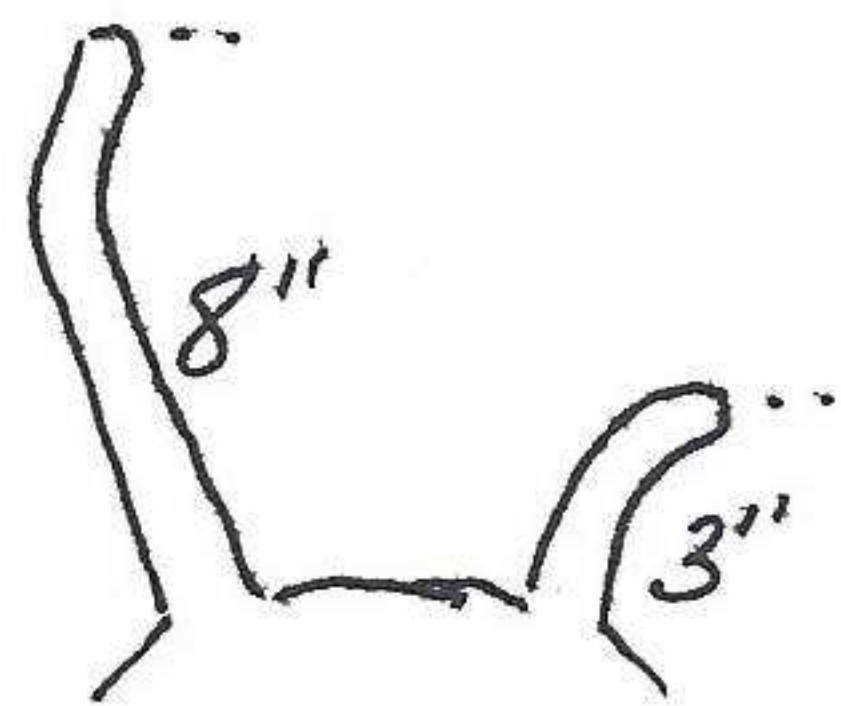
Aug 6, 1991

Called Customs this A.M.

Aug 7, 1991

Left Lopez Island 11:19 A.M. for Friday Harbor to check with Customs. Left Friday Harbor 2:50 P.M. In San Juan Channel, 3 Bonaparte gulls, 4 rhinoceros auklets, 2 glaucous-winged gull, Bonaparte gull, 30 Bonaparte gulls, 8 glaucous-winged gulls, 2 Herrmanns gulls, 2 Bonaparte gulls, 3 glaucous-winged gulls. 3:09 P.M. Flat Point. Arrive Lopez Island 3:20 P.M.

Checked Swifts Lagoon, 5 western sandpepers, 250 semipalmated plovers, 9 mallards, 4 lesser yellowlegs, 6 barn swallows.



mule deer unsettled and unusual dominance display.

Aug. 10, 1991

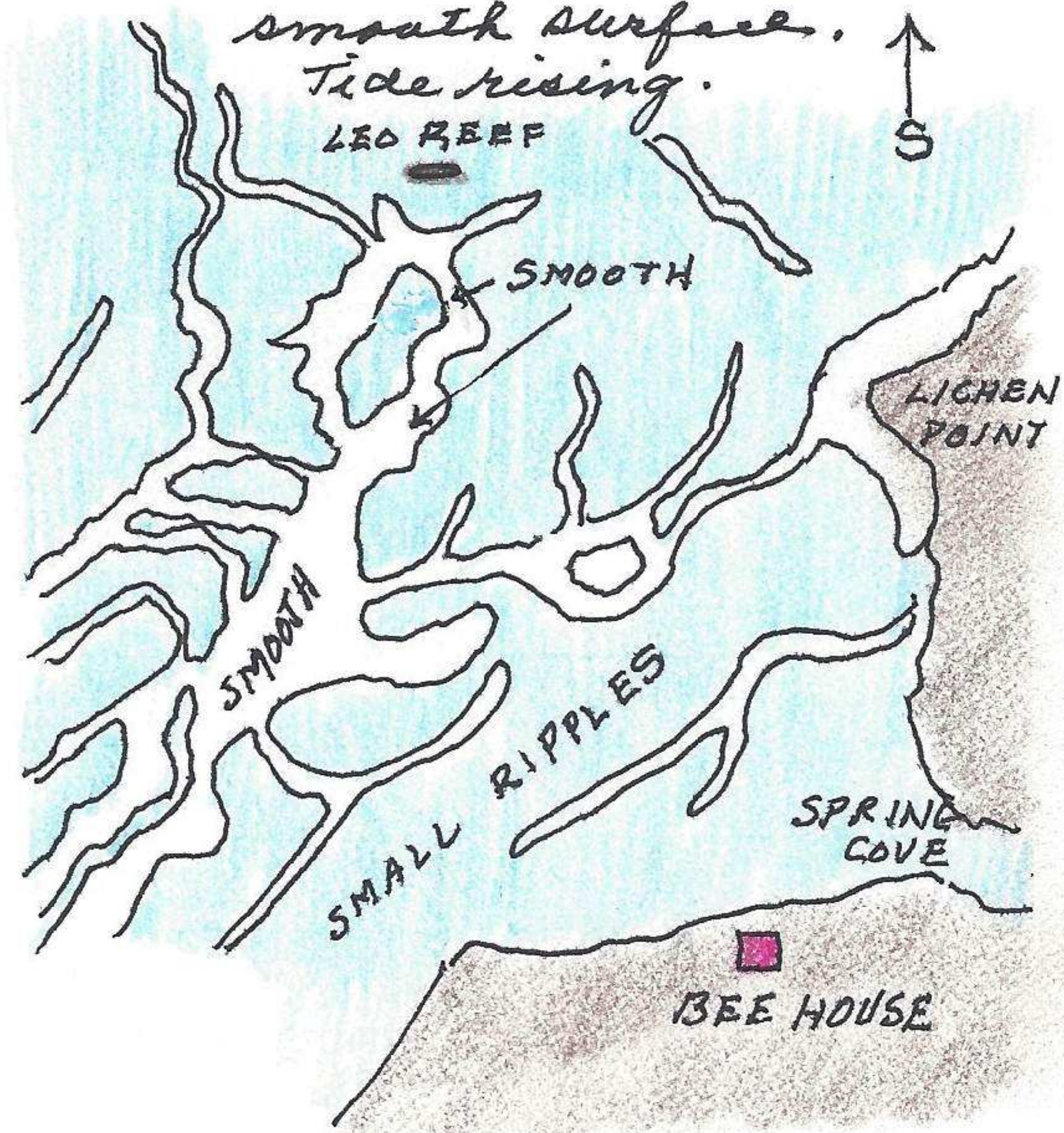
10:35 A.M. 38 harbor seal Leo Reef, ^(beacon) one approx 18" long with mother more than twice its length. There were 5 other small seal. 1 on Rock no 9, 2 on Rock no 11, (Rock no 10, 9" above water

22 seal on Flower Rock, 4 of them young. 7 harbor seal on NW shoreline of Flower Island below Cliffs and first seal observed on Flower Island proper.

no bald eagle at nest. 14 glaucous-winged gulls on territories on Flower Island. At 12:20 P.M. a mother and young harbor seal were forced into water by rising tide.

Aug 10, 1991

at 7:40 AM in North Lopez Sound, tidal currents smooth surface. Tide rising.

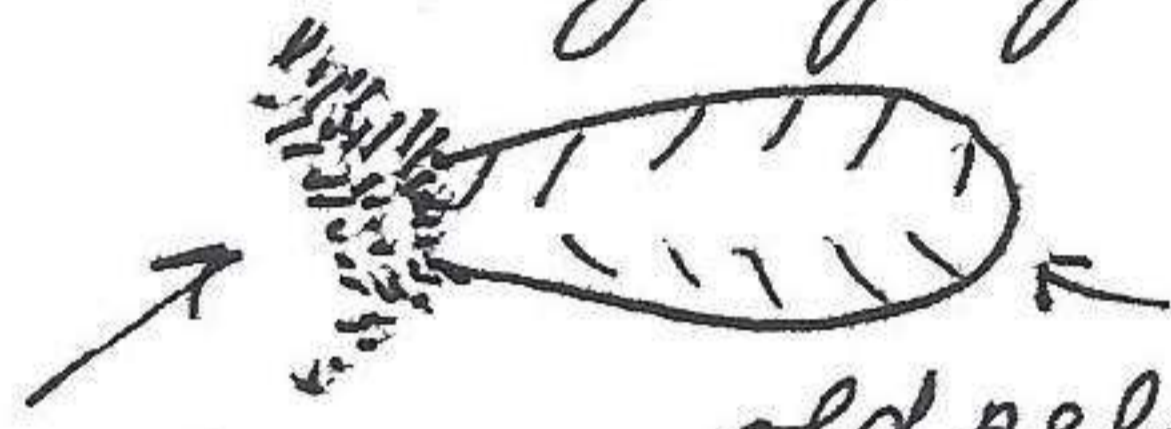


9:00 AM 26 harbor seal on Leo Reef Rocks 3-6, 8 on Rock no 9. Rock no 10 6" above water. 6 seal on Little Flower Rock, 45 on 7 Flower Rock. 3 glaucous-winged gulls on territories, 7 others perching. No bald eagles on nest NE Frost Island. Inflatable boat displaced harbor seal then left via Thatcher Pass, at Bee House, 3 female mule deer are in heighth at shoulders: 29", 30", 30".

8:30 A.M. a last year female mule, 6 Townsend chipmunks and 3 eastern gray squirrels fed on ground at deer feeder. The chipmunks and squirrels frequently fed 4" from the mouth of the deer which at times showed curiosity but no aggression except to move its head toward the smaller animals. Once a squirrel feeding 4" from head of deer jumped forward and grabbed the deer's nose and held on for 2 seconds while the deer jerked back its head. The deer retracted and shook head and blinked eyes but remain in area and started to feed among the squirrels and chipmunks.

10:43 20 harbor seal on 3-4 Leo Reef Rocks, 3 seal on each of no 9 and 11 Rocks, 32 seals on 7 Flower Rock. Two fishermen and boat displaced seal and glaucous-winged gulls (62). The fishermen remained at reef for 1 1/2 hr but the seal or gulls did not return.

At Bee House, all eastern gray squirrels (6) have new hair at base of tail (upper & lower)



new thick pelage

old pelage thin and ragged.

The line of demarcation is abrupt.

Dominant female, 30" high at shoulders is pregnant. young eastern gray squirrels at feeder small in size, but only slightly smaller than adults. Seven squirrels at feeder today.

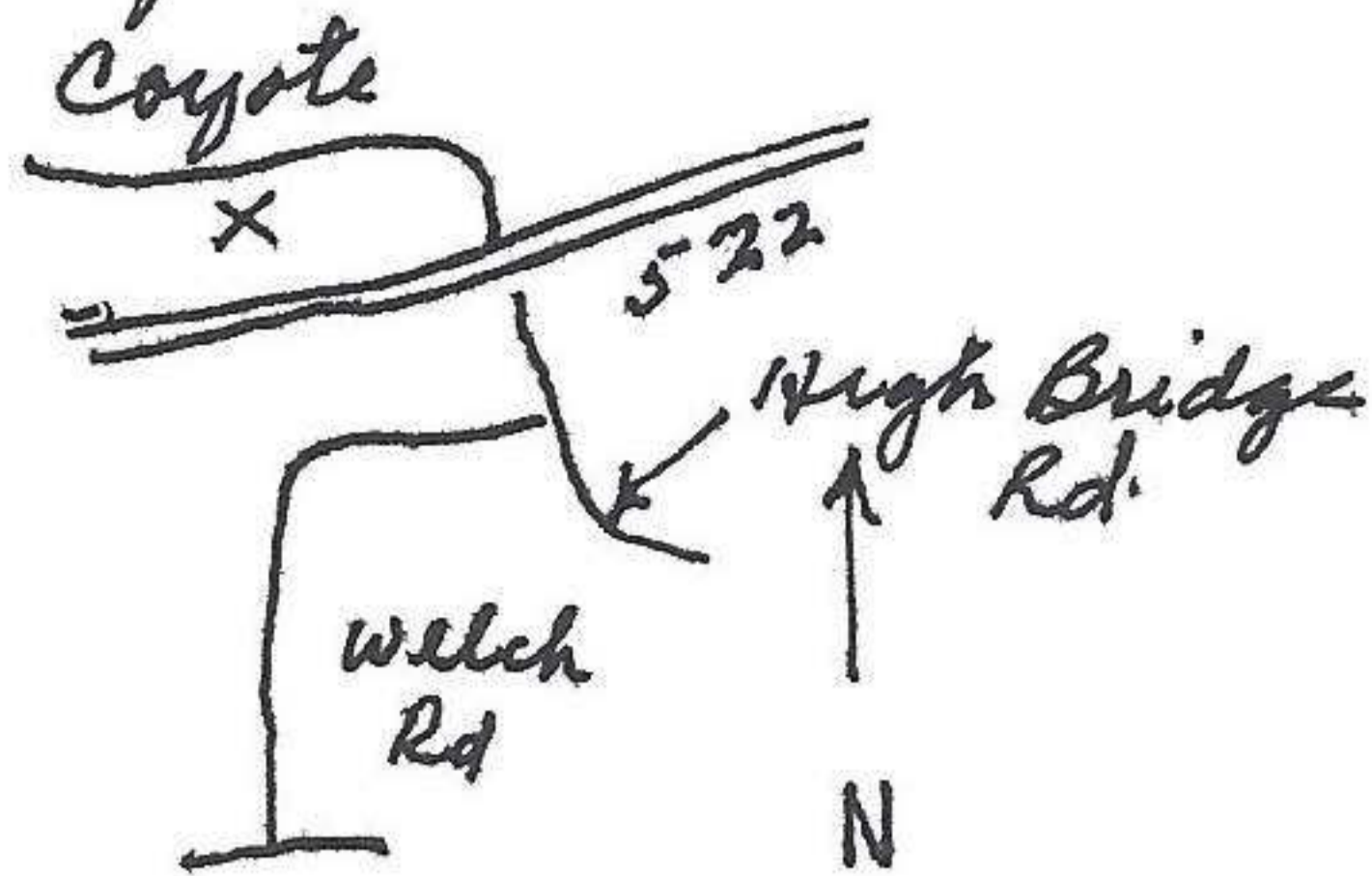
Aug. 13, 1991

Left by ferry for Anacortes (up to this point we have never used the Bee boat to travel to Anacortes) at 9:36 A.M. 3 individual glaucous-winged gulls. 9:51 Willow Island, glaucous-winged gull Beacon SW Blakely Island, Bonaparte gull, glaucous-winged gull, seal (harbor), 10:00 Lawson Rock, 2 Bonaparte gull. 10:01 98 Bonaparte gulls, 2 glaucous-winged gulls, mew gull, rhinoceros auklets 4, 6, 18, 7, 4, 4, glaucous-winged gulls, 4 rhinoceros auklets. 10:07 fog bank. 10:17 32 rhinoceros auklets, 2 glaucous-winged gulls fishing with the auklets. 10:22 Arrived Anacortes.

At 1/4 mi W of La Conner - Highway 20, a redtail hawk on top pole. Continued to Lost Lake to stay overnight at Chris (Annette Bee Kenagy)

Aug. 15, 1991

Left Chris' at Last Lake and returned to Lopez Island. At first



drainage on river road a coyote fed among short weeds for 8 minutes and then left open field and move W to fence and finally hillside. This the 3rd time has been observed in the same location. Continued Anacortes.

and left on ferry for Lopez Island at 5:06 P.M.

5 individual glaucous-winged gulls to James Island. 5:27 Lawson Rock. 5:28 2 rhinoceros auklet S Armitage Island. 5:29 4 Bonaparte gulls. 5:30 beacon SW Blakely Island, 2 Bonaparte gulls. 5:32 Willow Island at whitewash wall, 90% white has been washed off cliffs. Bonaparte gull & 1 rhinoceros auklet. Arrive Lopez Island 5:46.

Aug. 16, 1991

910816-1 Peromyscus maniculatus hallisteri 192-92-16-25-24 gms
♂ testis 10 mm, skull only.

Left for Chris at Last Lake, Snohomish Co. at 10:03 AM. no birds to W Thatcher Pass then 1 harbor seal, 18 Bonaparte gulls, 2 glaucous-winged gulls. Lawson Rock. Fog to Anacortes. Continued to Chris for overnight.

Aug. 17, 1991

Left Chris 2:00 P.M. for Anacortes. Left on ferry 4:35 P.M. 1 double-crested cormorant. Mid Rosario Straits 6 rhinoceros auklets, 2 rhinoceros auklets N James Island, 2 rhinoceros auklets SE Lawson Rock. 4:58 P.M. SW Blakely Island. Harbor seal 1/10 mi. S Willow Island, Bonaparte gulls, 2 individual glaucous-winged gulls. Arrive Lopez Island 5:06 P.M. This evening prepared a zopus collected at Last Lake, Snohomish Co., Wa.

910817-1 Zapus princeps 220-134-16-32-20 gms ♂ testis 7 mm.

Aug. 18, 1991

Swifts Lagoon, Lopez Island. 5 Wilson phalarope, 24 W. sandpipers Swifts Bay, 72 Bonaparte gulls, 51 mew gulls, 4 glaucous-winged gulls, 3 great blue heron.

910819-1 Peromyscus maniculatus hallisteri 198-85-19-22-35 gms. ♀
embryos 3x3 4 mm

Aug. 23, 1991

at Swift Lagoon, 4 Wilson phalaropes, 34 western sandpepers, 2 lesser yellowlegs, 4 mallards.

Aug. 24, 1991

at Bee House. young of the year mule deer with spots and new dark hair from nose to tip of tail, 3" wide. Shorter hair on this stripe. One fawn of year 23" high at shoulders and no spots remaining but longer hair than adults.

Aug. 27, 1991

Left Lopez Island for Provo, Utah 2:40 P.M. Will spend night at motel near Sea Tac Airport in Seattle. Enroute to ferry terminal at military Rd on Lopez, observed a St Coopers hawk knock an American crow 5' to ground and followed by scrambling at the crow for 15' and then left the crow. Enroute to Anacortes observed a glaucous-winged gull and a Bonaparte gull. 2:30 P.M. Lawson Rock, Bonaparte and glaucous-winged gull. 3:08 P.M. 5 cypress heason. Bonaparte gull, glaucous-winged gull, 1 rhinoceros auklet, 1 pigeon guillemot. Arrived Anacortes 3:22 P.M. Continued to Sea Tac:

Sea Tac airport, Seattle, Wa.

Aug 28, 1991

Left car at motel and boarded Delta flight 1058 to Salt Lake City, Utah. at 11:29 A.M. Rain last night but clearing this A.M. 11:53 Columbia River and circle farming. 12:09 small river in farming community. 12:24 P.M. glaciated peak and farmland to S. 12:33 P.M. first highway and city of river. River into lakes. 12:39 P.M. first Bonneville shorelines. 12:45 P.M. dikes of refuge w/ Brigham City. 12:49 near Great Salt Lake. Landed 12:58 AM at Salt Lake City, or 1 hr. and 29 minutes from Sea Tac, Wa. Mary & Don waited our arrival and thence to cabin at Sundance, Mt. Timpanogas.

Aug 29, 1991

at Mary's and Don's cabin at Sundance, 10 hummingbirds at feeder, all broad-tailed hummingbirds both ♂ + ♀. These birds react to man-made noises. Left for St. George 9:19 A.M., arrived there 3:33 or 6 hrs 14 min. (not all travel time). Birds in Green Valley area: 2 common ravens, 1 brown towbird, 6 gulls sp?, 2 scrub jays, one flock 138 American crows.

