

"Rite in the Rain"®



ALL-WEATHER
LINE RULE

Notebook No. 391

HOLLY AKENSON/JIM

TAYLOR RANCH

(208) 382-4336

Summer 1998

Summer 1999

Summer Wolf Pack Monitoring
Chamberlain Pack

- | | |
|-------------------------------|---|
| June 4-7
Whimstick | Visual, triangulate, howling,
tracks, scats, natal den
described. |
| June 18-22
Upper Lodgepole | telemetry, scats, tracks,
aerial observation |
| July 29-31
Moose Jaw | Telemetry, rendezvous
site description, howling
scats |
| Sept 11-12 | 2 Rendezvous sites
described, scats |

June 4, 1998

11:00 - 2045

Chamberlain Pack

Telemetry signals weak up draw E of possible den site

Howling heard from camp. Visual 3 (Brad)

8 scats collected Cold Mds → Root Ranch; tracks

11:00 Flew Taylor Rch → Cold Mds

12:00 Matt, Jen, Kent, Brad^L & I backpacked

Cold Mds to Root Ranch area. 40 elk @ Cold Mds. 2 elk + tracks common near Root R. + moose sign.

Collected 8 scats, 5 on ridgeline NW of C.M.,

3 in lower drainage NE of Root R, Saw 2 old at camp.

Tracks: ① just E of Cold Mds. ② ridgeline

NE of C.M., 1-2 mi away ③ intermittent near

Roots Knob ④ Jen's tent

Signals: M-strong ♂ & ♀ to E of trail fork ^w
(Root R vs Root Knob) - down L trail, we went right.

M-weak around suspected den site - strongest
up draw.

1700 Set up camp in ^{lower end of} meadow below den
area.

1900 Hiked back up drainage w/Jen to
check signals. Best signals up draw 124°
- we are on sidehill x from suspected den.

Wolves appear to be high up in drainage.

The "suspected" den site ID'd by aerial telemetry
does not appear to be used ① mis ID'd or
② wolves moved to a rendezvous site.

2030 Head to camp. → Howls from up draw, M-distant.

2050 Hear several wolves howl - we are in camp. No pups distinguished.

June 6

Chamberlain Pack

Located wolf den. Used this year and a previous year.

♀ at same location as yesterday, no ♂ signal

Weather: rained all night, intermittent in day.

0930-1500 Searched for a wolf den in opening 5020500N - 656100E (identified by aerial telemetry). Contour transects 25-40M apart - Jen, Matt, Holly.

Wolf sign: tracks near confluence of 2 tributaries (where ^{near} Brad saw wolves)

Prey sign: 1 mule deer, suspect a fawn; ground squirrels abundant; fresh gopher activity; 1 fresh moose track; fresh elk and deer tracks common, old spring-summer elk droppings common; elk rubs near meadows, moose droppings rabbit droppings at a 4' dia scraped up area with a rodent hole, several squirrel holes dug up, game trails abundant. Snowshoe hare foot/leg.

Wolf sign: 5 scats (old) on sm rise just E of camp meadow (w edge of survey area), 1 old scat on game trail E of rise. We followed game trail W to camp - found old scats & the den. Collected 2 scats on trail.

1525-1800

WOLF DEN LOCATED

175m to our camp!

UTM: 655,480 E 5,020,130 N
70-100m to our camp!

Tunnel size ~ 18"H x 24"W

Main Den: ^{opening} L: 53" ^{vertical} H: 28" W: 16" D: ~105"

Secondary Den: L 32" H 33" W 26" D ~103"

11 smaller dug holes ~ 8" dia, 6" deep; 1 is 12" dia x 19" deep.

Dist betw entrances: 315"

Slope: 18° = % Aspect: 3°

of trails from den 3+

Plant comm. PICO/VASC, 6" dbh - 60yr?

Dist to other stand: PICO/VASC 3" ^{60m} % canopy; 60%

Dist to meadow: 125m Elev 5650

Dist to Root R. fence line: 150m.

Scats collected: 8: pup, 2 adult

Bones found (collected): snowshoe hare?

(pelvis), elk (metatarsus) piece? - last years, deer (metatarsus)

Horizontal visibility: high, ~100m ^{downed 4" LP}

Toys: chewed on 2' DF seedling, 4' from den.

will die this year - girdled,

2+ sticks w/ ends chewed + hair,

8" LP w/ chewed stabs 12-18" off ground

10' from den entrance.



Secondary den narrows down from entrance oval LW W to L12" x W8" at 5' down. Hole goes directly into hill side, 42° slope into den.