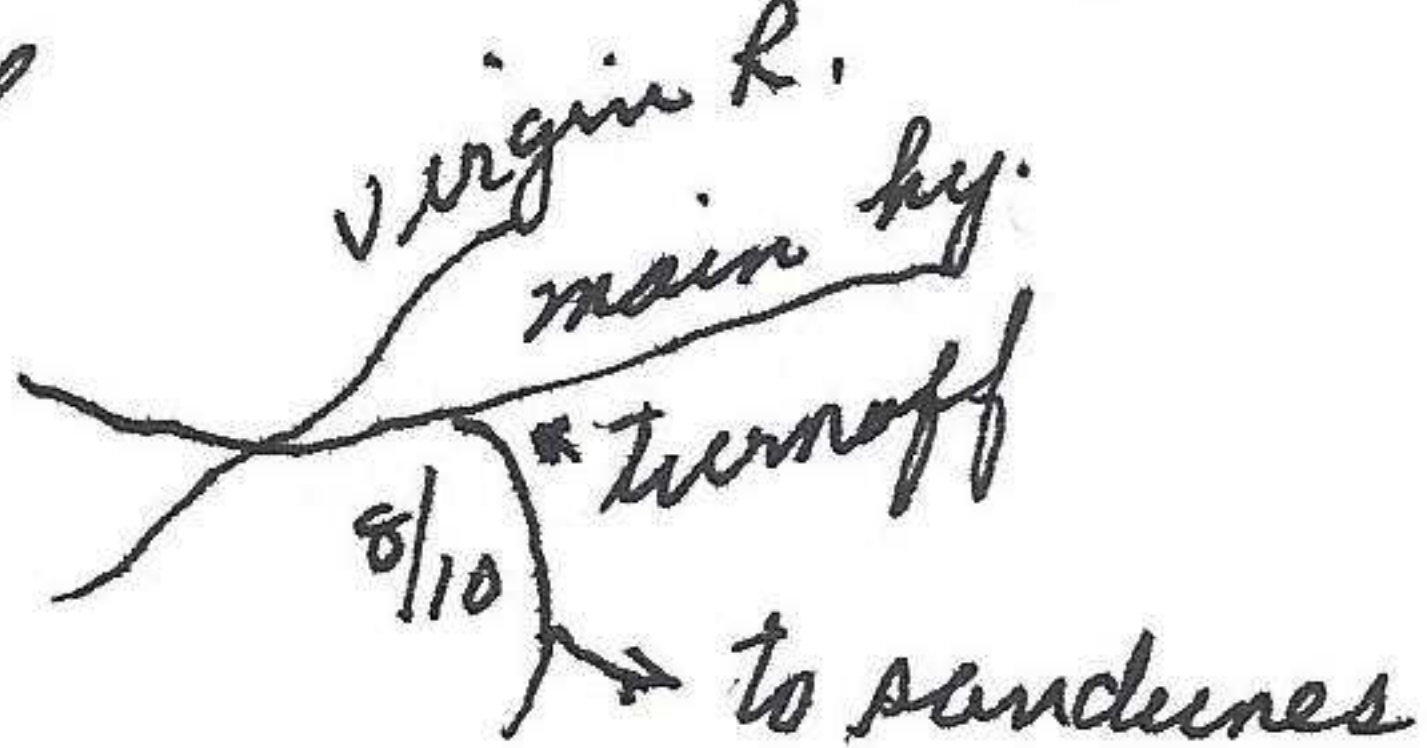
St. George, Utah

Aug. 30, 1991

From Mary's home at Las Palmas made trip 5 to Gap Canyon. Observed 1 Sceloporus graciosus, 1 Cnemidophorus tigris, and 1 small Crotaphytus collaris. No birds except 2 Junco hyemalis sandy dipodomys holes in all areas, especially 5 exposures and draws.

Aug 31, 1991

To Quail Creek, thence highway 18 to Snow Canyon + Santa Clara. 1 common raven and 1 kestrel. 8/10 mi. S main road to sandune turnoff



Sept. 1, 1991

To Leyle Ranch Reserve. Left mileage 23606.6 at 10:32 A.M. 623.0 mi. divide (old rd. to Las Vegas) Golden eagle here. 624.4 jackrabbit road kill. 640.6 Utah State line. Continued into Arizona for a few miles and then returned Utah and took ^{dirt} off road to W. at 642.9 mi. Leyle Reserve. Turkey vulture. Streams intermittent and many abandoned ^{beaver} dams & ponds. Left reserve and 4 antelope chymunks to main road. 2 sage thrashers. To Pine Valley. Enroute 3

Common raven.

Photo 910901-1 Cinder cones at head Snow Canyon on highway 18 at St. George
 " 910901-2 ibid
 " 910901-3 ibid.

Returned Mary's home in Las Palmas, St. George.

Photo 910901-4 To N from Mary's home in St. George.
 " 910901-5 ibid.

7:39 P.M. myotis flying and sun not yet down.

St. George, Utah

Sept. 3, 1991

Left St. George for return to Lopez Island at 8:56 A.M. Mary & Don drove us to airport in Las Vegas. Enroute photographed:

910903-1 moencopie formation showing cross sections of eroded riverbeds
 910903-2 ibid
 910903-3 ibid.

Left Las Vegas air terminal 3:50 P.M. for Los Angeles, thence Seattle. Arrived Los Angeles 4:45 P.M. (1.55 min from St. George). Left Los Angeles

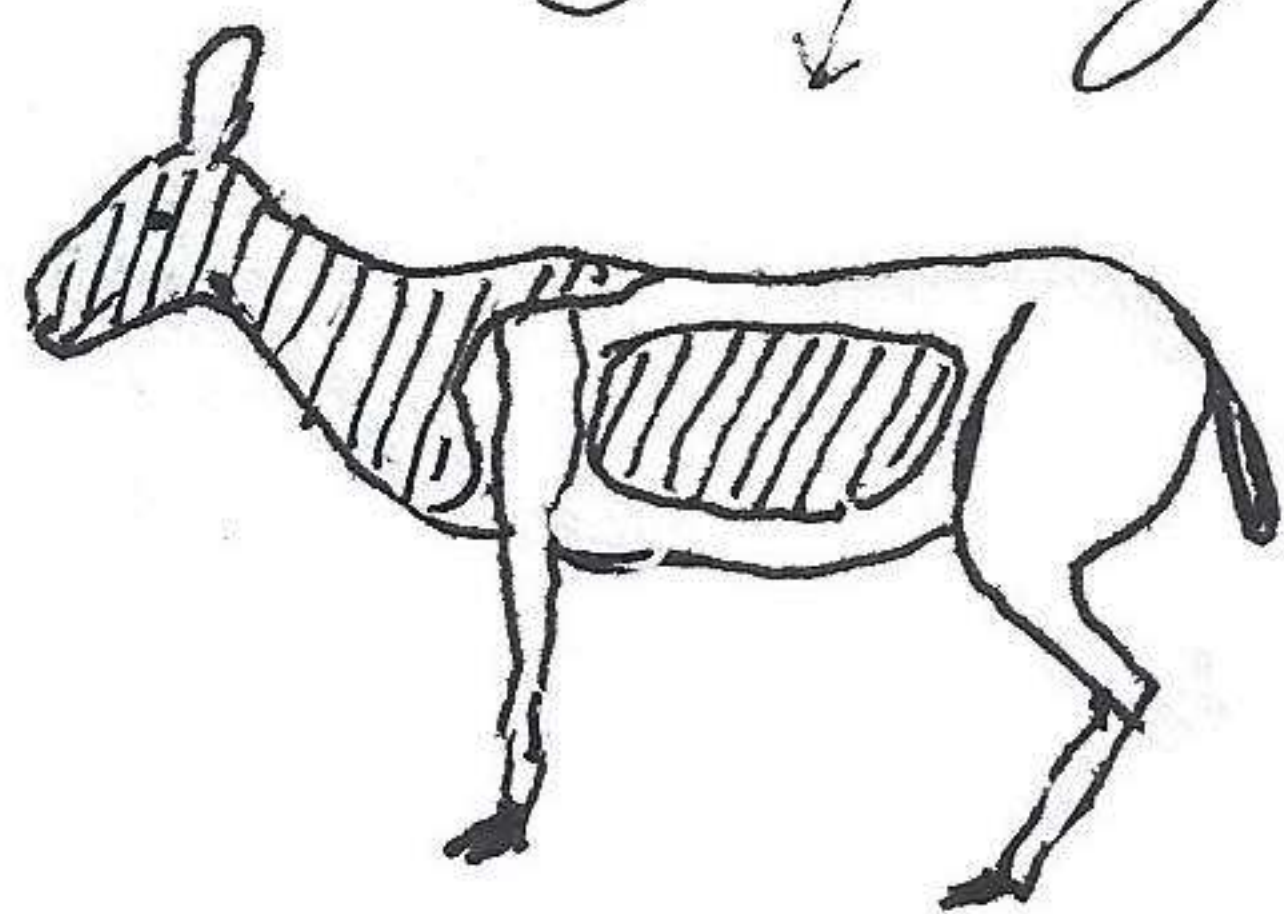
5:23 P.M. for Sea Tac, Wa. airport. 6:07 P.M. San Francisco Bay. 6:35 P.M. Mt. Lassen, 6:41 Crater Lake, 6:50 Three Sisters?, 6:56 zone of fires, 7:01 Columbia River. 7:10 mt. Ranier. 7:26 Touch Down, Seatac. or 2 hrs. 3 min travel time. Continued to Chris residence at Lost Lake.

Lost Lake, Snohomish Co., Wa.

Sept. 4, 1991

Left Chris for Lopez Island. Arrived Anacortes ferry terminal and left 4:24 P.M. Census: mew gull, Bonaparte gull, 3 Bonaparte gulls, 1 glaucous-winged gull, mew gull, 7 mew gulls along tidal currents, 3 glaucous-winged gulls, marbled murrelet, pigeon guillemot, 1 glaucous-winged gull, 26 common murres in one pod, 3 glaucous-winged gulls, 2 mew gulls, mew gull, 2 separate glaucous-winged gulls, 2 mew gulls, 4 glaucous-winged gulls, 7 glaucous-winged gulls, 2 common murres, 28 glaucous-winged gulls at tidal currents, 110 glaucous-winged gulls on tidal currents S of Pointer Island, approx 140 glaucous-winged gulls on this island, South Lawson Rock to bay w Armitage Island 68 glaucous-winged gulls. 2 glaucous-winged gulls w Thatch Pass at beacon (4:47 P.M.), 3 mew gulls, mew gull, 3 glaucous-winged gulls. Wellow Island 2 glaucous-winged gulls between this island and Lopez ferry terminal. Arrived Lopez Island 5:04 P.M.

5:30 P.M. at Bee House, ♀ mule deer 28 1/2" high at shoulders with fence scars on back of neck. A fawn mule deer with brilliant spots, 22" high at shoulders. ♂ mule deer of last year 26" high at shoulders, a ♀ mule deer 28". Older female mule deer beginning winter pelage change.

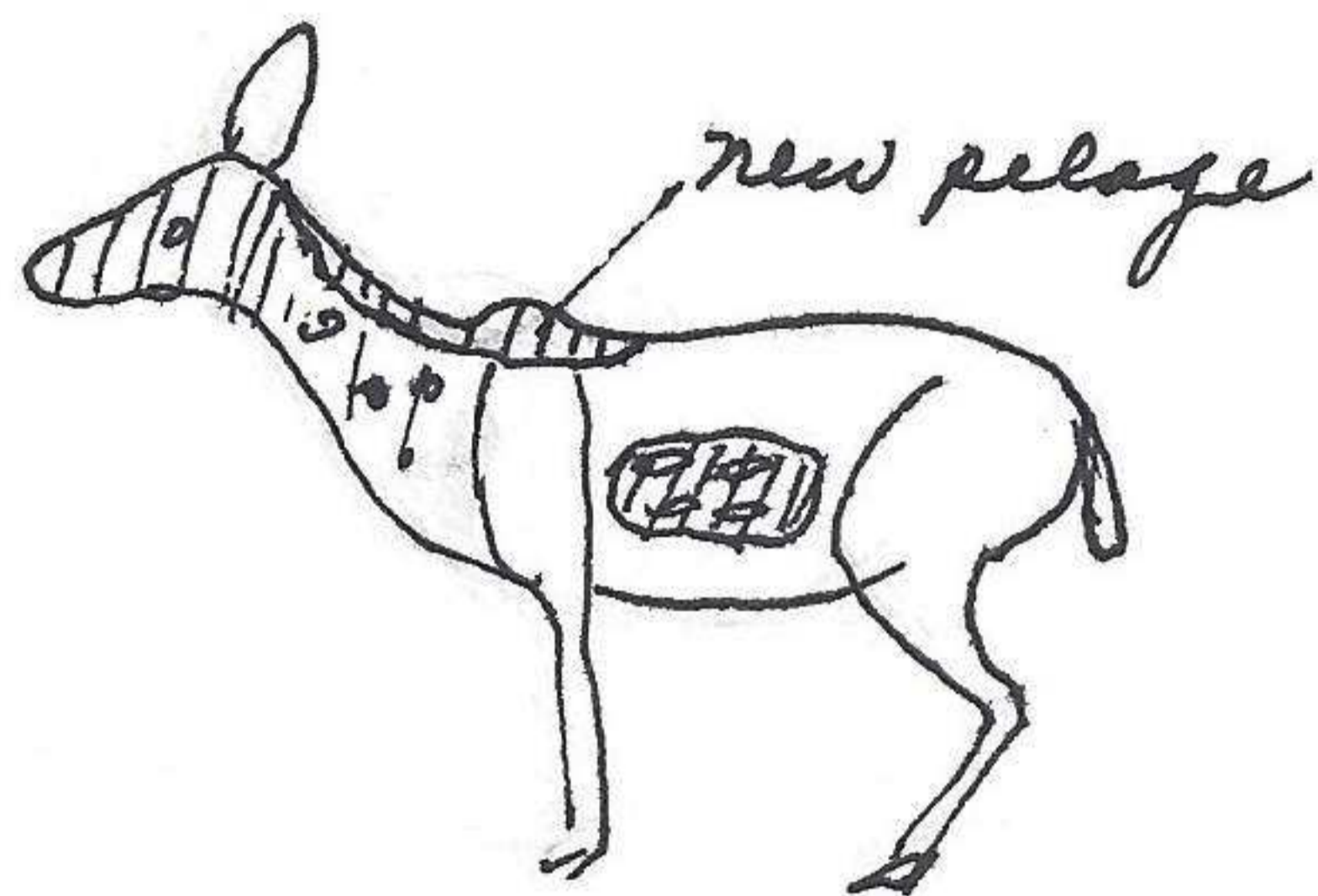


At the Bee House a last year female mule deer passed the base of the wood slide at the moment I had released a block of wood at top of slide. The female jumped and ran full speed across base of cliffs at feeder and thence to top of cliffs above feeder where she stood and looked down over cliffs, stamping first one front foot and then the other. After 30 seconds the female raised her back legs by shifting body weight to front feet and in that position winated full force onto the tarsal glands, rubbing ^{the} back legs up + down past the gland. She continued this action for a steady 18 seconds, then resumed normal position and

and after approx 1 minute moved slowly toward the feeder, stamping alternately all feet one at a time by raising a foot, holding the raised foot and then forcefully thrusting it downward into the ground. all mule deer show the stamping behaviorism but I have not witnessed one that was as forceful and emphatic as displayed by this adult female.

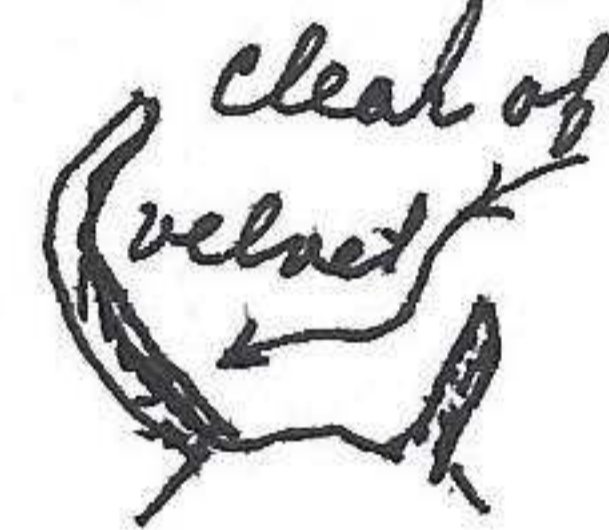
Sept. 12, 1991

at Bee House, ♂ mule deer with antler buds 1/4" high, no pelage change. Another ♂ mule deer 25" inches high at shoulders pelage 80% complete over entire body. mother of this male pelage completed head, patchy neck, complete back and neck between shoulders, patchy side. All females have dark line beginning down dorsal back.



26" high at shoulders
A last year ♀ mule deer just beginning pelage change. Two young of the year loosing spots and going thru same pelage change as adults. One young of the year darkest of all regular deer that visit feeder. One ♀ mule deer

30" high at shoulders shows no sign of winter pelage change, a (28" high at shoulders) ♂ with 1" velvet spikes, groomed an adult female. An adult ♂ mule deer 31" high at shoulders, had pelage change like ♀ adults but more advanced. A ♂ with 1" spikes groomed an adult female, the same female that is terrified by large buck.



Buck Plummer of Humphrey Head says bald eagle on hillside above fish pens at Shoal Bay and when dead salmon were thrown into sound from pens, would fly down and pick them up. He also told of great blue heron nesting in trees on hillside SE of Shoal Bay Marina of having nested one year (prior 1985) but bald eagle ate the young. The herons have never nested there since but frequently rest there. Bald eagles nest on W side of Blakely at Thatcher.

Sept. 13, 1991

To Anacortes from Lopez Island. Left 11:28 AM. new gull. Leo Reef 13 Harbor seal. 11:46 Willow Island. 11:50 AM E end Thatcher Pass. 12:00 P.M beam SW Cypress. 12:12 P.M Anacortes. no birds observed this date.

continued to Chris' at Last Lake.

Last Lake, Snohomish Co., Wa

Sept. 14, 1991

Left Chris' and drove to Anacortes ferry terminal. Left 6:47 P.M. for Lopez Island. Salmon jumped out of water by 1 foot. 1 double crested cormorant, 3 rhinoceros auklets. 6:58 P.M. beacon SW Cypress Island, glaucous-winged gull. 7:07 7 rhinoceros auklets and 18 common murrelets. 7:12 P.M. Blackely beacon, glaucous-winged gull. Willow Island, double-crested cormorant, glaucous-winged gull. Lopez Island ferry terminal. One ringed-billed gull.

To Mill Road and return. 2 raccoon SW corner Swifts Lagoon. 8 domestic rabbits in field E Humphrey Lagoon, no other rabbits on trip.

Sept 17, 1991

mileage 98286.

Left for trip to Utah by car to visit Mary & Don. Enroute to Anacortes observed: 22 harbor seal N side Les Reef, 13 on S side of Les Reef. (in observing Les Reef from Bee House we see only the N side so some allowance needs to be made in determining the entire population of seal on the reef and in this case the N side is 59% per cent of the reef population.) Wind ^{from} NNE. Willow Island. 9:48 A.M. W end Thatcher Pass 1 glaucous-winged gull. Pass water smooth. 9:15 E Thatcher Pass, 58 mew gulls, 2 glaucous-winged gulls. 10:02 Beacon SW Cypress Island. 10:06 21 double-crested cormorant flew NE 10' above water. 10:14 arrive Anacortes. Continued S to Chehalis Thousand Trails arriving at mileage 98465.

Chehalis, Wa.

Sept. 18, 1991

Left 8:26 A.M. Continued S to Vancouver, Wa, thence 84 highway to The Dalles thence S highway 197 to Summit at 842.0 miles, at Tygh Valley 150 American crows. Birds from The Dalles to Bend, Oregon: first 1/2 distance 1 common raven and 1 turkey vulture, 2nd half 2 northern harriers, 3 mourning doves, 4 common raven, 20 Brewer blackbirds, 2 turkey vultures, 1 kestrel. The above birds mainly in more fertile cultivated valleys. Arrived Bend at 98788.4. Stayed at Thousand Trails.

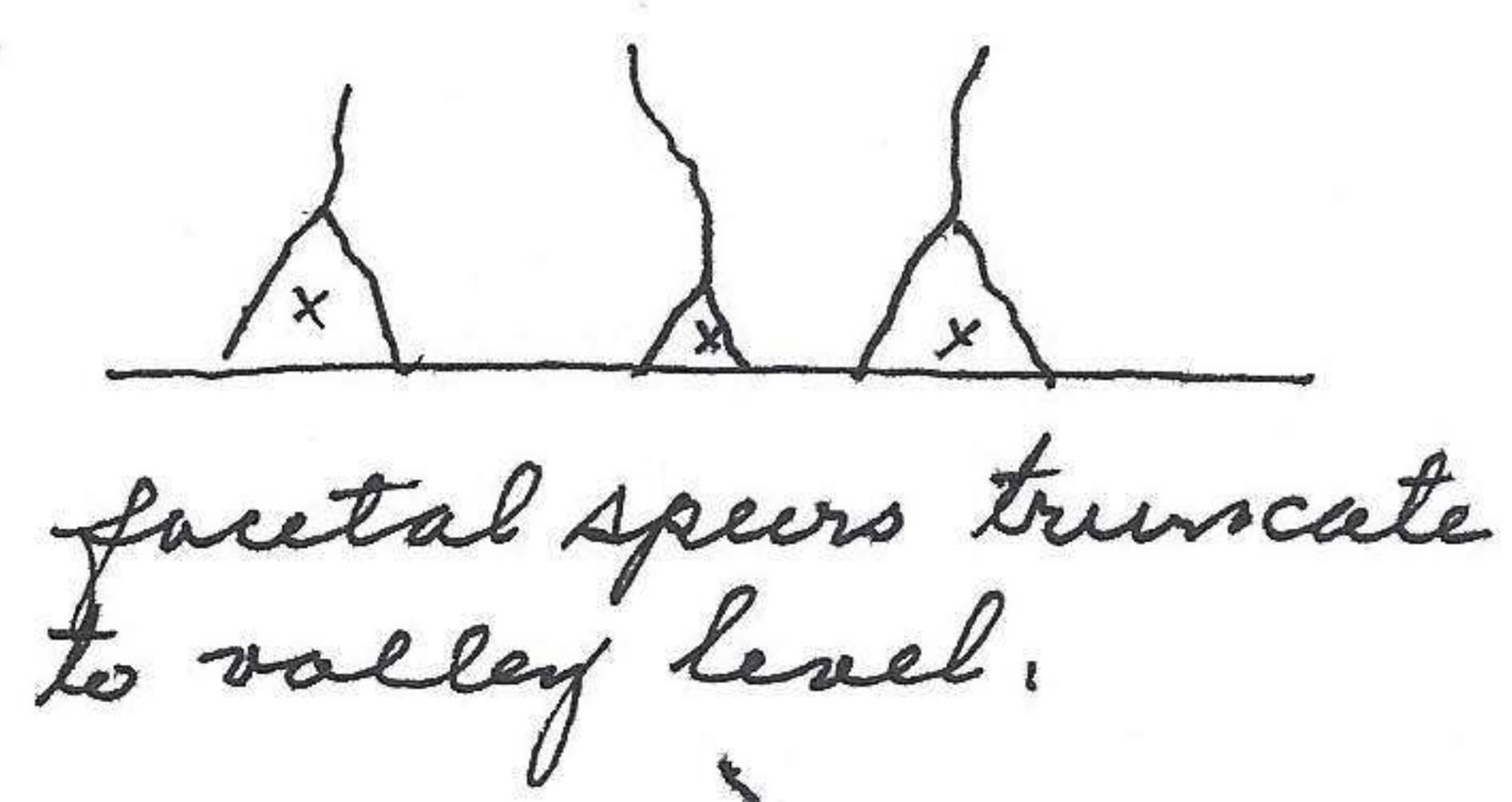
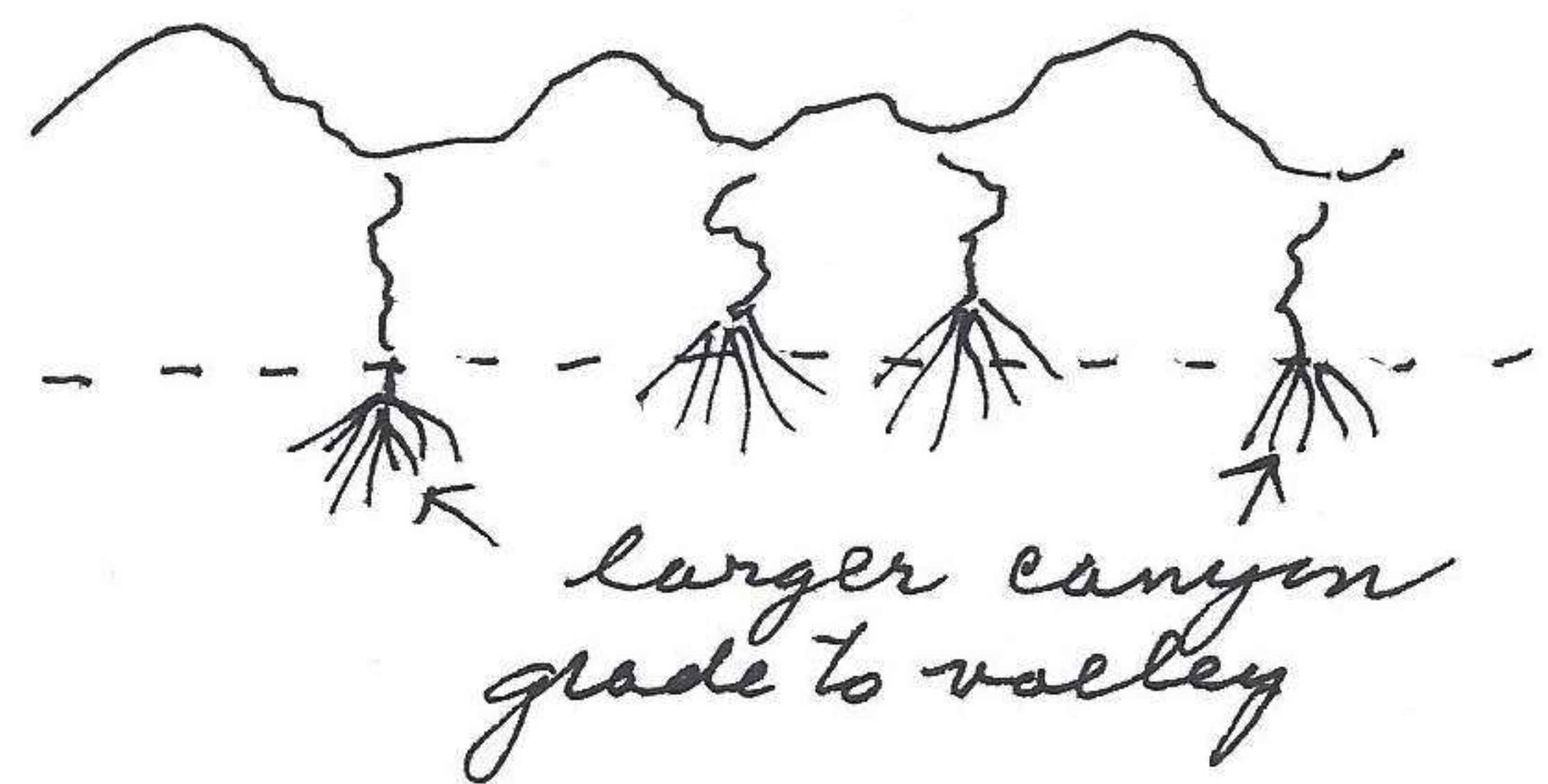
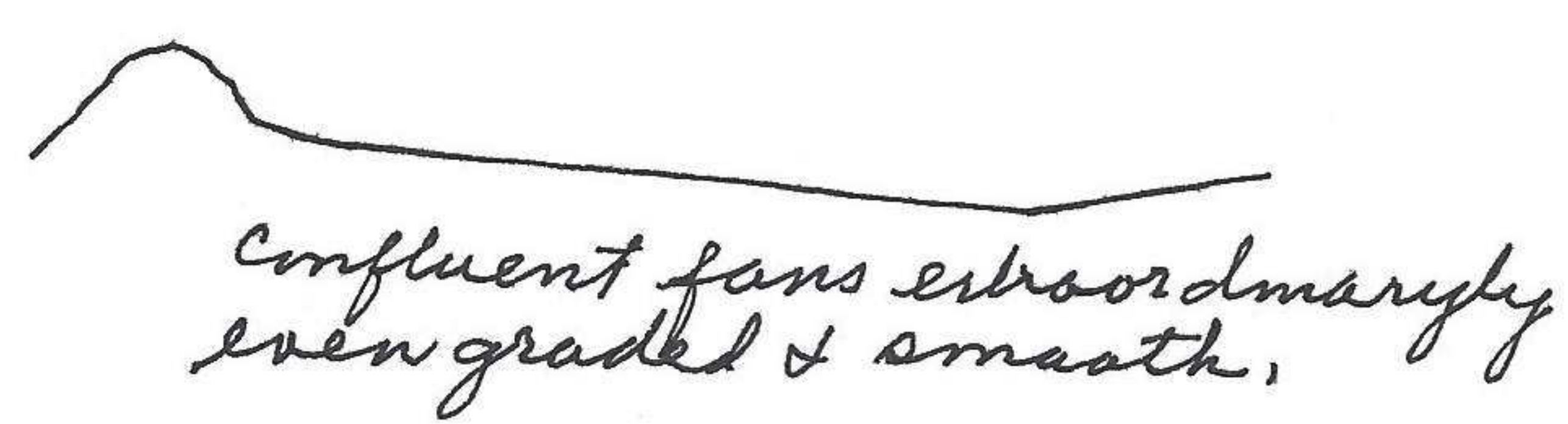
Bend, Oregon (Thousand Trails).

Sept. 19, 1991

Slept cold in back station wagon with temperatures below freezing.

Day clear. many Citellus holes in area. Left 8:10 A.M. and left Bend
 10:06 A.M. ^{hy. 20} 10:11 3 turkey vultures, redtail hawk, kestrel. juniper
 trees and lodgepole pine have different life form than in Utah, thick
 trunks, short in height and more bushy like branches. 10:34
 Lake Co. line. 11:52 AM Harney Co., first raven since Bend. saw 5
 on hy. 78. 1 mi N Lawen 2 Brewer's blackbirds, 1 adult golden eagle.
 at mile post 31 turkey vulture, and red-tailed hawk. mileage post
 249 Malheur Co. line. M.P. 257 2 common raven. 273 golden
 eagle. Artemisia same height and giving carpetlike lifeform.
 280. 2 common raven. 283 red-tailed hawk. Odometer mileage 0175
 Burns Junction at 3:40 P.M. 3:52 red-tailed hawk. 3:55 3 common
 raven. 3:56 5 common raven. 3:59 common raven, Artemisia
 even-topped lifeform. 4:01 P.M. ⁴ common raven. 4:18 Bodger Rock.
 Blue mt. Summit, raven. 4:32 ¹ 2 common raven. 4:39 Common raven
 and peregrine falcon. 4:47 common raven. 4:48 P.M. Mc Dermitt, Ut.
 mileage approx 070 (car). 4:59 red-tailed hawk. 5:00 P.M. red-tailed hawk.
 5:04 red-tailed hawk. 5:06 red-tailed hawk, 5:07 red-tailed hawk.
 5:08 red-tailed hawk. 5:22 common raven. 5:36 3 common raven.
 en. 5:55 junction hy. 290. 6:22 arrive Winnemucca, Nevada.
 at mileage 99141.3

Observation summation of route from Bend, Oregon to Winnemucca, Nev.
 Chrysothamnus best developed and more common in first half route than
 second half where it is in some areas absent. In last half trip in
 many areas Artemisia low form uninterrupted distribution. In last
 part of second half Artemisia low and ruglike cover. Birds uncommon
 in first half and more numerous second half which is associated with
 broad green cultivated river bottoms. Kinds of animals: 5 jack-
 rabbits, 1 badger, 3 Citellus food bells. Hawk density dependent on
 utility poles. Small birds rare. Brewer's blackbirds (40) un-
 common. 2 shrikes.



Drainage erode fans in several levels from mouth of canyon.



Winnemucca, Nevada

Sept. 21, 1991

Left Winnemucca 9:02 A.M. 80 ky. E 10:20 common raven at badger road kill. 9:23 Cheatgrass on right-of-way only. 9 American crows. 9:40 more green in valley. 9:49 AM at m. post 213, 2 common raven, 9:53 2 common raven. m.p. 255 turkey vulture at porcupine (?) road kill. 2 raven (common) 3 American Crows. Sands moving to base of cliffs. m.p. 278 Elko Co. line. 291 common raven. 11:39 AM Elko. m.p. 236 2 common raven, m.p. 330 raven. m.p. 332 common raven. m.p. 329 white cliffs, orange bush. m.p. 349 common raven. 398 m.p. first Shorelines. m.p. 400 10 antelope. 403 m.p. first tamarisk. 407 m.p. Pass to Salt Lake Valley. 4:20 PM Wendover. Car mileage 99368.4 at Utah State line. Continued Tooele arriving 9:00 P.M. Now 5 (after dark) stayed here tonight. Mileage 99468.8

Tooele, Tooele Co., Utah,

Sept 21, 1991

Left Tooele 10:21 A.M. to S. Followed 36 hy to 73, thence E to Lehi, Provo, and Sundance at Mt. Timpanogos. Visited Ophir en-route, arriving 6:00 P.M. at mileage 99571.1 or 1285.1 miles from Lopez Island averaging 300 mi per day at 7 hrs per day.

Sundance, mt. Timpanogos Co., Utah.

Sept 23, 1991

This A.M. Annette & I visited Cascade Springs, Heber, and returned via Provo Canyon. Road E of Cascade Springs turned over to off rd. vehicles and barely possible. In afternoon hiked locally.

Kodachrome 35 Sept 24, 1991

Took several photos of fall colors in the Stewart Flat area, (Sundance) while staying with Mary & Don in their cabin there: 910924-2 mt. maple, Acer glabrum and Abies concolor, white fir taken ^{to W} at new bridge over N Fork Creek above Sundance. mt. Timpanogos in background.

910924-3 mt. maple, Acer glabrum from knoll E of above bridge.

910924-5 Ibid, from left to right, Ashley Peak, Cheaps Cirque, Stewarts Cirque, Elk Peak. Douglas fir beyond mt. maple.

910924-6 Stewarts Flats. E end Sundance Spring slopes S of Sundance mt. maple and scrub oak, Quercus gamelii left. Assistant peak is Provo Peak.

- 910924-7 same as no 910924-5. but mts raised nearer top of photo.
- 910924-8 same area as above with mt. maple, aspen, Populus tremuloides in foreground and Timpanogas in background.
- 910924-9 ibid. Douglas fir on right.
- 910924-10 down Canyon from Aspen Grove and to S. Red on right side drainage a successional stage created by avalanches.
- 910924-11 ibid to to W showing Aspen Grove Canyon. Reds are mt. maple. Scrub oak to left. Elk Peak prominent left.
- 910924-12 Same general area as above to SW. Conifers on the upper part of Elk Peak to as high as conifers grow are members of the Picea Engelmannii - Abies lasiocarpa (Engelmann spruce - alpine fir) association of the Upper montane climax forests. Above these are alpine meadows. Pinus murrayana belongs to this climax as a subclimax (Lodgepole pine). The lower conifers of Elk Peak are the Pseudotsuga mucronata - Abies concolor (Douglas fir - white fir) subclimax of the Lower montane climax. The aspen subclimax is kept in early successional stages by snowslide activity off of Elk Peak. There are places where the Douglas fir + white fir have replaced aspen as the Lower Montane Climax. The mt. maple (Acer glabrum) are subdominant and are in cool, moist areas of the Lower montane and in the Chaparral, to a greater extent than the aspen. It is more commonly associated with the scrub oak (Quercus gambeli) ^{ecotone}. In the drainage of N Fork Creek in foreground Engelmannii spruce of the Upper montane have followed cool, moist, creek channels to their presence in the Lower montane. The interruptions of conifer growth on ridge bordering N Fork Creek are due to snowslides from Elk Peak. Scrub oak in foreground have not as yet changed color.

Left Timpanogas area and drove to Heber via Provo Canyon. at NE end Deer Creek in Wasatch Co., photo 910924-13 of shoreline, typical of reservoirs and mt. Timpanogas to W. Note mt. maple among scrub oak in the Chaparral slopes on right of photo. They have a considerable small lifeform than those on the cooler slopes of mt. Timpanogas. The only visible snow left on mt. Timpanogas is the snow in Bee Glacier in Stewart Cirque. Returned to Sundance. m

at Stewart's Flat area made photos of mt. maple. Photos (all ^{35 mm} Kodachrome no. 910924-14. Road to Marydon Jensen Cabin. mt. maples extend from dry slopes in foreground to more than 1/2 way up Elk Peak, getting smaller as they gain altitude and cooler temperatures.

910924-18 Ski slopes (E side) Sundance. mt. maple mixed thru Lower

Lower montane subclimax.

910924-19 *ibid.*

910924-20 From Robert Redford turnoff to residence. Gambel oak and mt. maple mixed in foreground, mt. maple associated with Douglas fir and white fir on W side N Fork Creek, small maple among aspen across snow-slide area to base Elk Peak and beyond. The Conifers have withstood snow avalanches but not on either side.

910924-21 approx 1/2 way between Stewarts Flat and Aspen Grove. Mt. maple in red. Note yellow aspen among conifers on side Elk Peak.

910924-22 Aspen, mt. maple, Douglas fir and white fir mixed, Aspen and mt. maple extend over snowslide below Elk Peak mt.

910924-23 same area as above.

910924-25 From top first switchback road out of Aspen Grove and taken to W. Elk Peak left, terraces middle, top Timpanogas and mt. N Emerald Lake. Conifers on Elk mt. Upper montane Climax, Conifers left on slope Lower montane Climax, aspen in canyon seral stage, white fir and mt. maple left on lateral moraine of glacial from cirque at head of canyon. Note mt. maple high on S exposure of canyon.

910924-27 moose at a lake N of Aspen Grove in the aspen subclimax. This ♂ moose followed me for 410 mi to base of trail that leads to top of North Fork Ridge. mule deer track measured 70 mm. Left first lake

9:53. It was 20% open on W side.