Primary den hole does not narrow down much - at 5' down the hole is still ~18" high & 24" wide. Den curves to right toward secondary hole. 23° slope of den floor. Den appears to have been used this spring as well as last year. Last year: some secondary diggings have forest litter, decom^{plant}osition, and new vegetation (grass); on main excavation pile grasses have emerged; algae growing inside den walls; algae covered scats; 1 deer, 1 elk remains within 200m of den - >1 yr dead. ~6 mo. dead, arthritis in rt acetabulum, very old cow.

This year den uses: ① shed hair tufts, ② wolf scat on nearby trail, sm scat piles (pups) at den; ③ grass (CARU) & VASC covered by excav. material, newly dug diggings; ④ chewed on DF seed. is girdled, but still alive. ⑤ Mud splatters on trees.

We climbed in primary den - same size all the way down, hair on ceiling roots, bare granitic soil floor, a dug "drain" (4" dia, 3" deep), no debris on floor.

Signals 8:30 AM + 5 times while surveying: ♀ in same site as usual
♂ no signal heard today.
No howling today.

Summary of Den Info

This den has been used at least twice, including this year. Few recent adult scats near den and none at den. Why? Did they leave early? Too wet with all the rain? When did they leave? How old were pups when they moved? Is the new site a den or rendezvous site?

Proximity of den site to our camp:

Now we know why we saw a fresh track in our camp & scat nearby. There are also many game trails around camp - maybe wolf trails?

June 7

Chamberlain Pack

Wolf howling overnight - m-near.

Second den + 2 pup beds & several adult bed sites

Surveyed ridge above den site.

Weather: clear w E winds → overcast / partly

Last night: moose thru mdw to Root Rich, 10pm

Wolf howling at 2:30AM, loud, fairly close to SE (ridgeline by camp?). 3 wolves. Telemetry = alpha ♂ group. They moved up ridgeline toward current den. Howled at 3:00 + distant howling heard. 0730 no ♂, weak ♀. 0900 weak - no ♂, ♀.

DIRECTIONS to DEN

- Follow the N trail to Root Ranch via Roots Knob
- At footbridge by Root R. cross meadow to 2 aspens (180°).
- From west aspen take azimuth of 165° for 120 yds.

0930 - 1330

Collected scats along trail S of den on ridge & looked for wolf sign.

SECONDARY DEN SITE (photos 14-16)

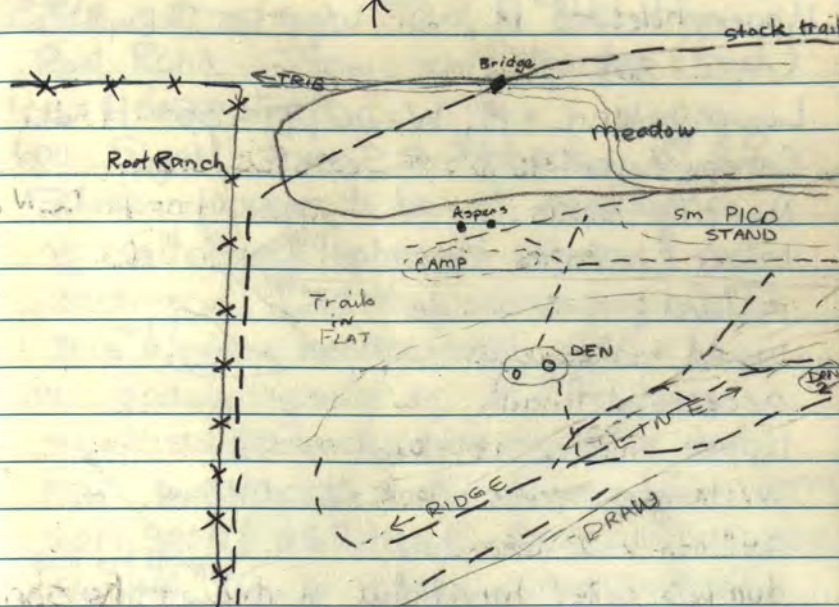
~102° and 240m from main den.

This is on the S aspect 20° (20° slope) of the ridgeline rising to the E. There are game trails along ridge + what looks like day beds dug in sandy granitic soil. Lots of scats - old & new. Trail in draw.

Pack moved
Soft howl
in daytime

--- = trails

N
↑



Wolf Hair on tree roots. This den is dug into the roots of a 38" DBH DF. Two entrances into chamber. Entrances 3' apart. 1 sm. old scat in den, hairs in den. PSME / SYAL / CARU plant commo w/ PICO stands on both sides of ridgeline. Grass growing up thru excavated sand. Elev 5760'. 1 pup teeth chewed stick. Excavated soil 12' x 12' below den. No clear evidence it was used this year. No wolf tracks, 4+ digging holes in excav. sand.

Upper hole: 48" H, 21" W, 55" = Depth (hole to hole)
L = 30"

Lower hole: L = 19", W = 26", D = 55" H = 20"

Canopy cover 40%. Seats in draw.