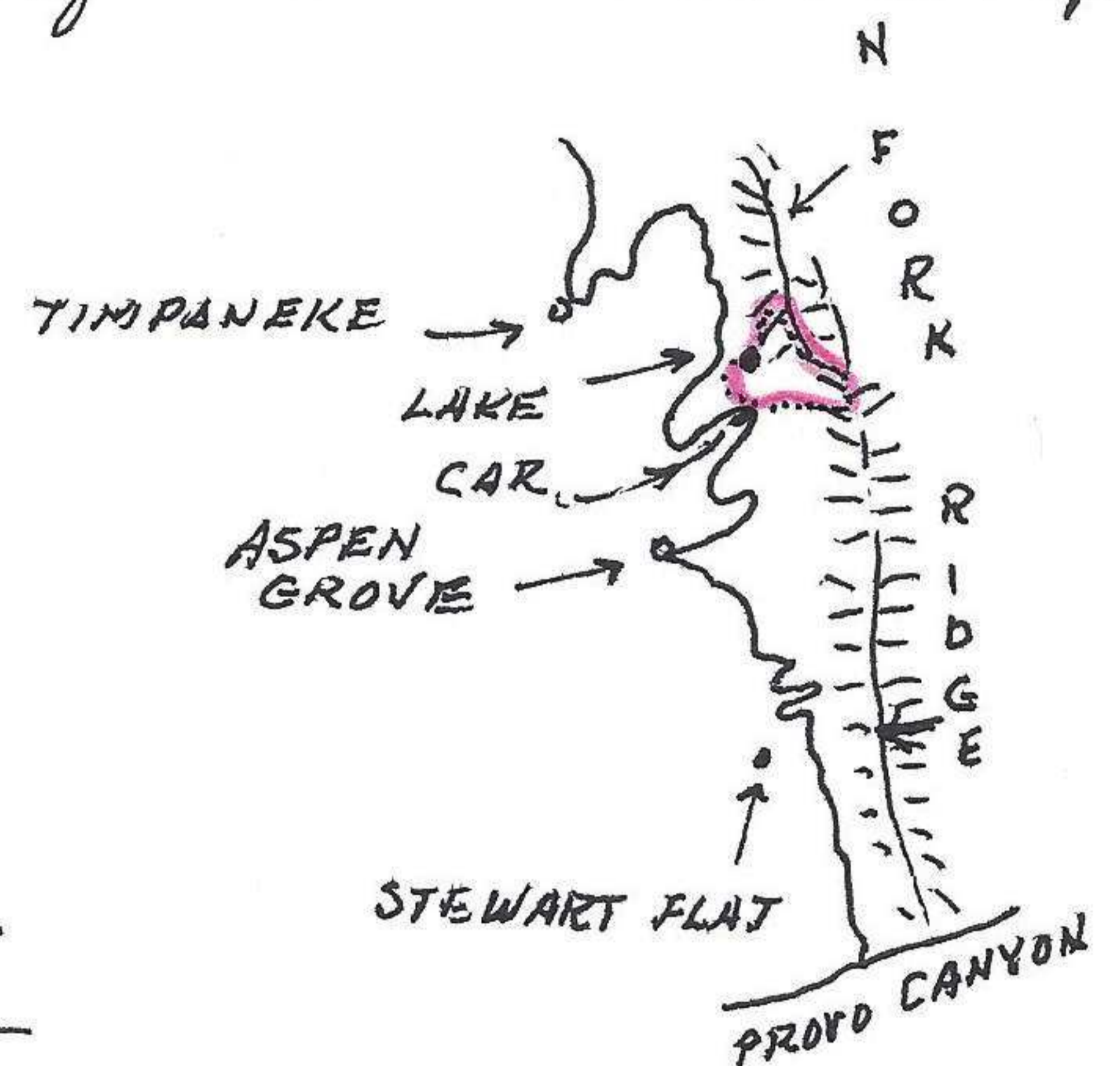
White Crowned Sparrow. Creek 10:03 A.M.

10:05 base of N Fork Ridge at trail head.

Thomomys talpoides digging numerous and badger had elevated 3 of them. most on grassy deltalike surface at base of trail.

Golden eagle circled above lake where moose was observed and photographed.

910924-28 photo mt. Timpanogas (E side) showing two flaterons from faulting. Fault on W front N Fork Ridge has produced a graben. These flaterons carry S to Squaw Knife Ridge. The glacier from Hadden Lake Cirque W of Elk Peak trended N above flaterons and since the fault and perate erosion the glacier change to new course down the Aspen Grove Canyon. In center of photo alpine fir, *Abies lasiocarpa* of Upper montane is replacing aspen. Flaterons (triangular faceted spurs) are keep in early stage of succession and are chaparral-like (an ecotone). Aspen subclimax in immediate foreground. At base of left spur the mt. maple appear to be more successful as pioneer plants than do the aspen.



Conifers in upper right are upper montane subclimax.

910924-29 Same elevation and locality as above but to S. showing continuation of triangular faceted spurs as far as Squaw Knife Pass (below W slope Cascade mts). The foreground slope is fault line on E side of graben. Aspen and Conifers in floor of graben are in various stages of color change (Aspen). The conifers, Douglas fir & white fir, will eventually replace aspen subclimax in the Lower Montane. Note mt. maple in snowslide area of spur. Artemisia part of flora of left slopes of N Fork Ridge.

910924-30 Aspen foreground, mt. Timpanogos background (Aspen Grove Canyon, Elk Peak & triangular faceted spur from fault).

910924-31 Ibid.

910924-32 Location same as above. From W benchlands below crest of N Fork Ridge. Artemisia dominant shrub in open exposures. More aspen on top than on W exposure of North Fork Ridge.

910924-35 Same general area as above. Aspen & Artemisia.

910924-37 Ibid but more open exposure of Artemisia.

910924-102 same as above but aspen reacting to snow pressure.

From here continued E to valley with sink in middle, soils eroded around boulders. There are 3 such valleys. S of main upper valley is slope to a trail divide that supports grasses 2' high. Several badger diggings. Returned to top trail and instead of returning by trail went down ridge to W and at cliffs (just above) photo

910924-106 to SW. 3 good truncated faceted spurs

910924-107 from top cliffs to S. The rock dip at about 45° to E, fragmented (3" to 8") no evidence of water.

From here continued down rock lined drainage. These rocks continued to base of ridge and controlled deer movement up & down the draw, the deer using brush slopes whenever possible. 2 major deer trails crossed the draw at equal distances apart. At base of draw photo 910924-108 of mt. maple leaves, from yellow to dark brilliant red. Arrived at car at 12:50 P.M. & thence Stewart Flat to prepare for birthday tomorrow.

Provo Canyon, Utah Co., Utah.

Sept 26, 1991

Photo 910926-13 Rock slide from SW end mt. Timpanogos at north of Provo River, at Spring Dell, here named Stranded Valley Rock Slide. Recent rock movement has superimposed ^{a new} slide the full extent over older rocks weather stained. Five or six white stained streaks at upper wall of cliffs indicate lightning contact with the cliffs. As is true in most cases, lightning strikes just below a cliff or ridge. The rock source of slide comes from tan Oguvuk sandstone and quartzite sliding over

grayish-blue
 Bridal Veil limestone member of the Oguzuk formation. Scrub oak and mt. maple principal vegetation of Chaparral association
 Photo 910926-2 Rock slide on S side Provo River approx 2/10 mi down stream from convergence of South Fork and Provo Canyon at Vivian Park, Utah Co., Utah. This slide has been documented by me on several trips to Utah (see journal for catalogue of photos and information about this geological occurrence. Former photos will show movement. As I recall the last time this slide was checked it supported more of the successional vegetation.

Returned to Mary's home at Sundance. Checked 1 sq yard of leaves on Mary's lawn at Sundance from a raked area of yesterday; mt. maple leaves

		As of Sept. 27 for comparison:	
Red	31	56	(per cent more 55)
Orange	11	23	48
Yellow	8	9	12
Green	2	5	60
dry, no color	18	45	60
Totals	70	138	

Utah Lake,
Provo, Utah Co., Utah

Sept 27, 1991

Checked offshore sand bars ^{8/10 mi} SSW of SW corner Provo Airport. These sand bars are exposed as result low water level in Utah Lake. Greatest water depth between sand bars and shore 2'. Water partly cloudy but muddy between shore and sand bars as result of carp activity. Water cool. Bottom firm but pocketed with carp elevations in sands and mud. at SW corner of Provo Airport where we left our car (dike road) photo 910927-8 of rain clouds to SW showing rain at near Lincoln Beach on W. mt. Low angle incline Lake Bonneville erosion. accretion beach in foreground. Sand bars between here and Lincoln Beach. Lake mt. right. Photo 910927-15 to NW from S end offshore sand bar no A. Dr. Joel Janetski and a graduate assistant approaching reef. sand bar 205' x 30'. 120 Calif. gulls, 98 American white pelican, 45 ducks including northern pintails and 11 double-crested cormorants resting on NW end sand bar no. C. Sand bar no B rest W of Dr. Janetski. Lake mt. in background. Photo 910927-16 of no A sand bar, SE end, showing same conditions as above photo. Photo 910927-17 to NW from N end sand bar no C. This point is 1/2 mi W of Compromise Monument at N side Little Channel. The lowest point of Traverse Range in Jordan Narrows where water from Utah Lake flows N into Great Salt Lake. Dr. Janetski is on axis with Jordan Narrows

The birds that had been resting on sand bars have moved NE by swimming. Photo 910927-18 from north end sand bar no C showing axis intercepting second peak SW Spanish Fork Canyon on Loafer mt. Photo 910927-19 to W from outermost sand bars. Dr. Janetski on sand bar. A Labf. gull in latter stages of botulism. It is 115' from this sand bar to no E sand bar, and 250' from no E to N end no B sand bar which in turn is 350' x 110'. One sand bar not emergent is between C + E but W of no C, and is labelled no D. Photo no. 910927-20 N end sand bar no. F. and can be used as axis (thru to 2 peak E limb Loafer mt) for orientation of sand bars. Not effect wave action on W side this sand bar. Lake mt to left, Traverse Range to N. Photo 910927-21 from sand bar F to NE. Tempungos in background. Pelicans still remaining in area, ESC in middle ground. Photo 910927-22 of a fractured dark limestone boulder on offshore sand bar no. C. measured 12" wide, 6" high of which 4" was set in mud & sand. This rock was the same kind of large crushed rock used as basal layer of Provo Airport and dikes. These kinds of rocks, at least in size, are used by modern fishermen for anchoring boats or nets.

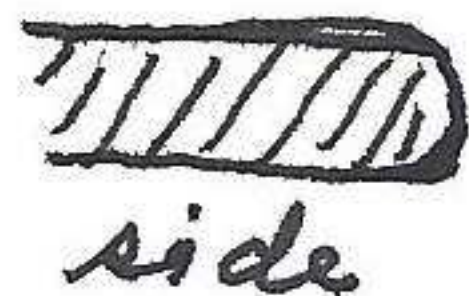
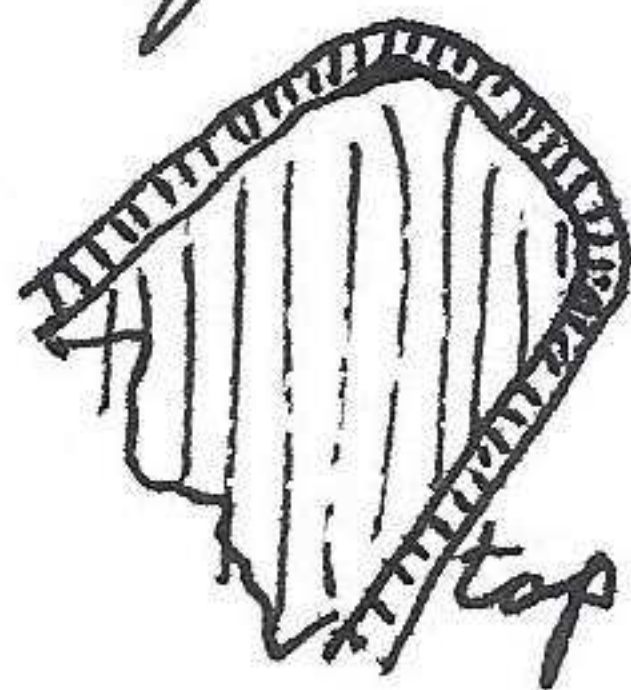
A secondary axis (north end sand bar no C) is from Kimbel Towers on Brigham Young University to Lincoln Beach.

When these sand bars are superimposed of locality of Indian sites previously recorded (see journal), there is a remarkable fit on the Tertiary keef of travertine. Since the Indian sites were recorded there has been additional sedimentation in Utah Lake. Landward above low water fluctuation zone, say at Compromise Monument, there has, at the same time been a noticeable erosion of muds & sands from the keefs.

Utah Valley has had periods of instability, some changes recently. ^{activity of the} The Wasatch fault on the E side of valley would lower the area and cause flooding, regardless of water flow into the lake. Erosion of barrier in Jordan River would lower lake level while rising Traverse Range would cause flooding in Utah Valley. A core of 30'-40' of lake sediments, if critically examined, would show which of these processes has occurred and when. Also a core of 10' would show if the offshore sandbars are actually underlain by travertine fault deposits and, if so would most likely also support early Indian habitation during non-flooding periods. Valley sediments are always adjusting to overburden deposits like Provo delta and these weights may just be enough to have created Provo Bay, being as it is between 2 major river deltas.

landward

We continued, to Little Channel and found that large tamarisk of 1937, some 18' high and 3"-4" in diameter at base (100' W Compromise monument) were gone and a new, young succession of tamarisk now covered the same area. Erosion of sands & mud had also uncovered the travertine reefs. At one of the old sites on the primary Reef had recently been screened. A part of a manus measured approx. 3"-6" wide and 3/4" thick.



ground of 20' E of monument

2 short-eared owl left, shrub covering of tamarisk and flew 5200'.

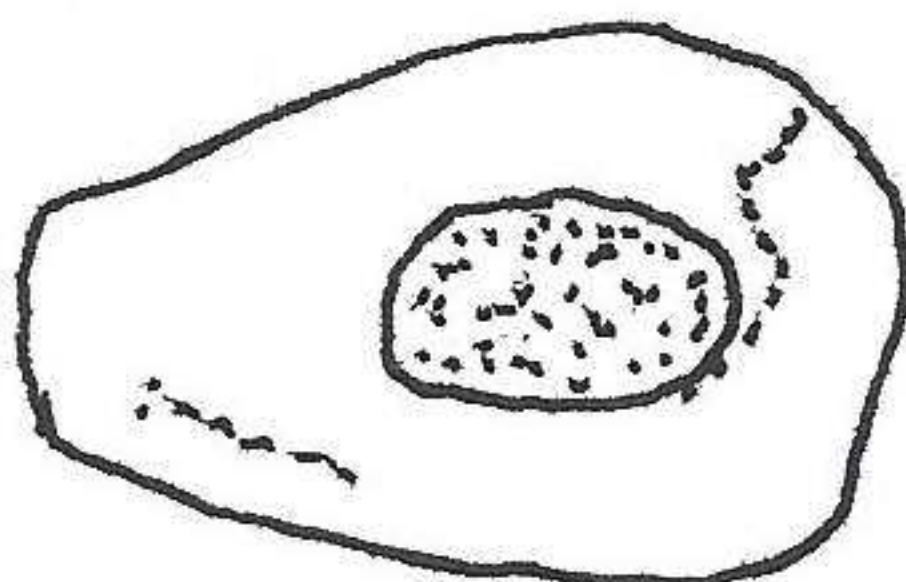
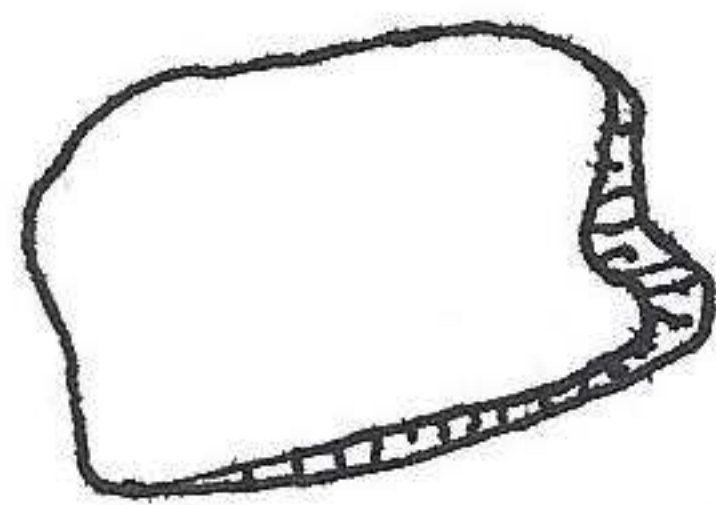
Dr Janetski said that Calif. gulls nested on two of the travertine clearings

lost year. 15 E of Compromise Monument.

Returned to car SW corner airport and returned to museum at BYU. Presented the following 5x7 prints to Dr Janetski for the museum files: C.A. 1925, Ice ridge, Utah Lake, photo taken by my father, Robert D. Bee and without date or catalogue no. This photo has been included in my file and journal as 910927-23; 4-4-29-34 Secondary Reef, Provo Bay, human skeletal elements (these early catalogue numbers are, consecutive day number, month, day and year. More recently the sequence is year, month, day and consecutive number of the day); 1-9-9-34 Cist, James W. Bee; 2-9-9-34 Cist, J. Bee and Rob. D. Bee; 1-1-22-36 Ice pack Utah Lake 5 mouth Provo River; 1-4-26-37 Sid Boyle juv corac; 4-4-29-37 Sid Boyle Lincoln Beach; 1-10-2-37 Jones mound?; 2-10-2-37 Benson mound; 3-10-2-37 screening JLB; 4-10-2-37 SW Surrant Farm; 2-1-12-40 bent tree in ice flow; 5-9-14-40 fish mouth Provo River; 2-9-19-40 sandy shore ut. Lake. 910927-2 same as CA. 1925 above.

Also left aerial photo of area S lower Provo River to Provo Bay and several colored slides (2x2) Areas of reef habitations of Indians when lake was low (Utah) These are to be photographed or printed and returned. Revised map SW Provo airport.

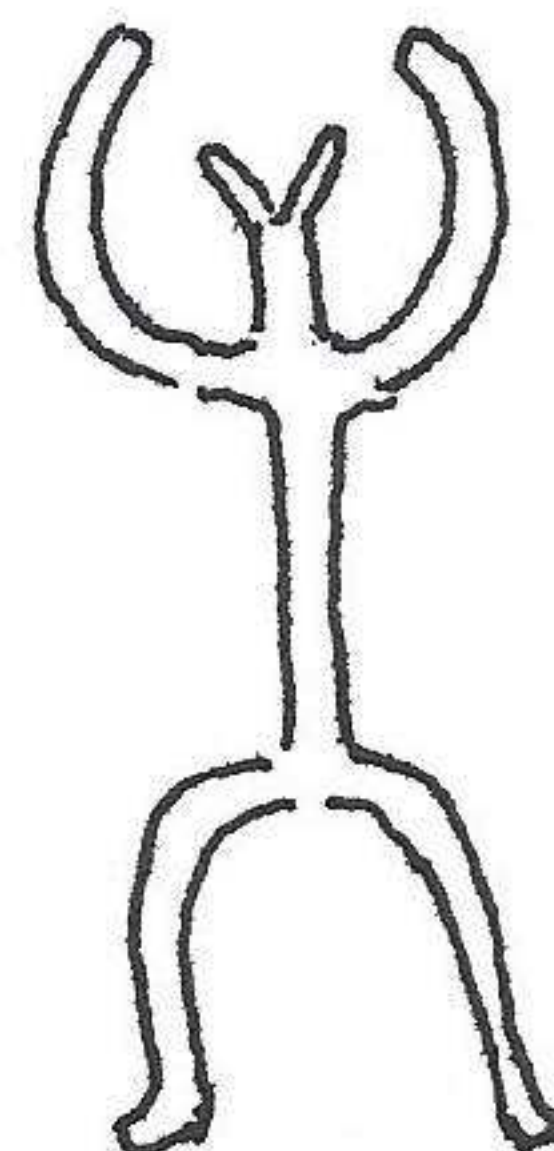
Returned to Provo and visited Edith Bee and Arnold Davis at 265 E 1st So. The two metates are still in their garden, one and the other thus:



The petroglyph of Basket-maker with side-locked hair and atlatl. On opposing side:

Edith and Arnold report having observed a cub black bear at W Portal of Strawberry Reservoir in summer of 1989.

(See addenda for further information of Utah Lake Reefs.)



Returned to Stewart Flat at Sundance. at Mary & Don's cabin measured a dead Tamiasciurus hudsonicus, red squirrel, at 16" total length. Animals in area of cabin: Steller jay, flicker, American robin, 2 red-tailed hawks circling above mt to S., 2 red squirrels, 2 least chipmunks (Tamias minimus).

Stewart Flat, Sundance, Utah Co., Utah

Sept. 28, 1991

James Robert Bee and I left Mary & Don's place for Deer Creek Reservoir this A.M. Enroute talked to Larry Beck and his wife, son and daughter in law of D. Eldon Beck. They observed a bobcat at Silver Lake Flat, Silver Creek in American Fork Canyon, Utah Co., Utah in July of 1991.

At Deer Creek Reservoir took several photos (Kodachrome) on side S showing red of mt. maple on N Fork Ridge and elsewhere. Timpanogas in background:

Photo 910928-24. James Robert Bee in left foreground, dam in middle ground.

Photo 910928-25 same area as above, Artemisia foreground, scrub oak left, mt Timpanogas background with middle ground mt. maple.

Photo 910928-26 ibid. scrub oak dominant tree

Photo 910928-28 ibid. some yellow ^{mt} maple present. Robert Redford's ski slope on Timp. extreme left shows ridge scars in landscape.

Photo 910928-29. ibid. James Robert Bee right foreground.

Photo 910928-32 ibid. yellow tree scrub oak, [31 enlargement, no slide]

Returned to Mary & Don's cabin Sundance.

Sept 29, 1991

James R. Bee and I to Secondary Reef in Provo Bay to photo the travertine fault deposits, approx. 3/10 SE Compromise monument, Provo Bay. Photos 910929-4, 910929-5, 910929-6, 910929-7 all of travertine reef showing increase exposure of reef from water and rain erosion, mainly from erosion above water level. There is a consistency of fracture systems of travertine, producing small blocklike units. Reefs produced by warm water from fault lines.

Photo 910929-35 S end Provo Airport, Utah Co., Utah. airport ^{runway} left moat center, dike right, Wasatch Range in background. The moat and dike, for that part involved with circumference of airport (not including runways or taxi lanes) has interrupted and modified approx. 200 acres of lands that could have destroyed Indian habitations or cultural evidence.

Photo 910929-37 Successional plant community of shore of Utah Lake

These accretions beaches taken from SW corner Provo Airport. The last two photos and photo 910929-4 presented to Dr. Joel Janetski, Director Museum of Peoples and Culture, BYU.

Returned to Sundance, mt. Timpanogos.

Stewart Flat, Sundance, mt. Timpanogos, Utah Co., Utah,

anette, James R and I Sept. 30, 1991

This is the day ^{anette, James R and I} leave for Lopez Island, Wa. Left at mileage 99789.1 Enroute to Provo took photo 910930-9 in N Fork Canyon where cliffs converge on canyon. Red mt. maple, Conifers Douglas fir & white fir. Direction down canyon. Spring Dell in first cliffs on left side at Wicks noted a nest of red-tailed hawk. Continued to Provo and checked with Utah Co Land Title for finalizing locality information for archeological research but without satisfaction. The first name, William Peay had no registration with the city or county. They advised a title search for information. So we left and drove to Provo Airport, chartered a small plane and took photos of the offshore sand bars and related archeological areas. Before takeoff photo 910930-10 of mt. Timpanogos to N. The aerial route was mainly circular over SW end airport and to as far N as Provo River.

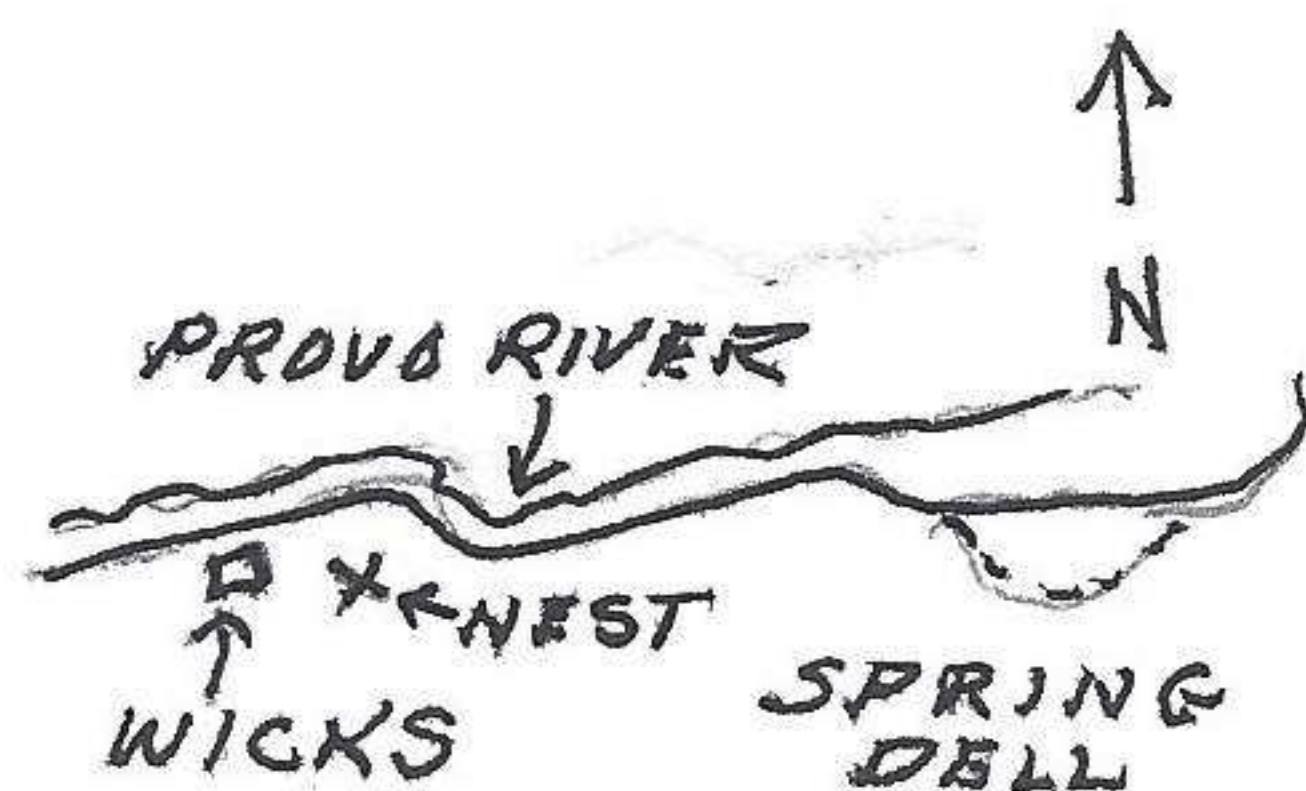


Photo 910930-12 N side Provo Bay, Carp elevations near edge. mapleton mt right distant. Carp have profound influence of developing and maintaining shallow bays. ^{Copy to Dr. Janetski.}

Photo 910930-15 to SW over ^W head Secondary Reef, Big Channel, mouth Spanish Fork River and Lincoln Point on West mt.

Photo 910930-18 to SE of 7 emergent offshore sand bars W of monument compromise. Big Channel into Provo Bay.

Photo 910930-20 to E showing Primary Reef extending into Provo Bay. Utah Lake foreground. Secondary Reef low be traces.

Photo 910930-25 same as above but offshore sand bars trending toward axis of Provo Bay Reefs.

Photo 910930-26 same as above with Primary Reef into Provo Bay and Secondary Reef clearly visible.

Photo 910930-27 ^{TONE} Utah Lake - Provo Bay area between Little channel and Big Channel. Secondary Reef pass SE along N edge non-vegetated patch. Primary Reef parallel to Secondary Reef and on photo is 1/2" above. According to Dr. Joel Janetski, Calif. gulls nested in this area and compromise monument area. Copy of this photo (5x7) to Dr. Joel Janetski for museum files.

Photo 910930-28 To W at mouth Peninsula Creek N of mouth of

Spanish Fork River. Creek highly modified by roads and drainage ditches. Copy this photo to Janetski.

Photo 910930-29 shows a submerged reef w of sand bar no F. all others A-F in photo.

Photo 910930-31 Offshore sand bars A-F in Utah Lake, Primary Reef in Provo Bay and Mapleton Mt in distance. These sand bars are located 3550' S and 2100' W of SW corner (dike road) of Provo Airport. View SE. Copy this photo (5x7) to Mr. Joel C. Janetski.

Photo 910930-32 *ibid.* but copy not presented to Mr. Janetski.

Photo 910930-34 To N, mouth Provo River. Broad beaches exposed some miles N mouth Provo River.

Photo 910930-35 to N. Smith Lake bed N of N end Provo Airport. Runway, taxi strips, and dike cover important Indian sites.

Photo 910930-36. NE and N of Provo Airport. Provo River traverses middle photo.

Photo 910930-37 Provo Airport and lake bed of Smiths Lake, Utah Co., Utah. Smith Lake, now dry, originally was 60-100 acres between Carlensens Bridge of the Lower Provo River and the old Lake Resort to S. A small channel connected it with Utah Lake.

Property bordering the N end of airport runway and in area of water moat and dike supported at least 10 Indian habitations. The homestead of William W. Peay to N and center of photo (E side Smith Lake) had at least 6 sites. Copy of this photo (5x7)

To Mr. Joel Janetski for museum file, next aerial survey should be perpendicular to ground. Photo 910930-38. Area of 3450 W Center Street, Provo, Utah Co., Utah. Complete utilization of land formerly inhabited by prewhite man. Provo River in background. Copy this photo (5x7) to Mr. Janetski.

Returned from air flight and photographed ^{35 pictures of (Ektachrome)} a color aerial map in office of Provo Airport. This map is approx 3x3 feet and includes area W of Provo City and was presented to Provo Airport by Provo City. Identification numbers on map and at various points are: NAPP 321 177, WILD 15/4, UAGA 13117-153.21, 9-17-89. Photo copied those parts of map associated with archaeological sites.

Photo 910930-102 Reefs, Little + Big Channels. Copy to Janetski. (5x7)

" 910930-103 S half Provo Airport, reefs to S between Provo Bay and Utah Lake. Copy ^(5x7) to Dr. Janetski.

Photo 910930-104. *Ibid.* but also N half airport.

" 910930-105. *Ibid.* but more inclusive, in fact covers entire map.

" 910930-106 Top map N Powell ^{Slough} N Provo River.

" 910930-107 Powell Slough N Provo River. Copy to Dr. Janetski

- Photo 910930-108 Between Provo River and Powell Slough.
- " 910930-109 S Provo River
- " 910930-110 Smith Lake, N Provo Airport Copy (5x7) to Mr. Janetski
- " 910930-111 Ibid, east to Hinckley mounds.
- " 910930-112 Center photo is Provo Airport. Copy to Mr. Janetski.
- " 910930-113 S end Provo Airport.
- " 910930-114 Area N Provo River Bridge on Geneva Road.
map title

WILD 15/4 UAGA
NR 13117 153.21
- " 910930-115 N Provo River W of Geneva Road.
- " 910930-116 S and N Provo River.
- " 910930-117 N Provo River W Geneva Road.
- " 910930-118 S Center Street W of Provo showing several archeological sites.
- " 910930-119 E of Provo Airport. Good photo Hinckley mounds. Copy (5x7) to Mr. Janetski for museum files.
- " 910930-120 E south end Provo Airport.
- " 910930-121 S Provo City.
- " 910930-122 SW Provo City.
- " 910930-123 W Provo City N⁺S of W Center Street. Good shot of Smoking Pipe site.
- " 910930-124 Ibid.
- " 910930-125 6th Street W, SW Provo City.
- " 910930-126 S of 6th Street, SW Provo City.
- " 910930-127 Mouth Big Dry Creek, N side Provo Bay.
- " 910930-128 S 6th St. SW Provo City.
- " 910930-129 SW Provo City.
- " 910930-130 SW Provo City to part Provo Bay.
- " 910930-131 N side Provo Bay, SW Provo City.
- " 910930-132 N Provo Airport, Smith Lake area.
- " 910930-133 middle Provo Airport and area to E. Copy to Mr. Janetski for museum files.
- " 910930-134 S Provo Airport.
- " 910930-135 SE Provo Airport, N side Provo Bay.
- " 910930-136 S side Big Channel, Provo Bay-Utah Lake.

Left Provo Airport at 3:50 P.M. at mileage 99815. and headed N toward Lopez Island, W.A. via Interstate 15. Will keep selective census. Tremountain turnoff 2 red-tailed hawks. Idaho State line 99938.0 at 6:41 P.M. motel at 00003.6.

Oct 1, 1991

Left 10:75 AM. First black-billed magpie and jackrabbit road kill. At Blackfoot black-billed magpie, at mile ^{car} 44, 1 red-tailed hawk, 71 Shelby. Idaho Falls, black-billed magpie. at ear mileage 55 red-tailed hawk. mile 61 black-billed magpie. mile 63 Jeffers? mile 64 red-tailed hawk. mile 82 black-billed magpie, mile 88 black-billed magpie. 91.5 Clark Co line. mile 113 first aspen mostly yellow but some beyond, actually aspen more orange than yellow, mile 123 black-billed magpie, mile 126.7 Montana State line. mile 5 first 2 common raven and 1 adult golden eagle. MP 19 good fault, MP 28 *Cynomys* from here to MP 32. MP 33 red-tailed hawk. Clark Canyon Res. 3 black-billed magpies. MP 60 red-tailed hawk. Car odometer 180 Dillon, 3 black-billed magpies. melbrosa, northern harrier. 234 Continental divide 245 Ramson turnoff and now on Interstate 90 west. juniper tree all small as if recently planted. 269 northern harrier. 351 Missoula, Montana,

Missoula, Montana.

Oct 2, 1991

James R. Bee and I rode 7 mi down Clark River to Blackfoot. On trip observed: 1 mule deer, groups of 1-2-5-12-4 red-breasted mergansers, 1 wood duck, 4 killdeer, 4 black-billed magpies, 4 small sparrowlike birds, 2 kingfishers (hunted), 1 water ouzel, 2 American robins.

Oct 3, 1991

Left Missoula, Montana, at 10:00 AM at mileage 370 on 90 highway W. mileages are car odometer. 380 2 common raven, 1 red-tailed hawk. 387 1 common raven. 401 common raven. 416 common raven. 416.6 at mile past 55. 468.4 Idaho State line. 598 2 common raven. 615 1 common raven. 617 2 horned larks, Cottonwoods $\frac{1}{2}$ to full green, no red colors in plants. Arrived Omak

Omak, Washington

Oct 4, 1991

on hy. 20. Left 9:30 AM, at 694 good elevated lake shorelines, striped skunk road kill. 712 2 common ravens, at Loup Loup Pass. 717 porcupine. 726 Twist 2 black-billed magpies. 765 beyond major ^{before Washington Pass} switchback. Photos 911004-1 and 911004-2 of larch and major peak. 766 Washington Pass at wash. Pass, Okanogan Co. 11:42 AM. Photos 911004-3, 911004-4, 911004-5 at Vantage Point, overlooking Early Winter To W beyond 911004-7 of cliffs, ^{conifer} and into sun. 864 Burlington at 3:50 PM. Spires, 2260'.

883 Anacortes. Lopez Island 6:20 P.M. On this trip from Provo, made complete census of common raven, black-billed magpies, red-tailed hawks and golden eagles.

Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.
~~_____~~
 Oct. 6, 1991

P.M. Birds at Swift Lagoon, 3 long-billed dowitchers, 6 northern pintail, 1 green-winged teal, 2 killedeer.

Oct 11, 1991

Birds at Swift Lagoon. 8 long-billed dowitchers.

at Bee House a male mule deer, antlers 1" high and first deer at Bee House since we returned from Utah. Mrs. Joyce Lund informed us that mule deer will lick fur of the feral domestic rabbits with complete compatibility.

Oct 15, 1991

Trip to Anacortes at 7:58 A.M. from Lopez Island, will keep complete census. 2 marbled murrelets, 4 mew gulls, unusual amount of vegetative growth on water. 4 harbor seal Les Reef. Common loon, 2 double-crested cormorant, 1 glaucous-winged gull, 2 cormorant sp., glaucous-winged gull, 2 glaucous-winged gulls, mew gull. 8:14 A.M. SW Blakely at red ^{light} beacon, 8 glaucous-winged gulls, 11 mew gulls in Thatcher Pass. 42 glaucous-winged gulls on Pointer Island, 1 harbor seal there, 1 pelagic cormorant, 1 glaucous-winged gull, 1 common murre, 1 rhinoceros auklet, 3 common murre, 1 common murre, 1 marbled murrelet, 3 double-crested cormorant, 1 common murre, 1 marbled murrelet, 3 pelagic cormorant, 3 common murre, 2 common murre, 2 mew gulls, 1 glaucous-winged gull, 1 marbled murrelet, 1 common murre. Arrive Anacortes (in all reports this implies ^{Washington State} ferry terminal) at 8:41 A.M.

Check at Padilla National Wildlife Preserve and was informed that Bud Anderson 757-1990 was researching falcon group. Observed bald eagle at State Park S of preserve.

Left for Lopez Island from Anacortes at 7:37 P.M.

Oct. 16, 1991

First day of high wind and rain in 45 days. needles of Douglas fir and grand fir on are brown (reddish) and dry from being blown from trees. Drive way at Bee Estate covered like a high pile rug. Many yellowish brown leaves of big-leaved maple. Poplar maximum yellow and other trees & shrubs at maximum color stage.

At Swift Lagoon, 9 long-billed dowitchers
at Bee House a sharp-shinned hawk rested on a limb of Douglas fir
2 feet below bird feeder.

Oct. 20, 1991

At Bee House, 3 fawns of this year, 2 of them 22" high at shoulders,
1 23" high at shoulders. First 2 in winter pelage, the third one in
colored, long fawn pelage and only one not in winter pelage. This one
is an orphan and is aggressive.