No pup scats.

Lower entrance slope is level; roots inside would make adult access difficult.

Upper entrance is steep w/ larger access hole.

24" dia x 12" deep hole

dug into rotted bark & duff in draw - this spring, 2 scats in draw. ♀ Moose trotted past draw.

moose droppings in draw; elk tracks on ridgeline trail. Another dug hole ^{40m up hill} under DF, 3' dia ^{hole}

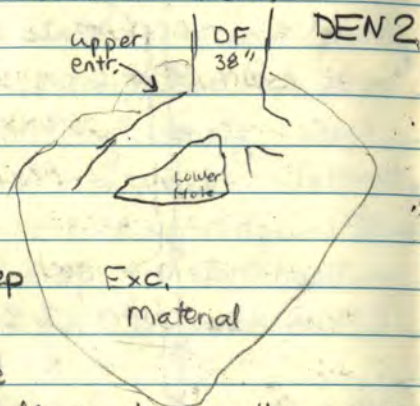
18" deep in sandy soil above den 2, on ridgeline, 40° azimuth. - A pup den?

Another hole 90 m. up from den 2, 30" dia 16" deep in tangle of 3 limby LP + log = hidden spot, on s aspect just off "ridgeline". 84° from last hole.

Photo # 19.

4 wolf beds 3" deep under 42" dbh DF on knob/flat above Den 2; an old scat too.

End survey at knob above draw. Old scats abundant, squirrel incisors in one. EKTKS



1400

Hiked out w/gear. Took S trail from Root Rch. Saw wolf tracks (fresh) up & down trail.

1600 Signal from switchback: ♂ & ♀ close - appear to be at confluence of switchback ephemeral stream & main stream. Did they move pups? Is this a new rendezvous site?

1600 Radio signals of ♂ & ♀ from trail switchback, opening to S, and next switchback to E = triangulation UTM

♀: 5,019,300N & 657,180E, ♂ 5,019,120N & 657,000E

Both are strong

↑ Signals low in draw; close to trail. Have they moved the pups? Probable location of ♂ & ♀ this Am when we couldn't get signals from camp.

1630-1930 Finished hike out. More wolf tracks (large adult with cougar sized subadult track) + scat along trail til the ridge, 7200'. Fawn track on top. Elk tracks + fresh elk leg with broken off radius bone in burn; no sign of the rest of kill.

20 elk @ Cold Mds + 1 whitetail & 2 mule deer. Moose @ Cabin Cr & Cr

JUNE 8 Cold Mds → Cave Cr → Taylor; Salamander larvae @ Cold Mds; wolf tracks @ Blackburn.

June 18

Chamberlain Pack

Aerial telemetry & visual of 3 wolves at Upper Lodgepole Mdw; ♂ + ♀. (Curt Mack)

Ground telemetry - no ♀, ♂ distant signal N of ↗

Weather; mild-warm, 40% cloud

11:00 Curt Mack flew to Taylor Ranch after telemetry flight. The Chamberlain ♂ & ♀ have moved 20+ miles to Upper Lodgepole Mdw, 6 mi south of Chamberlain airstrip. He saw 3 very light colored wolves in the meadow. We are all

surprised the pack moved young pups so far... or did they?

Matt Jones, Jen Rodgers & I flew to Chamberlain with Rod. We visited with Margaret Goerke then headed up the trail @ 1330.

Elk tracks common on the trail; only 1 calf track. Deer tracks occasional. Mostly lodgepole / VASC - young (4-6") stands; some ABLA & PSM E with VAME & slide alder at higher elev.

1700 At Moose Mdw's trail intersection ~ 4.5 mi from Chamberlain, we took the E trail down 1/2 mi for view & signal. NO VIEW, NO SIGNALS !?

1730 We got a m-weak signal from the ♂ toward Moose Jaw Mdw from the trail intersection. No ♀ signal. We hiked on NW trail 1 mi toward Moose Jaw & set up camp on the ridge. Got 2 very weak intermittent signals from the ♂ to the N (Moose Jaw - Chamberl.)

→ Collected 2 recent scats & saw tracks going uphill on this trail.

Upper Lodgepole Mdw is on the (burned) edge of the 1988 burn / LP forest.

Mustelid droppings (marten?) on trail.

The Upper Lodgepole Meadow site is 10.5 miles from our last signals on Whimstick Cr on June 7, and/or 18 trail miles. It is almost due West.

JUNE 19

Chamberlain Pack

1 scat

No signals toward Moose Creek, Chamberlain Creek, Moose Jaw Mdw - Mosquito Ridge, Upper Lodge Pole Mdw, Hand Mdw/Hand Cr.

Weather: thunder, lightning, rain, hail last night. Sleet → snow til 3:30 pm (~1").