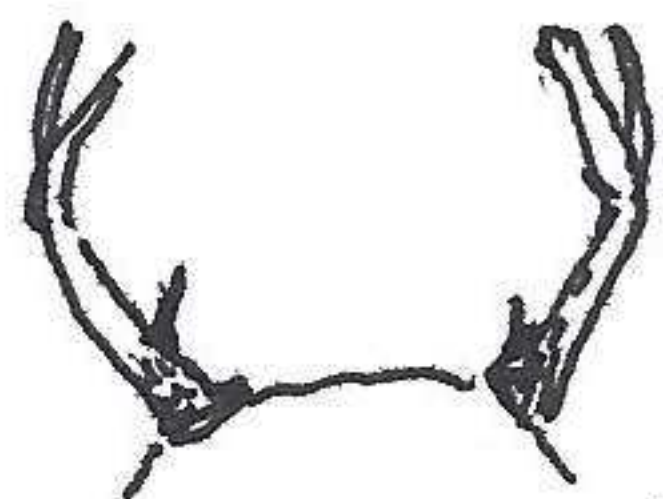
Four to 8 American robins feed regularly on madrona berries in front
of Bee House. The second floor of this house is at upper tree level

At sunrise this A.M., an adult bald eagle flew S past Bee House.
1 western grebe, 4 rhinoceros auklet, 8 mew gulls, 11 Bonaparte gulls,
and 9 glaucous-winged gulls in one feeding formation 100' SE of
Bee House. 13 harbor seal Leo Reef, 2 on N Flower Rock.

Oct 21, 1991

mule deer population at Bee House at 9:45 A.M.:

1 2 pointer (antlers 14" high) with left eye line larger than right one.



1 antler knobs of this years deer, 1" high.

1 1/4" antler spike of last year deer

1 1" " " " " " "


3 ♀ older than 2 years

2 ♀ 2 year old

2 ♀ last year deer

4 ♀ fawns of this year.

All in winter pelage except 1 ♀ of this year.

Bucks remained for 2 hours, lying down and only 10 per cent
interest in females. Cracked corn on a flat board was con-
sumed by a buck and worked the area systematically with a
vacuum-like clearing of the board .

2 separate bald eagles alighted in Douglas fir, near top, at
Boundary Point NE of Bee House.

made the following bird census at 2:00 P.M.:

Humphrey Lagoon: 21 bufflehead ducks.

Swift Bay (SW end):

1 killdeer

18 Bonaparte gull

1 glaucous-wing gulls

21 mew gulls.

12 mallards
1 great blue heron
1 American widgeon

23 bufflehead ducks
1 gadwall
3 surf scoters

Sumner Lake:

8 bufflehead ducks
2 horned grebes

2 american mergansers
17 mew gulls

W side causeway SW Lagoon of Fishermans Bay:

25 bufflehead ducks
3 red-throated loon
6 mew gulls
8 Bonapart gulls

2 common loon
13 double-crested cormorants
4 glaucous-winged gulls

E side Causeway SW Lagoon of Fishermans Bay:

26 mallards
1 dunlin
2 American crow.

4 black-bellied plover
19 bufflehead ducks

NW Swift Lagoon:

11 Calif. quail.

Oct 28, 1991

4 inches snow at lower parking lot Bee Estate. Strong NW winds. The mule deer generally do not come to feeders the first day after snow or high winds.

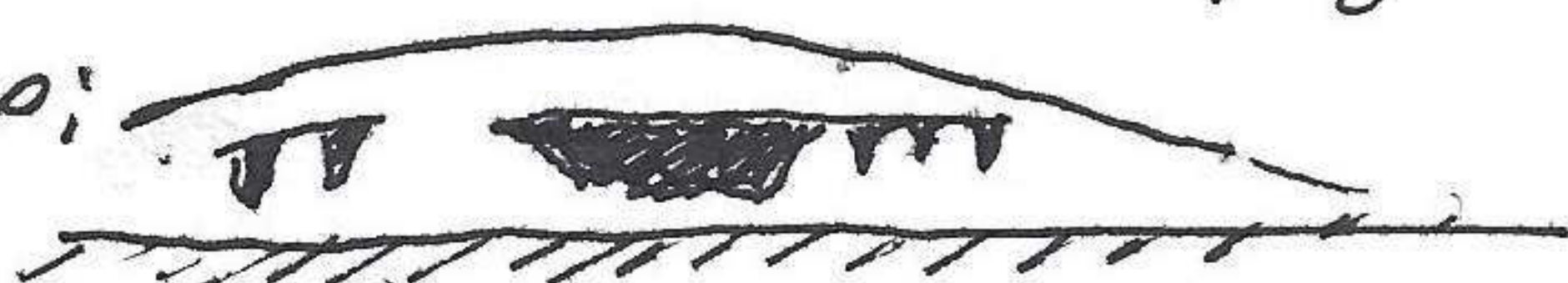
Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.
Nov. 4, 1991

Talked to Mary Bee Hoffman at Grass Valley NE San Francisco and she reports that color of leaves just starting.

In passing by Humphrey Lagoon on way to ferry observed one glaucous-winged gull feeding with 9 bufflehead ducks.

Left Lopez Island on ferry at 2:28 P.M. for Anacortes, Will keep complete census: 1 great blue heron, 2 mew gulls, 1 horned grebe, silver salmon? jumped 2 feet out of water, red-throated loon, big-leafed maples good yellows on Blakely W side, glaucous-winged gull, 2 Bonapart gulls, glaucous-winged gull. Willow Island 2:40 P.M. 3 pelagic gullmots, 3 double-crested cormorants. 2:43 salmon jumped out of water E end Thatcher Pass, 2 rhinoceros auklets. no gulls on Pointer Island, 5 western grebes, 4 double-crested cormorants, 82 double-crested cormorants, 34 pelagic cormorants, 1200 common murrees, 80 rhinoceros auklets, 8 marbled murrelets, 11 double-crested cormorant.

Beacon SW Cypress Island. damp zones of cliffs of glacial deposits on Cypress thus:



Arrive Anacortes ferry terminal

3:05 P.M.

Nov. 5, 1991

As tide lowers on Leo Reef, harbor seal displace double-crested cormorants by body contact.

At E-end Cross Road in pond, 32 mallards, 27 northern pintails, at Swift Lagoon 8 mallards + 13 northern pintails.

2 American crows left Bee House and flew to Leo Reef.

Nov. 13, 1991

To St. George, Utah. Left Lopez Island about 8:00 A.M. by ferry. mileage at Bee House 1622.5. At home, yellow of big-leafed maple nearly gone, gold of ocean spray and willow rapidly decreasing from maximum color. Bird species between Lopez and Anacortes: glaucous-winged gull, western grebe, mew gull, double-crested cormorant, common murre, Bonaparte gull, pigeon guillemot, rhinoceros auklet, marbled murrelet. Arrived Anacortes ferry terminal 8:49 A.M. a great blue heron on piling. In bay SW terminal on piling 12 double-crested cormorant, 6 pelagic cormorant and 8 glaucous-winged gulls.

Continued down Widby Island and arrived Clinton ferry dock 10:20 A.M. 4 pelagic cormorant and 8 glaucous-winged gulls here. Ferried to mainland + thence to Windock, Washington on Interstate 5. mileage at Windlock 1817.6 or 195 miles today (oldsmobile stationwagon).

Windlock, Interstate 5, Wa.

Nov. 14, 1991

Left Windlock 7:50 A.M. Biggs, Oregon 1:14 P.M. Bend, Oregon 4:30 P.M. at 2117.8 or 300 miles today. In retrospect, tree colors in Vancouver, Wa. not as far as on Lopez Island. Golden colors maximum. Cottonwoods 1/2 green but yellows maximum color. Best colors in Columbia River Gorge. E side C.R. Gorge more advance in color change. Transition between Pacific Rain Forests to ponderosa pine-oak distinct, the latter in late stages of dull red. Birds rare and only 2 redtails between Biggs and Bend, Oregon and only 4 common ravens, no crows. Only 1 redtailed hawk between Seattle and Vancouver, Wa.

Bend, Oregon

Nov. 15, 1991

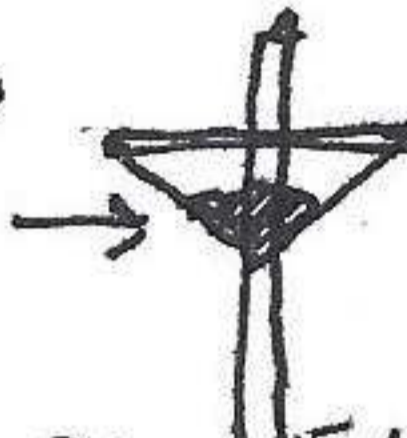
Left for Burns, Oregon 10:50^{AM} and mileage 246. at Burns. Between Bend + Burns groups of 2-2-6-4-3-2-1 common ravens.

also 3 red-tailed hawks, 2 ^{American} rough-legged hawks (halfway distance between Burns & Bend), 8 jackrabbit road kills, only 2 black-billed magpies 8 mi E Bend. Other birds rare. *Chrysothamnus* on right-of-way, cultivated fields, stressed areas and is sub-dominant to *Artemisia*.

Left Burns 11:00 A.M. to S. on highway 78. 30°F Will use mile posts for location unless otherwise indicated. MP. 22 (from Burns) rough-legged hawk, MP. 33 strike sp., red-tailed hawk, 1 ad golden eagle, 2 common raven. MP. 42 red-tailed hawk. car odometer 2333 at 1:00 P.M., MP. 66 red-tailed hawk, ² common raven. MP. 73 kit fox (*Vulpes macrotis*) started across highway the returned MP. 79 red-tailed hawk. MP. 88 common raven. MP. 94 2 common raven, snow in valley, Temp 32°F, MP. ⁹⁹ 2 common raven. MP. 103 2 common raven. MP. 107 1 rough-legged hawk. MP. 114 rough-legged hawk, MP. 122 me. Dermitt, Nevada at 2:05 P.M. Continued S on 95 highway to Winnamucca, Nevada arriving 4:30 A.M. 340 miles today. mileage on car odometer 2457.0

Winnamucca, Nevada

Nov. 16, 1991

Left E on Interstate 80 at 8:52 A.M., temp 17°F. mile post 177 at Winnamucca. MP. 185 3 common raven. MP. 195 1 common raven. MP. 207, 1 common raven. MP. 214 1 common raven. Battle Mountain 3 common raven. MP. 249 2 common raven, 1 black-billed magpie. MP. 251 2 black-billed magpies. MP. 257 Humboldt River, 7 common raven. MP. 272 mule deer road kill. 11:02 A.M. Carlin now S on highway 51. Will use time for locality marker. 11:06 common raven. 11:18 A.M., beaver dams on Pine Creek. 11:25 2 red-tailed hawks. 11:33 red-tailed hawk. 11:47 adult golden eagle near jackrabbit road kill. Hawk nest in utility pole  12:14 7 common raven. 12:28 Garden Pass. 12:38 → 1 raven. 12:41 red-tailed hawk. 12:52 golden eagle. 12:56 ^{beginning} now on highway 50 E, Eureka at car mileage 2641.8 Left Eureka after lunch at 1:36 P.M. (on highway 50). 1:56, red-tailed hawk. 2:05 P.M. Pancake Summit. 2:15 red-tailed hawk. 2:20 Antelope Summit. 2:34 common raven. 2:41 following E side valley, 1 golden eagle, 5 common raven. 2:51 Robinson Summit, 3 common raven. Pygmy Forest thicker from here E. 3:15 P.M. Ely. Temp 5°F. Left 3:45 P.M. on 50 highway, thence highway 93 S to Pioche arriving 6:00 P.M. at 2818.4 mileage on car odometer. 361 miles today. In retrospect last 3 mt. ranges marked by ^{white} stratified limestone. Light foggy after leaving highway 50. 5

live jackrabbits crossed road along way. Stayed at Pioche tonight.

Pioche, Lincoln Co., Nevada

Nov. 17, 1991

Temp this morning 25°F. Gas line in car froze and delayed us until 10:30 A.M. Continued S on 93 highway. 10:34 AM 1 common raven. 10:36 4 common raven, 10:58 red-tailed hawk, now on highway 25 E. 11:07 Panaca Summit. 11:18 AM Utah State Line ^{Highway 56}. 11:20 1 common raven. Now using mile posts for locality markers. M.P. 4 2 common raven. M.P. 6 2 common raven. M.P. 14 3 common raven. Between Madena and junction 56 and 18 in Utah, no jackrabbit road kills but between Pioche and Madena 21 jackrabbit road kills. At Madena 1 marsh hawk at a road kill jackrabbit. At 56-18 highway junction had lunch and left S on highway 18 at 12:07 P.M. 12:15 red-tailed hawk. 12:18 1 common raven. At Snow Canyon turnoff took St. Park Road and continued to Santa Clara and thence to St. George at Mary & Don's home in Los Palmas. St. George arriving 2:00 P.M. at mileage 2942.4

St. George, Utah.

Nov. 18, 1991

made trip N on highway 18, to turnoff at Snow Canyon, thence return thru Snow Canyon to St. George. At new development at Winchester photo 91118-1 of lava (basalt) either flow but more like residual talus from Oligocene lava cap superimposed. Lava flows from cones beyond are more recent and have flowed down Snow Canyon and elsewhere. Returned to Mary & Don's condo in Los Palmas, St. George. At their residence 2 photos 91118-2 and 91118-3 to N with clouds above Pine Valley mts and Santa Clara Valley. Photo 91118-4 and 91118-5 ^{also} at Mary. Don and I up W side Gap Canyon and return. ^{alpenglow}

Nov 25, 1991

Mary, Don, Annette to mesquite for lunch. On return in evening some 10 mi. N of Little Field on old highway photos:

911125-1 sunset clouds to W.

911125-2 " " "

911125-3 " " "

911125-4 " " "

911125-4a " " "

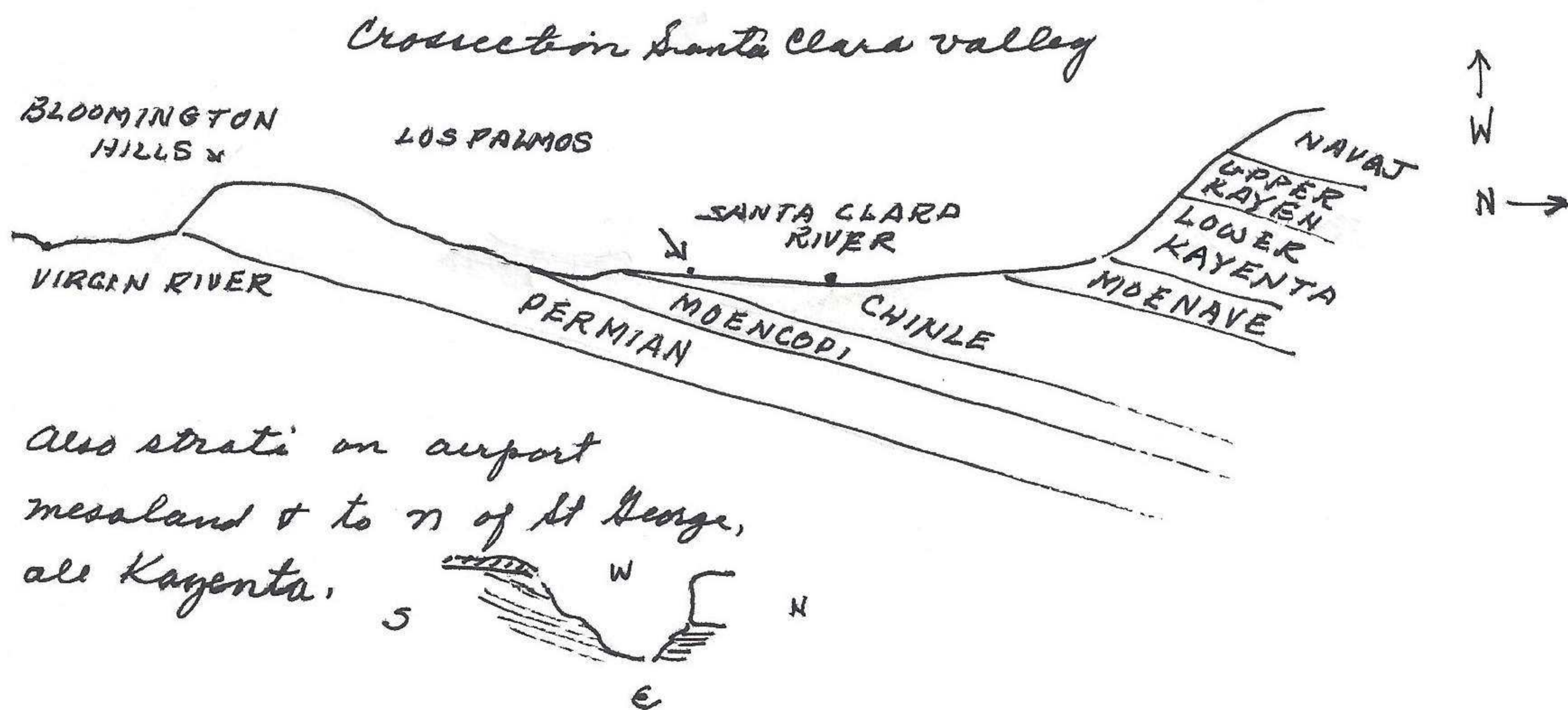
911125-4b " " "

This evening at Mary & Don's home photos 91125-5 of poinsettia and Lladros. Photo 91125-6 large leafed poinsettia

Nov. 26, 1991

Left Mary & Don's condo at Las Palmas at 3:10 P.M. and hiked into Gap Canyon beyond first E-W drainage S of Mary's & Don's (see map next page). 3:33 mouth Gap Canyon. 4:34 head of canyon where grade drops to near level, canyon widens and there is a slight change of direction of drainage to SSE. This canyon has easy grade for hiking except 3 places where large cliff masses have railed down slope and imperfectly blocked thoroughfare. At these places one can easily bypass them.