0730 No signals from camp.

0830 Checked for signals toward Moose Jaw Mdw. from ridge. No signals. Flushed a grouse (blue?) off a nest with 2 eggs.

0900 - 1530 Hiked up 4 1/2 mi from camp to around Hand Meadow. Checked for signals into Lodgepole Cr at trail junction (2) 1/2 mi further (3) from flat on top (4) from near Hand Mdw.

NO SIGNALS. Mostly burned (1988) lodgepole; some LP/ABLA/PIEN live on top - moist sites.

Elk tracks common on trail - no calves. 3 cow elk crossed trail in snow on our return trip - 7400' ^{+ scats}

1 wolf scat perched on bear grass; collected. Cold & snowing all day, foggy.

June 20

Chamberlain Pack

Elk calf carcass killed by wolf or bear

Weather: drizzle all morning, scattered showers to partly cloudy in pm. Clear at 2400

Spent the morning in camp playing cards waiting for rain to break.

18:00 No signals from camp.

1330 No signals from camp. Hiked to Upper Lodgepole Mdw via Lodgepole Cr. No signals: (1) Trail junction (2) Upper Cr ^{Moose} (3) Lodgepole Cr (4) Upper Lodgepole Mdw ^{by camp} (5) Trail junction

Found an elk calf carcass: 1 hind leg w/ hair & connective tissue (tarsus, tibia). Chewed on femur, 2 parts of pelvis, ^{scattered} ^{plate} Fresh, w/day old fly eggs. Bones bit in half. This was 250M from the trail ^{site} where we had picked up 2 scats & seen wolf tracks in 2 spots. There was a fresh grass filled (small) bear scat in that trail area today. Found a "bed" - slightly dug up bear grass matted down 25M from the scattered bones. It had blackish

- no gray or white hairs
kinked hairs in the bed - bear?
Probably a bear kill, despite the
wolf sign. A spruce grouse
♂ at the site.

Questionable scats in Lodgepole Cr.
on game trail - light colored (connective
tissue?) w/bones - fresh + meat splat -
not collected. Several smaller scats
w/white hair - coyote?

Upper Lodgepole Meadow:
We surveyed in and around the entire
meadow. No sign of wolves - no tracks,
trails, scats, beds, kills. The meadow
& fringe were very boggy. No recent
elk use. 1 barely used game trail,
Snipe, mtn bluebirds, tree swallows in
the meadow. 1 matted spot (12" triangle)
in meadow - didn't look like wolf use.
Mostly 5 yr or ~40 yr old LP; some
PIEN⁰ along mdw edge. 10 yr old burn
on 3/4 of meadow edge.

1930 Returned to camp. 1 more
spruce grouse ♂.

June 21

Chamberlain Pack

♂ + ♀ signal to E in Am. Never heard again
Tracks & scat on Chamberlain Cr. trail.
Elk abundant (tracks) on Chamberlain
trail; few calf tracks.

Weather - clear & warm.

Started to pack up camp to return to
Chamberlain Airstrip since the
wolves have not been here all week.
0900 Checked signal for ♂ & ♀.

BOTH SIGNAL medium strength toward
One Man Mtn / Lodgepole Cr. !!

0945 No signals from camp.

Looked at calf elk bones we collected:
Femur marrow pink-white, soft/not
firm @ 60°F. A few light colored
kinked hairs (wolf?) on a leg bone,
but still can't tell if this was a
wolf or bear kill. Metatarsus 11 7/8"
from hock to joint. Left bones in
camp. Estimated calf age < 2 days
- hoof had ragged edges of softer
hoof that had not worn off from
use yet and small hooflike appendages
were soft and white - not dried & hardened
yet.

1045 Hiked to trail junction then E to knob to check for signals. None. We can see to Cottonwood Butte. The wolves must have been on one of the ridges between ^{our} camp & the den/rendezvous site above Root Ranch (10 miles away).

1300 Head back to camp.

Crossbills in dead/burned trees, hairy WP pair with nest hole @ Spring. Collected a quart of morels!

1445 Camp is packed. Backpack to Chamberlain, via Moose Jaw Mdw - Moose Cr - 3 blaze trail → Chamberlain trail.

Elk tracks common from camp to MJ Mdw (cows no calves). Morels.

Elk tracks common MJ Mdw →

Chamberlain Cr. 1 probable wolf scat near Chamberlain Cr. ^{not collected}

2 difficult stream fords (Moose & Ch. Cr.)

1 ^{fresh} wolf track, subadult @ Chamberlain Cr crossing, N side on trail, travels S.

2 recent wolf tracks, adult @ Chamberlain Cr X Moose Cr trail intersection going both directions.

2 wolf tracks 2 mi from Chamberlain on trail, travelling W, recent.

Elk tracks abundant Chamberlain trail. Very few calf tracks - expected to see more. 1 cow elk ~ 2 mi from Chamberlain in good looking calving area - flat LP/KARU/grass. Occasional deer tracks. 1 old wolf scat.

AM signals - were wolves headed back to the den/rendezvous after a hunt?

WEEKLY SUMMARY

It appears that the alpha pair + pack were on a hunting foray when located by air at Upper Lodgepole Mdw. Scats & tracks indicate wolves have been from 5500' to 7500' around Chamberlain in the last week. Are they making hunting loops? Looking for calving elk? Elk calving seems to be late. Don't know wolf or bear on the calf carcass we found. We suspect wolf pups are at/near site from last week.

June 22

Chamberlain Pack

Aerial telemetry: ♂ + ♀ signal in meadow on Pole Cr.; 1 visual - white wolf. 3 miles from Upper Lodgepole Mdw.

Aerial Telemetry

1/10 = 600'

GPS: 45' 09.28" 115' 09.49"

We flew with Ray Arnold w/1 antenna on Cessna 185. Both wolves located by signal around a meadow on Pole Creek, a tributary to Lodgepole Creek. This meadow is NE of One Man Butte and 3 miles NE of Upper Lodgepole Cr. The ridges could have blocked the signals for us in the last week if they had been there all along. Matt & I saw 1 large white wolf from the air in the N arm of the mdw - going into trees.

UTMs for aerial location (visual): 5,020, 580N and 645, 060E

Elev 6100', open basin, mid slope. NNW aspect.

July 29

Chamberlain Pack - J. Alkerson, T. Rohwedder

From air enroute: B16 - Moose Jaw

B-9 & sub (8.860) near Red Top Mdw.

• Hiked 3 1/2 m. to just below Moose Jaw

* signal on B16 enroute, not on others

• Set up camp just before Moose CR.

crossing - below Mdw - sm. ridge to

confine scent.

• Moved along WNW side of meadow

* got solid signal to SE across Mdw.

• Crossed crk. and found a good str.

B16 ① for bearing (open edge of mdw.) * 117° to sig. ^{-STN 1-}

B16 ② Moved 120 m. S. to spruce clump * 72° ^{-STN 2-}

= Troy saw animal movement across Mdw.

close to sig. convergence.

• Pulled back to NW Rdg., attempted

sig. on others w/ no contact.

30 mins later B16 still @ suspected

Reindeer site, head back to camp ^(17:30) 5:30

1800 - Hiked around W. mdw. edge, B16

still at same loc.

1830-2040 - monitoring from ± 500 m.

2040 - sub ad. 860 signal to SE

2055 - 860 close to B16

2105 - Howls... 3x, once 2 ads.

2115 - Several Howls, 1 pup, 2 more ^{high pitched cracked} ^{note} ^(overlapping)

2118 - Ind. ad. howl 2x

2128 - sharp bark type noise - 1x

2142 - A complete chorus! ^{3 adult} _{2 pups}

- multiple pup yips, overlapping ad/

2145 - Ad. howls, indiv. 3x ^{sub} _{howls}

2200 - Continuous howling 3-4 mins., heard @ camp coming from meadow.

* Also heard (3x) howling during night

7-30-98 JA, TR Lt. Rain - Cool

- Playbreak chorus of howls

0810 - more howls, Raven activity near camp.

0820 * Signals on all 3 collared @ Road. site

0830-0900 - Moved to Mdw. edge to look -

Listen (reprod. strip) [130-135°]

⊙ Mid Mdw. Edge 135° to all sigs.

0925 - All 3 present, quiet, no activity > 30 mins

0930 - Move back to camp to not disturb

1415 - The 3 collared still at or near Rendezvous site. The 860 sub's signal weaker and a bit further west.

1500 - No new action, thunder storm ^(back to camp) approaching

1530 - Storm hit, rain - thunder - lightning

1730 * Signals on all but sub ad. fainter to SE

at once
± 7 or 8

1800 Bump into people going to their camp along Moose Cr. & Mdw.!

(Jody & Lisa, Fish Bios) They were cooperative and will move back from mdw (with hopes of hearing wolves nearby) We told them that wolves were in area temporarily

1930 - Head back to mdw. * All 3 sigs heard, maybe further S. than Road. site

2000 - Move to mdw edge between stns 1 & stn 2. All collars together, 400 metres ^{or close} S. of R. site. Tall mdw. grass will make spotting ^{difficult}

2030 - A lot of raven activity toward signal ♂ The ♀ (B16) and the sub are back at or near Rendezvous ^{-suspected-} _(from signal) site.

2130 - Some movement, generally along mdw edge, No Howls - dark. (Heard Barred Owl) Head back to camp.