At 1/10 mi W of largest boulder (house size) in creek bed an adult male mule deer had been killed and antlers and front feet removed, measurement tip of eye to back edge of eye 8". Continued down canyon to mouth 5:00 P.M. Across drainage and to top of benchland 5:21 P.M. Mary's 5:36 P.M. Rocks above sandstones ^(Permian) are conglomerate. Geology is complex in St. George area and geologists are not in agreement as to structure or stratigraphy. My interpretation is:

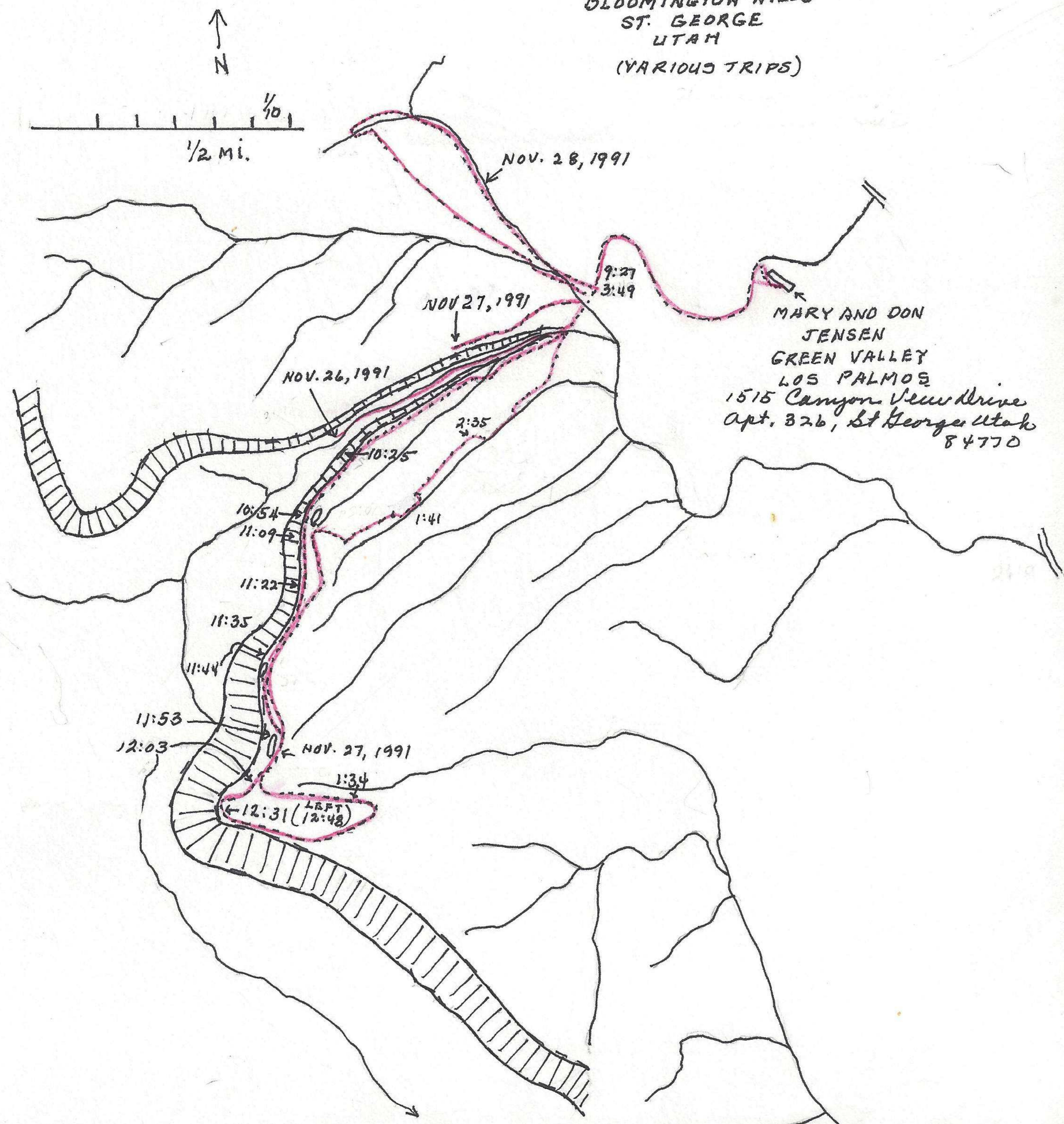


Nov 27, 1991

Trip to top Bloomington Hills (E of Gap Canyon). Drove car to mouth Gap Canyon and started there 9:27 A.M. Top Gap Canyon on top canyon wall on side at 10:25 A.M. Photo 991127-1 to W showing S side of Bloomington Hills of Permian rocks. 10:48 A.M. jackrabbit from resting place under 1' high bush. 10:54 A.M. top Bowl Point. (placed penny in cavity.) 11:09 flat divide at first barrel cactus. 11:22 A.M. second broad divide 11:35 top head with broad divide. 11:38 many diggings in last 1/2 hr (holes 2" & dirt surface 6" x 6"). many small boulders from conglomerates on this divide. Collected arrowhead 911127-2 from near W brink of ridge

middle section only. 11:44 A.M. good exposures ripple marks and scalloped designs. 100' beyond first house size boulder on ridge. First *Scelaporus*. 11:53 A.M. first butterfly, brown, 2". 5 barrel cacti, one on E side rock. 12:02 Begin route thru white, round rock. It is tricky, climbing thru a fissure to horizontal shelf, then up over slopes to top of rocks, thence tops of rocks to solid slope to top. Exit thru this area is between 4 juniper, the ones to W. Arrived top (highest point) 12:31 P.M. Photo 91127-3 and 91127-4 showing full stratigraphic profile of Bloomington Hills to W.

NOV 27, 1991
 BLOOMINGTON HILLS
 ST. GEORGE
 UTAH
 (VARIOUS TRIPS)



From top can see country below from Bloomington area to Gap Canyon and beyond to W, a complete destruction of ^{country by} offroad vehicle and motorcycle trails. It is difficult to imagine an area so extensive as the disaster below, especially ridge tops, rounded knolls but all surfaces defaced. It will never be ^{the} same even if use of area is prohibited because the trail patterns will become erosional channels which will start the new cycle of change of landscape. It has taken thousands of years to produce the original landscape and now in a blink of the eye, man has initiated an entirely new form which is unnatural to normal geological processes. Left top 12:48 P.M. and descended by travelling E until passage thru white rounded cliffs permissible. 1:34 Photo 91127-5. white knolls eroded. Sandstone top brown. 1:41 photo 91127-6 round white knoll. 1:55 white knolls to NE. 2:08 photo 91127-7 round knolls. 2:24 P.M. Photo 91127-8 white knolls, conglomerate at base. 2:35 P.M. photo 91127-9 rounded white knolls, Brigham tea in foreground. photo 91127-10 ibid. Beetles active, chipmunk active, wood rats common (nests), 1 cottontail. 3:32 Sceloporus. 3:49 P.M. arrived car. 6 hrs and 5 min. in field. approx 2 mi to top and 3 mi. return or 5 mi.

Nov. 28, 1991

Matt Jensen (James Jensen son) and I hiked small canyon approx 7/10 mi. NW of mouth Gap Canyon. At the mouth of the canyon with water fall and pool and extensive barren surfaces of bedding planes of rocks located contact zone of Permian and overlain sedimentation of variegated rock, shale, etc. The entire face was friable and whole sections (20') were collapsing, layers of 1"-2" rocks were breaking out as 1"-2" rocks and squeaks.



St. George, Washington Co., Utah

Nov. 29, 1991

Left St. George via car for Lopez Island. via Nevada, Calif., Oregon, Washington. Interstate 15 snow bound to north. Left 8:15 A.M. at mileage 3114.0 10:12 common raven. Arizona for short distance then Nevada at 10:37 A.M. at mile post 148. MP. 109 common raven. MP. common raven. Las Vegas. Lunch here. Continued W on 15 high way. MP. 21 ^{common} raven. MP. 14 common raven. Calif. 4:15 P.M. at 3260 4:54 2 raven. 4:53 P.M. 2 common raven. 4:56 red-tailed hawk. 5:07 7 common raven, 2 other groups of 2. 3375. mileage car odometer at 5:51 P.S.T. at Barstow.

261 miles today.

Barstow, Calif.

Nov. 30, 1991

Left Barstow 9:58 A.M. 10:32 2 common raven. 10:40 2 common raven. 10:49 Boron, 4 common raven. 10:51 1 common raven. 10:51 1 common raven. 11:13 1 common raven. 11:17 1 common raven. 11:41 red-tailed hawk, 1 common raven. Approx. 2 inches snow in protected sections of valley. 11:30 Tehachapi, 1 common raven. 12:48 P.M. 3 common raven. 1:04 red-tailed hawk at Bakersfield. now on to highway 99 N. Tipton, first crow since St. George. Madera 2 red-tailed hawks. Harvey, red-tailed hawk. Livingston, 300 Canada geese in flight. From 2 mi S to 2 mi. N Delhi 42 black-billed magpies in groups of 2-8-5-8-12-2-4 cross highway 99 at approx 150° high and away from the sun which was just setting. 3 mi. S Modesto 2 black-billed magpies flew E across highway 99. Arrived Modesto 5:50 P.M. All time to here N.P.T. from St. George, mileage 3693.0 or 318 miles today.

Modesto, Calif.

Dec. 1, 1991

Left 8:25 A.M. (sunrise 7:07 A.M.), Arns, 2 red-tailed hawks. Sacramento, red-tailed hawk. at Sacramento airport, black-shouldered kite, Sacramento River, northern harrier, kestrel, cooper's hawk, red-tailed hawk. Delavan, red-tailed hawk, Glenn Co. line (at MP 42) 1 common raven. Tehama Co. line, raceon road Bell, 1 turkey vulture. Proberta, turkey vulture. Red Bluff, turkey vulture. 4 mi. S Cottonwood, turkey vulture. Redding 1:44 P.M. car mileage 3918.0 From ^{Red} Bluff (in retrospect) N to Redding hilly and covered with oaks. more birds and vegetation above, rather than S of Sacramento. Below or S of Sacramento Brewers blackbirds to 200 total, generally in flocks. N Sacramento Brewers blackbirds 5 flocks 30-100 birds each. fewer horned larks. 5 single black-billed magpies, 1 harrier hawk, 23 ^{American} crows. Left Redding 2:43 P.M. and drove to Weaverville on highway. mileage 3968 or 275 mi today.

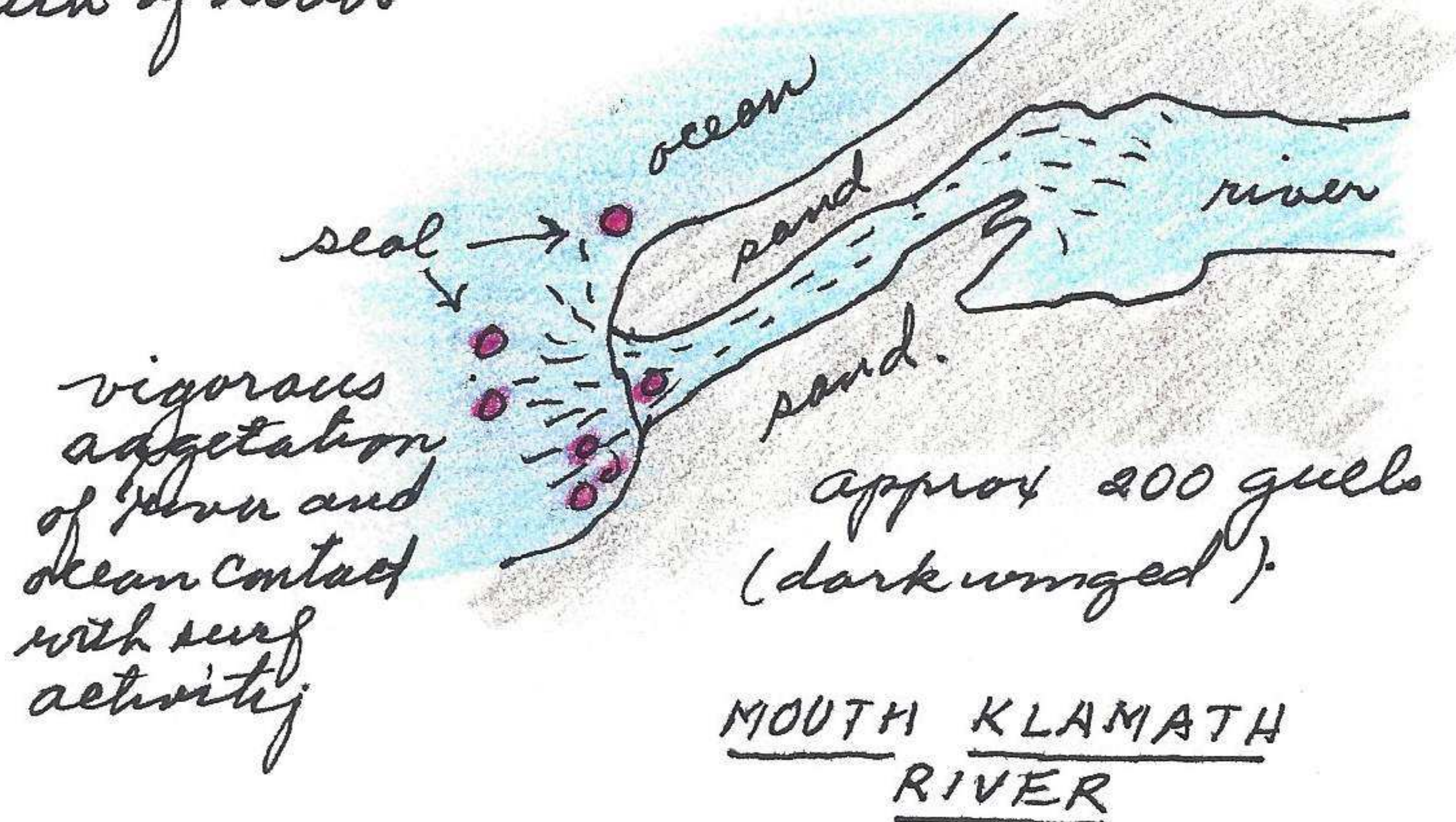
Weaverville, Oregon

Dec 2, 1991

Left 7:50 A.M. 8 common raven. mile 3972 Junction City, 2 ^{American} crows Sand Bar, 2 American crows. Burnt Ranch, 2 common raven.

On drainage w side divide on highway 299, brilliant gold color of oak leaves gone. Redwood Valley, highway 101 at 10:18 AM, red-tailed hawk, great blue heron. 12.16 mouth Klamath River. Photo 911202-1 of harbor seal and 2 Calif. sea lions showing mainly areas of activity at mouth of river

Continued N on highway to Nordell, 2 red-tailed hawk. Oregon State line at mileage 4148.6 Continued N to Brookings for the night. Car mileage 4161.



Brookings, Oregon

Dec. 3, 1991

Left 7:45 A.M. car mileage 4182 2 common raven. Gold Beach 2 common raven. Euchre Creek red-tailed hawk. Siumberg Mt 2 common raven and 1 red-tailed hawk. 10:52 AM Bandon at overlook. 2 photos 911203-1 and 911203-2 from this vantage point. In the 1930 this point was my first contact with the Pacific Ocean and access was by ladder and trail to beach after dark. Continued N, at 4203 striped skunk road kill. Arrived Gleneden Beach 4363 at 5:00 P.M.

Gleneden Beach, Oregon

Dec. 4, 1991

At the beach approx. 300 ducks and 150 Canada geese. mouth Siletz River. Tillamook 9:58 A.M. Washington State line 4508 at 12:30 P.M. dinner at Ilwaco, thence N to Aberdeen at 4613.6 car mileage or 250 miles today.

Aberdeen, Washington

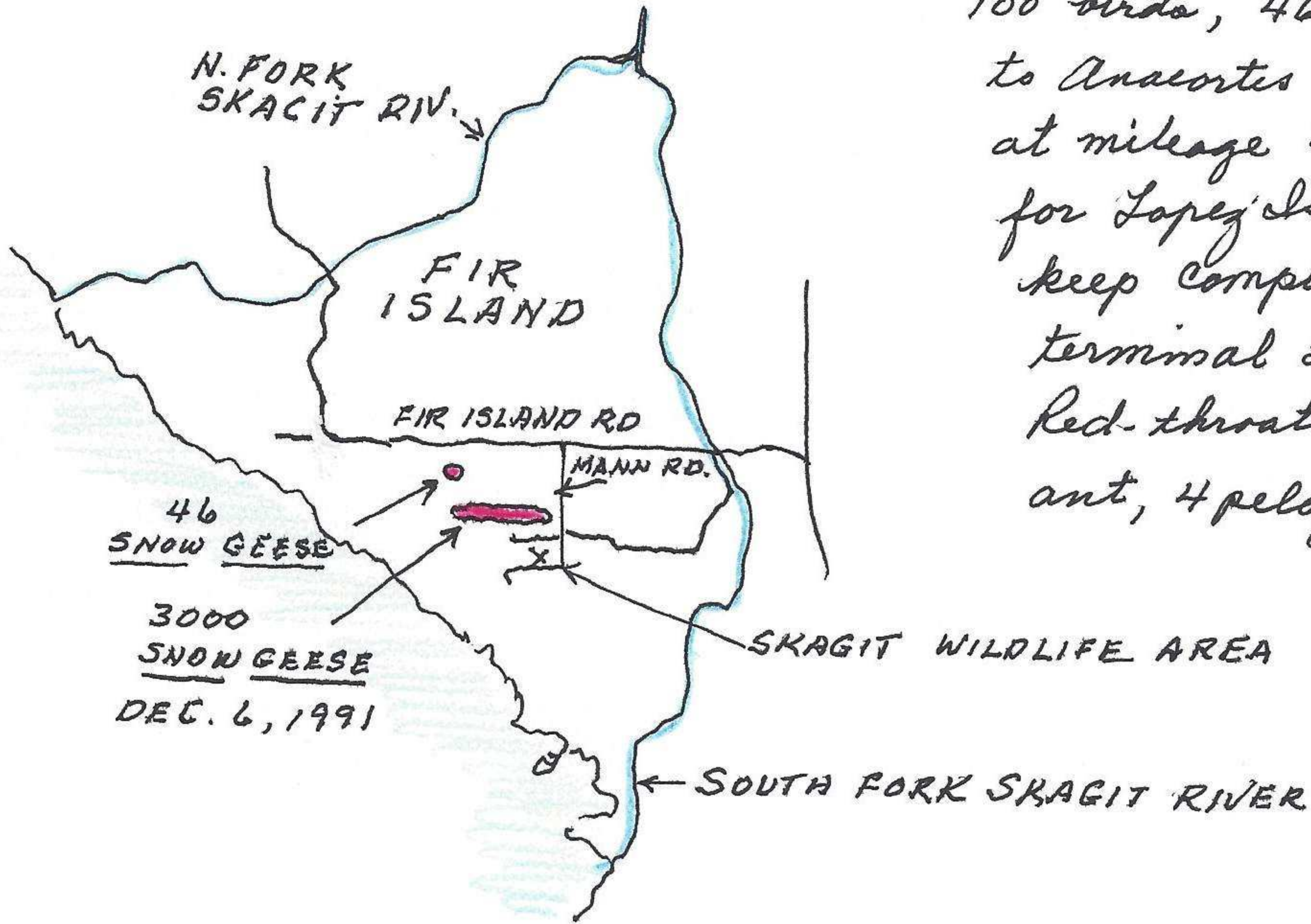
Dec. 5, 1991

Left 8:38 A.M. Elwha River 4783. Followed up road, right side to 7 miles, then returned to Lake Mills and return to highway 101, Kingston 6:00 AM (Port Townsend Ferry not in service). Continued to Mukelto, thence 405 highway + 522 to Lost Lake at Chris & Stees home for tonight arriving ^{at 4842. Car odometer} 7:00 P.M. 279 miles today or 3,270 miles trip from Lopez Island to St George Utah and return to Lost Lake, Wa.

Lost Lake, Snohomish Co., Wa

Dec. 6, 1991

Left Chris' for Lopez Island.



West of Conway on Fir Road observed the following groups of snow geese. Estimate by aggregates of 100 birds, 46 by count. Continued to Anacortes ferry terminal (State) at mileage 4773.4. Left on ferry for Lopez Island 3:33 P.M. will keep complete census enroute: at terminal 2 glaucous-winged gulls. Red-throated loon, pelagic cormorant, 4 pelagic cormorants, 3:42

SW Cypress Island at beacon. 4 double-crested cormorant.

3:50 P.M. 3 rhinoceros

auklets, 2 marbled murrelets, mew gull, 2 glaucous-winged gulls.

3:51 P.M. Lawson Rock, pelagic cormorant, 2 mew gulls. 3:54 SW Blahely at beacon, mew gull. 3:57 Willow Island, white excrement gone leaving reddish stain in white area, mew gull, mew gull, marbled murrelet, mew gull, marbled murrelet, pelagic cormorant, 28 mew gulls, 2 double-crested cormorant, 4 pelagic cormorant, 1 marbled murrelet. Arrive Lopez Island 4:12 P.M. Home at mileage 4988.2 or 3, 365.5 miles for trip to St. George and return. 1492 miles to St. George, 1874 mile return from St. George to Lopez Island.

Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.

Dec. 9, 1991

at Swift Lagoon on Lopez Island at 11:21 A.M.: 11 mallards, 23 American widgeon, 7 shauellers, 6 northern pintail, 5 godwits. On W side causeway SW Lagoon of Fishermans Bay, 2 buffleheads. On E side of causeway, 13 buffleheads, 4 mallards, 2 northern pintails, 13 glaucous-winged gulls.

Dec. 14, 1991

Left Lopez Island for Anacortes at 7:51 A.M. 140 Common murre, 49 mew gulls, to W Thatcher Pass. Between here and Anacortes 148 common murre, 13 marbled murrelets, 6 pelagic cormorants, 3 double-crested cormorants.

Continued E on highway to Best Road thence S to bridge over ^{Fork} Skagit River where a bald eagle flew E up river. At 1 1/2 mi W of S. Fork River bridge on Fir Island road, 2 adult and 3 subadult trumpeters swans 50' S of road in former corn field and grassy corner of field. Stopped car opposite them and they did not move from grazing area. Two red-tailed hawks across Skagit Valley. Continued to Chris' at Lost Lake.

Steve Kenagy seeing a mountain lion (tracks) on the Olympic Park boundary along the Quenalt River.

mule deer at divide on Welch Road of Lost Lake, Snohomish Co. The tail was Virginia deerlike.

Dec. 16, 1991

to Joel C. Ganetaki, BYU.
Left Chris' for Lopez Island. Mailed photographs, mammals northern Alaska and other note information and map corrections. For the 5x7 photos see: Sept. 29, 1991 for, 910929-4 reef trawline, 910929-35 SW Pravo Airport, 910929-37 succession records of Atah Lake. See Sept 30, 1991 for photos sent: 910930-27 from plane, Little Channel reefs, 910930-28, mouth Peninsula Cr., 910930-31 offshore sand bars, 910930-37, N Pravo Airport, 910930-38 3450 W Centu St, Pravo, 910930-102, Color map of W and SW Pravo, selected areas, others 910930-103, 910930-107, 910930-110, 910930-112, 910930-119, 910930-133.

Dec. 17, 1991

5 river otter swam N past Bee House at 2:45 P.M., two of them came to shore to feed on catch. One a fishlike specimen in which the otter worked on head region for at least 60 seconds before consuming it animal. These are the first otter observed since last recorded in journal.

Dec. 19, 1991

Birds observed at Swift Lagoon: 2 mallards, 8 godwits, 19 northern pintails, 4 shovellers, 5 American widgeon. On W side SW Lagoon of Fisherman Bay, 5 bufflehead, 2 glaucous-winged gulls, 3 American crows. On E side above, 56 northern pintails, 12 bufflehead, 3 American crows, 4 American widgeon, 2 hooded mergansers.

Dec 20, 1991

Photo 911220-33 sunrise color. 2 days before winter solstice. Over Heatur Island, San Juan Co.

Dec. 23, 1991

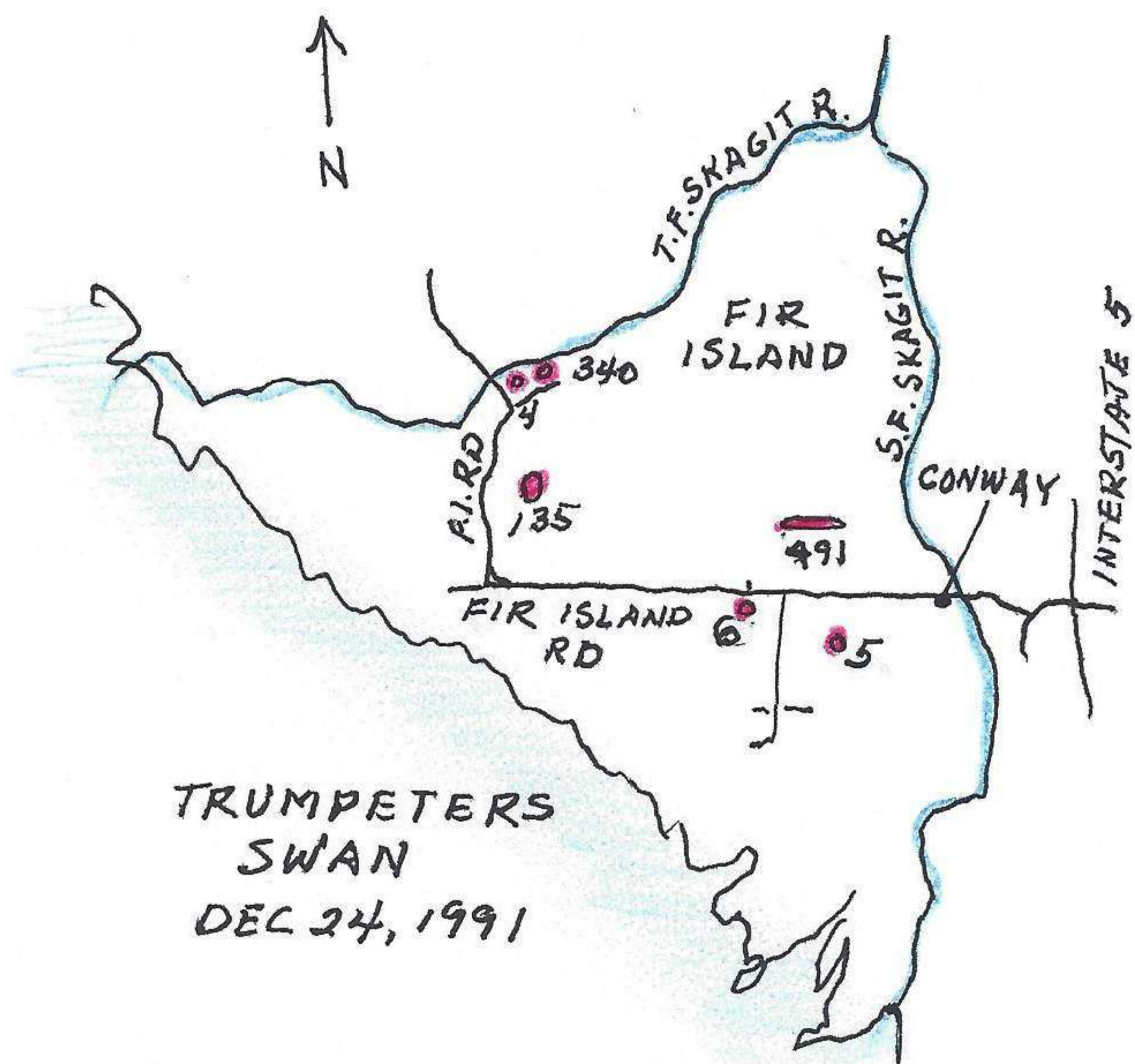
Birds at Swift Lagoon: 21 northern pintails, 1 green-winged teal, 8 gadwalls, 6 American widgeon, 11 mallards. at Logans, n end Fishermans Bay: 21 gadwalls, 2 buffleheads, 6 American widgeon, 3 mallards, 12 northern pintail, 1 hooded merganser. at Hummel Lake, 3 common mergansers.

Dec. 24, 1991

at Swift Lagoon in A.M. 25 American widgeon, 14 northern pintail, Hummel Lake 42 common mergansers and other species of unidentified duck.

Left from Lopez Island by ferry for Anacortes and thence Chris' at Lost Lake, Snohomish Co. Enroute observed 1036 Trumpeters

swan on Fir Island, see map. at the position marked "6" is the same place where 5 swans had been observed on a previous trip. See notes in journal. Today there was one additional subadult swan in the group. An informant said that this group has been regular visitors in the same spot but daily absence occurs during the day.



Dec 27, 1991

On trip to Lost Lake, noted 20 adult and 4 immature Trumpeters swans in one group on Fir Island, Skagit valley.

at settling ponds NE Everett noted approx. 4000 ducks in one of the ponds. They included redhead ducks, canvas back ducks, lesser scaup, mallards, American widgeon, green-winged teal, northern pintail, gadwall, shoveller.

Dec 28, 1991

Approx 450 pelagic cormorant arrived N Lopez Sound and settled in area between Leo Reef and Bee House. SW of Spring Cove, Humphrey Head. Found dead ad. ♀ mule deer in upper beach. Approx 4 days old and hair still on body. 10" opening along back as if shot. metatarsal 318mm, parietal 70mm. It gradually moved soundward but remained in cove.

Bee Estate, Humphrey Head, Lopez Island, San Juan Co., Wa.

Dec 29, 1991

On W side Causeway, SW Fisherman Bay Lagoon observed 2 bufflehead, 2 American crows, 4 red-breasted mergansers. On E side in lagoon: 117 northern pintails, 8 mallards, 4 American widgeons, 21 lesser scaup, 6 glaucous-winged gulls and 6 green-winged teal.

at Swift Lagoon, 42 northern pintail, 5 green-winged teal, 12 gadwalls, 25 American widgeon.

June 15, 1993

ADDE NDA 1991

Dear Professor Janetski:

Thank you for your letter May 13. I'm sorry not getting back to you sooner with answers.

Your correlation of sites and map numbers are correct and agree with my records. I am listing them here for more ready reference (N Provo Airport).

Site	map no.	Desc.
11	67 B	mound, excavated, voucher specimens.
11 A	67 A	mound, test trench 1' x 1' x 1', voucher specimens.
11 C	67 C	mound, test trench 1' x 1' x 1', voucher specimens, levelled by plow.
13	68 B	mound, excavated, voucher artefacts.
13 A	68 F	documented site only, surface reddish burnt roof clay, mound levelled by plow.
13 B	68 G	mound, 8' x 1' x 1' deep, shaft 18" n. end, voucher artefacts
13 C	68 H	mound, test trench 3' x 3' x 1' deep, voucher artefacts.
13 D	68 A	mound, test trench 3' x 1' x 1' deep, voucher artefacts.
	68 C	} documented sites only, surface reddish burnt roofing clay, levelled by plow
	68 D	
	68 E	

above habitations associated with West Creek, a dry, shallow meandering concavity bed approximately 2' deep and 10' wide and modified by previous plowing.

Artefacts and date listed under 13 D in artefact catalogue (excavation 5) are definitely in error. The date should be 10-11-34, the day I excavated no 5 excavation of site 13. As artefacts are not listed for excavation 5 of site 13 in Computer Catalogue and along with other evidence, would consider transferring to site 13 with reliability.

In a letter I sent Feb 14, 1992 I enclosed maps of SW Provo drainage and locality changes. Drawings of original maps conformed to information from informants whereas the revised maps are based on additional survey in the field, aerial photographs and in part from informant statements.

UTAH

Revised map Sept 29, 1991



PROVO AIRPORT

APPROXIMATE SHORELINE

PRIMARY REEF

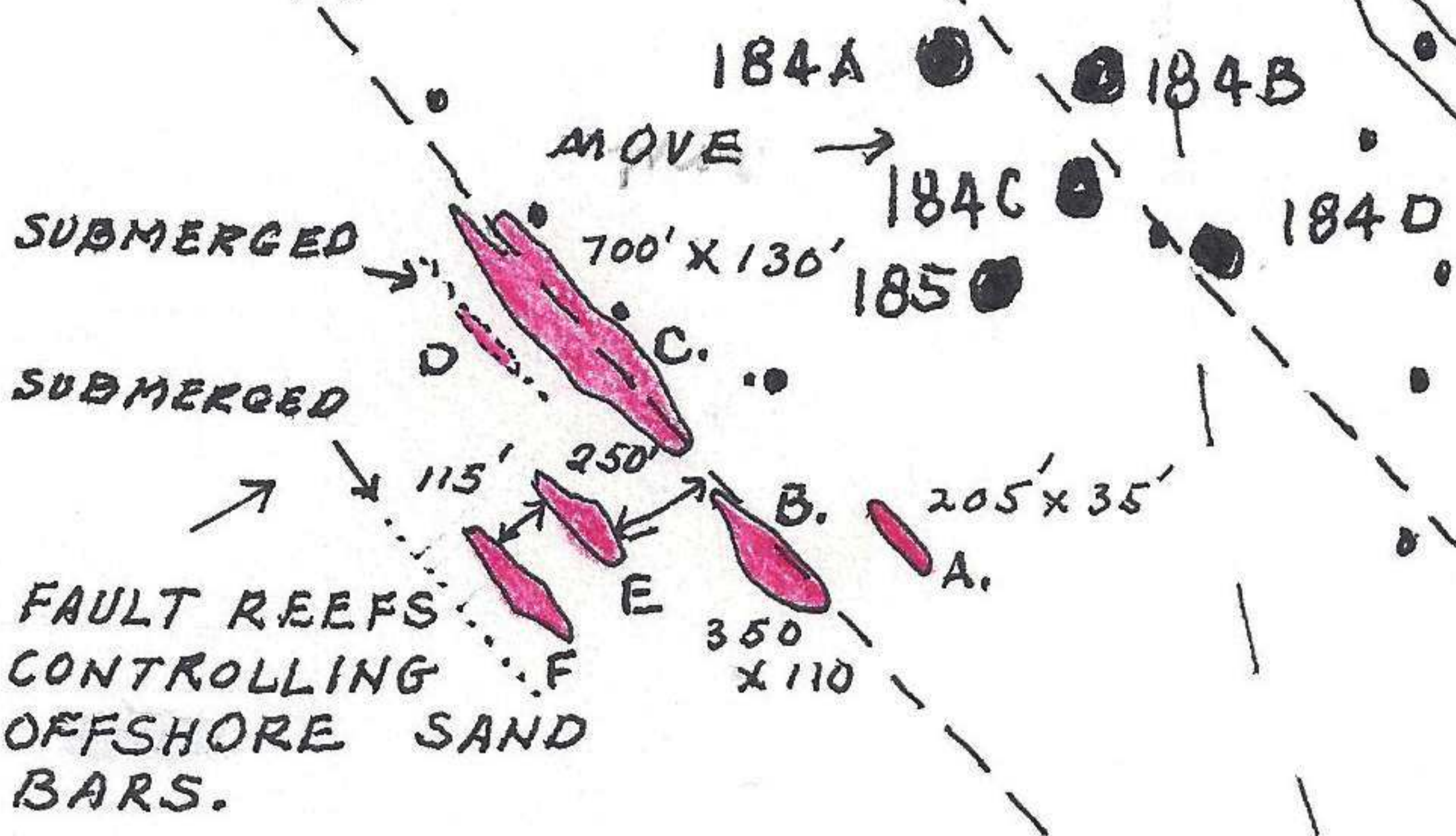
SECONDARY REEF

TERTIARY REEF

PROVO BAY

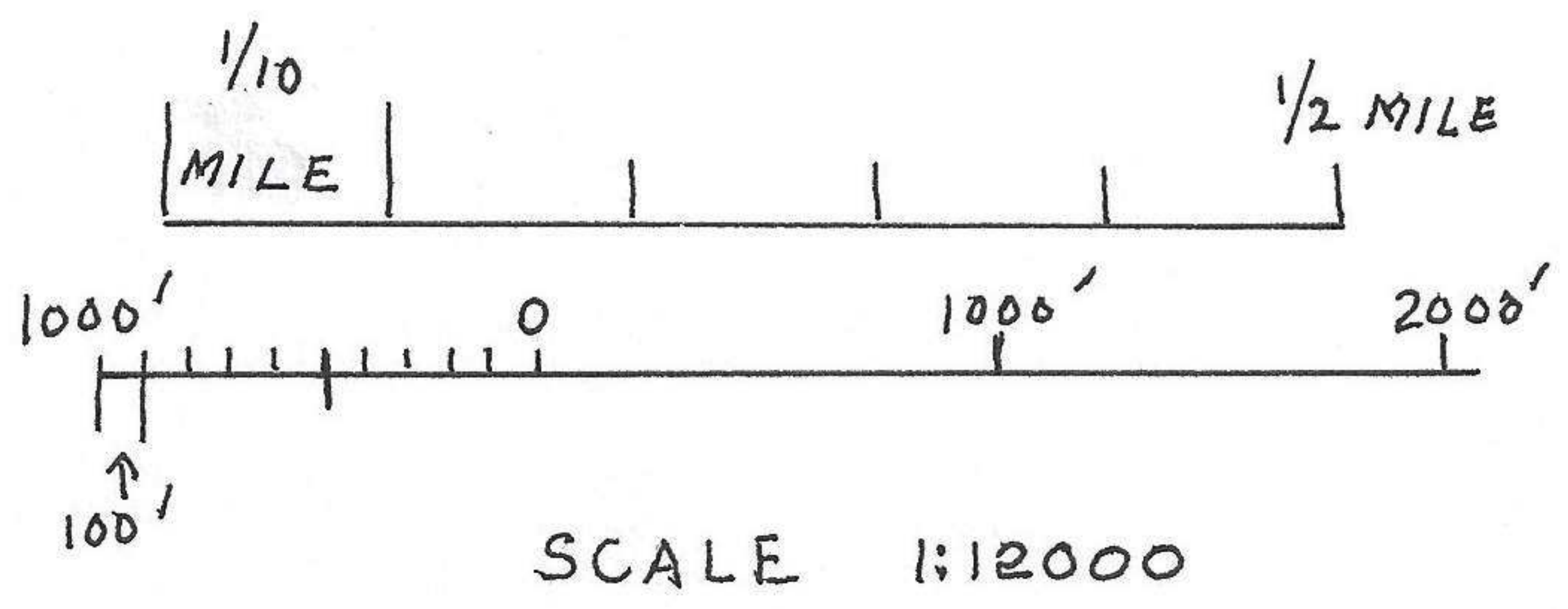
COMPROMISE MONUMENT
(4 1/10 MI FROM SW AIRPORT DIKE)

LITTLE CHANNEL



DOTS • = INDIAN SITES
FROM PRIOR SURVEYS

LAKE



BIG CHANNEL

Locality changes should be corrected in locality map section and computer catalogue. They are:

map no	Site no.	Change to -
180	75	2780' WNW Compromise monument,
181	76	2700' WNW Compromise monument,
182		2500' WNW Compromise monument,
183	77	2580' WNW Compromise monument.
184 A		1710' WNW Compromise monument,
184 B		1370' WNW Compromise monument,
184 C		1370' WNW Compromise monument,
184 D		1025' WNW Compromise monument,
185	78	1550' W compromise monument.

The revised drainage maps will more accurately conform to your findings in the field. The drainage system of Provo River delta (from S Provo to N of mouth Provo River) is from either underground seepage of Provo River as springs (Upper Fort Field, Lower Fort Field and Big Springs Creeks) or overflow of Provo River (West, Right Fork West, Fort Field and Little Dry Creeks). Little Dry Creek has been the principle water course and all other creeks, except Big Dry Creek, are graded to it. According to length of drainage and source of water, creeks vary from broad, deep channels with well developed banks to narrow, shallow cone-shaped creeks. Springs are frequently narrow and deeply entrenched. One of the absolutely best ways to delineate ^{abandoned} stream courses is to take aerial photos after a heavy rain with sun directly reflected from the water-filled depressions.

Mounds 75A and 75B on the C.E. Loose property W of Big Slough were reported by William W. Peay, pioneer informant of the area on Dec 5, 1940. He personally recorded them on our field map of the Loose parcel. He also mentioned a third mound W of Big Slough (map 105, not placed on locality map as exact location was unspecified). There is the possibility that this mound is the new site you found. Big Slough is used several places in my journal but as yet I have not been able to place it on a map. If we could find out its location it might assist as a marker for the mounds on the Loose property.

In a letter Dec 12, 1992 I listed approximately 10 mounds that needed research for inclusion on the locality maps. I was interested in what success you might have had in locating them.

Sometimes I think the problems of Utah Co. Archeology are infinite. As to the airport I would advise "keep it small and use Salt Lake International Airport for major traffic accommodations."

Cardially
James

Enclosures: Revised maps, sections 3, 4, 7, 8, 9, to replace the same sections of old maps in your file.