7-31-98 - JA, TR (No Howls last night)

0900 - Moved from camp to mdw. trail

* B16 sig. coming from Road. site - strong - move around to Spruce clump, 10m S. of Stn. 2 ⊙ Bearing of 60° to signal. No sigs on others.

0915 ^{several} 0935 - Howls to South-SE B-9 sig. associated ± 1/2 km distant.

Many

0945 - More howls from B-9 et al., NO sig.
- 0950 on the sub

0955 - B-16 has moved off, over ridge?
Still get sig on B-9 to SE.

1005 - B-9 has moved closer to Rondo site
while B-16 is off to the SE

1015 - All signals gone.

1030 - Hike out ^{sooner than expected} marking to suspected Rondo site
- Went 100-120 meters and found a
heavily used bedding area... matted grass,
trails, scats. This site is in a spruce
patch w/ elevated grassy hummocks - mid
meadow - east side.

Rondevous Site

2+ acres, 60-70 bed sites,
scattered digging w/ 1 ground den
dug below spruce roots.
(H) Mdw edge, spruce clusters, elevated
hummocks - tundra, grouse huck.
native & non native grasses.

The main gathering site was mid
meadow 50' x 70' bare area w/ pocket
digging. Many bone pieces, puppy
toys: chewed wood, grey tape, bone
fragments. Collected 8 scat samples, leg
bone, scapula, elk hoof. Photographed
#15-20 or so

the site and a yrlg. bull moose skull... by
fresh elk scapula - part of "last meal"

1400 - Hiked 3 mi. toward Hand Mdw.

= Could not get a signal in any
direction - especially toward Lower
& Upper Lodgepole where we think
the pack headed towards.

1600 - Back to camp. Thunderstorm brewing

Sept 11, 1998

Chamberlain Pack

Locate rendezvous site from June 7 "3rd site"

UTM 5,019,200N 657,040E

P Pup den, pup scats, diggings,
bear skull, beaver skull, elk bones

1330 Troy & J flew to Cold Mtns

1400-1530 Backpacked to head of Whimstick
Cr near 2 triangulation points. Camped.

1600-1830 Searched for rendezvous site
of June 7. Troy located the site
200 m above our camp.

UTMs for RENDEZVOUS
SITE #3 & pup den
5,019,200N 657,040E

RENDEZVOUS SITE / PUP DEN

316° aspect 10° slope
6250' elev.

LP / VASC CARU, saply stand 2-6" dbh

PUP DEN: 20" dbh DF with hole in
base on lower side.

Wolf hair undercoat + gray guard hairs.

Opening L 27" W 33" H 22"

Tunnel D 66" W 18" perp. H 18"
(tunnel constricts to 6" H x 8" W at end,
16" section is 48" deep)

Trails 4-5 (up, down) 2
sidehill to other sites.

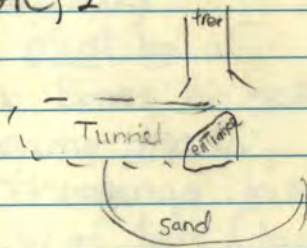
Bear skull + beaver
skull 30 M to E.

Area of use is linear
120 M long @ 290°.

Scats & matted veg to E.

To west squirrel diggings, elk leg
bones, scats. Scats on trails

Distance to water 90 M (NW and to E)
Collected skulls, most bones



Some thoughts / reconsideration about the big (Natal?) den near Root Ranch:

It probably was used this year (pup scat size & condition/age). The secondary den & "pup dens" may have been 1-2 rendezvous sites. The whole ridgeline to the top should be followed to document additional use sites.

Sept 12, 1998

Chamberlain Pack UTM 5,019,970N 656,800E
Located Rendezvous site of June 4-6. "2nd site"
1 excavated pup den; 2+ root wads used; 100M squirrel diggings; elk + deer bones, 2 scats

8:30-1400 Searched for main rendezv. site from June 4-6.

Lots of digging for squirrels near triangulation site^{100m}. 1 track.

Temporary^{pup} den?: wolf guard hairs (black tip) in burned out root wad.

~26" H x 18" W x 20" deep. Elev. 6270'

Aspect 251° slope <10°

No recent excavation under root/log (altho it could be dug out).

This area looks like it must be a rendezvous site, but no bones or scats.

1 elk skull, some game trails, deer tracks, elk droppings in vicin.

Troy searched hillside W of here (triang. site) around Kent & Matt's triangulation spot

→ This log is ~120M E of draw bottom above diggings; butt end faces uphill.

Hole 12x14" at opening → 8" diam 1 foot down goes down several feet - is ~50M W of log^{under} fur

Another similar "badger sized hole in bottom.

A Rendezvous site den (Pup only?)

This is on the W side of draw (50m from draw & just upstream (150m) from diggings on other side. It is 110M and 220° from 36" dbh bear clawed DF in bottom.

Den is excavated under a rootwad of a rotten 28" log. Slope: 12° ^{degrees}
Aspect 58° Elev 6260.

Aspect of hole is 0° (N).

There is wolf hair guard hairs 2 1/2" + a few undercoat (white) on roots.

Canopy cover 60%

Opening L: 22" W: 18" H: 17"
Tunnel D: 80" W: ~18" H (perpendicular): 16"

Plant comm PICO/PIEN/PSME w/ CARU/VAME/VASE

Dist to water (draw bottom, no water now) 80M.

Major trails from den: 2 - 1 to draw
1 to saddle above.

LP 3-10" pole stand; DF 14-20"

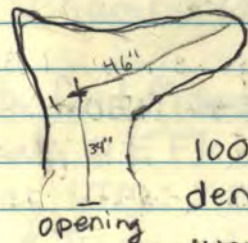
Bones found: deer scapula & elk metatarsus ~ 30m away \rightarrow pup chewed.

Elk scapula ^{recent} (pup chewed?) in bottom

80m away, 1 scat w/ scapula, Elk skull 170m down in draw. Elk pelvis at Es. side

Collected deer scapula, elk metatarsus, E pelvis.

DEN SHAPE:



Den tunnel has restricted spot w/ root = 12 height. Maybe a 100 lb wolf could crawl in den, but seems like they would have dug it out more if it was intended for adult use.

Prey availability: gophers, ground squirrels, tree squirrels
2 scats found.

Another potential "den" site - ~16" x 16" hollow at base of log in draw bottom.

UTMS 5019,970 N and 656,800 E

1430-1600 Revisited Homesite #3 (from yesterday) to collect scats & measure den.

Thoughts on "2nd site": I don't think we found the whole site. No scats! Use was concentrated around squirrel diggings, but why no scats (but 2)? Den excavation was on other side of draw.

July 16, 1999 Renan, Crystal, Ken
Chamberlain Pack

Flew to Cold Mtns. All 3 air telemetry
signals @ EFK Whimstick. Saw 2 white
wolves UTM: 5,016, 140N 656, 340E

Issac & Jim trapping at rendezvous site
1/2 mi below Cold Mtns airstrip. ^{We} Hiked down to
Checked Rendezvous site ^{last yrs rendezvous site} of 6/7/98
described on 9/11/98. No
use observed from this year.

The pup den tree has been
chewed on - bark orange 18" high
X 24" wide at side of entrance.

Camped on stream along Root Rich trail
Whimstick Cr.

Signals of all 3 from trail.

SUMMARY:

Wolf visuals (2) + air telemetry signals
all together (3).

No use at last year's rendezvous site.

Trappers had no luck - wolves have
moved out.

July 17, 1999

Chamberlain Pack

No use this year at 1998 rendezvous sites.
Den of 1998 caved in & not used this year.

Checked Rendezvous sites found on June 12, 1998. No use this year at ^{old} rendezvous sites. We found several root wads with sandy soil at base that had wolf hair attached to roots; some sites had a slightly dug out bed. No sites were used this year. We travelled W along sidehill W of these rendezvous sites, then down ridgelines to den. Found old scats on ridgelines. No recent use of area by wolves.

Checked 1998 Den site: Den was caved in at elbow and dense stand of pinegrass over what was bare soil last year. No use this year. Sm DF 18" tall is dead now.

We surveyed hillside N of den (across stream). Isaac said they saw abundant wolf sign on that hill in mid June when they tried to trap there. I found 1 rootwad with a wolf hair - no other sign. Renan found 2 wolf scats (old) on trail. We hiked NE up the ridge we searched for a den last year, then sidehilled NW to saddle & back to camp. No wolf sign.

3:00 pm telemetry from hillside E of saddle to camp: ♀ + subadult signals toward same ridge as yesterday.

Saw goshawk nest with 3 fledglings ^(almost) near the upper rendezvous sites. Packed up camp & backpacked out at 4 pm.

6:00 pm telemetry from trail: subadult only toward same ridge as yesterday.

7:30 pm Arrive at Cold Maws - after escaping 4 falling trees that fell where we were standing by Travis's camp. Isaac & Jim pulled traps and are flying out.

Wolves had abandoned rendezvous site. We talked to Travis's guides & Patrick

July 18, 1999

Chamberlain Pack - Cold Meadows

Cold Meadows Rendezvous site investigated

→ 14' deep den, many human source pup toys

Ground signals: ♀ & subadult at E FK Rendezvous site

Investigated Rendezvous site that Isaac

& Jim were trapping at - meadow above 2nd bridge on Cottonwood Cr. trail S of Cold Meadows:

* Several dens 15 m above mdw in LP/VASC w/ granitic sandy soil:

#1. 10' deep then 4' feet to right. 18" height X 24" wide

#2. 5' deep curved left toward Den #1. 16" height X

#3. 3' then 5' right

Slope of hillside 16° ; aspect 110.

Den site can be located from 1st of pair of fenceposts on N arm of meadow at 306° and ~ 100 m.

Bones: horse metatarsus, elk femur + tibia, deer pelvis + lumbar vert., doe skull, cut off bull skull, elk metacarpus, elk cervical vert., deer scapula

Plastic canteen, leatherman case, Pup toys: Vienna Sausage can, hunting licence wrapper, 2 rotted sticks, sardine can lid

Wet meadow: multiple bed sites w/in 10 m of stream - light use

Dens used in previous year(s) some not redug this year.

Scats: not many, 6 pup scat.

Hair-undercoat tufts at den entrances; some guard hairs on trees.

Above den: scats, pup toys, beds along dry opening.

Observation sites: few. ① N side of dry ridge 200 m away ② Across meadow arm to E, low 150 m. ③ Obs meadow from converging mdw arms near trail

Elev. of rendezvous site den = 6950 ft. UTM's: 5,015,500N, 660,500E

Hiked to ridge ^{mi}E of new possible rendezvous site. Signals on ♀ & subad. Same vicinity as aerial obs. Too late to walk in on site.

July 19 Chamberlain Pack

Ground telemetry ♂, ♀, sub ♀ all
at rendezvous site on E Fk Whimstick

Talked to Travis Bullock's wolf group.
Ken & Crystal backpacked to Taylor Rch.
Renan & I got a ground location /
direction on the Wolves. The male
has joined the group on the E Fk
Whimstick Cr rendezvous site we
located on July 16. Not enough time
to hike to the site for a pup
count.

E Fk Whimstick rendezvous site
area is an unburned ridge and
upper basin (ENE aspect) in a
mostly burned drainage (25 mi² area)
Trees are large dbh DF with open
grass understory. Large DF is
uncommon on ridges ^{around} cold meadows — most area
forest cover is LP except springs & riparian
No wet meadows noted.

w/Andrea, Josh, Dave
6/25/01 Taylor → Cold Meadows

→ E FK Whimstick backpack
past RootRch w/interns.

No aerial signals w/Ray A,
but Root Rch reported howling
on 6/21-23 in pm to "SW"
of Root.

~ 18 ELK (18 cows) @ Cold
Meadows in meadow. No
calves seen but 4+ cows
were in trees, so couldn't
see if calves there. Doubt it.
Old wolf track on airstrip.
m-Old track at Starvation X
Root Rch trail junction on
top. No wolf track to Root Rch

Check the 1999 Rendezvous

site in the upper section of

the trail fork of Whimstick -

no recent use, but did check

out excavation & found 2 wolf

hairs on that tree

Set up camp @ mouth EFR

Whimstick Cr. Hiked to "Carl's

Meadow" at confluence of

SFR + WFR Whimstick +

Club Cr. Searched meadow

edge & hunted - No activity.

No elk pellets, few tracks - old;

horse tray recent & fed on

elk thistle.

6/26

Sam elk ran thru camp.
9am we hiked to Root Rich

visited w/ Cal & Scott,

The cougar heard a wolf

howl to SE ^{at 5am today} and said

Some ^{might} direction as previous
So, we changed

plans & hiked up ridge

between trail to Cold Meadows

and E Fork - SE of Root

Ranch. No elk sign, no wolf

sign. Ridge is S side all

burned in 1988 - (lush FEED)

6' LP, some old elk use fall

winter?

Hiked down into E FK Whimsto
then up to ridge with large
DBH DF & PP where
Renan & Crystal & Ken & I had
seen a wolf from the air
and tried to hike to in 1999.

Dave & Josh saw a bull
moose on forest edge / burned
LP edge. At top a young
wolf jumped up and trotted
around us at ²⁰⁰⁰ 80 yards.

Coyote or wolf? White/light
colored with orange on mouth,
but size of large coyote &
nose narrow. Coat thick
w/winter undercoat. Tail
mid low. Not very spooked.
Stopped to watch us several

times. One bed found; no excavations, no scats, no response to howls. One cow elk seen earlier ~150M away.

Possible Fisher seen nearby: Large (body 15" long & 4" wide with ~12" very bushy tail) hopping along log in

DF/CARU mixed age "old growth".

We spread out & surveyed up the ridge on gentle terrain - no other sign of wolves.

Then dropped into S FK Whimstick where horse trail crosses S FK. D & Andrea hiked trail; Josh & I along

drainage. Oh we saw
and photographed a pine
marten in a rock knob on
top; I found a marten trap
in a tree @ mouth S Fk.
We saw wolf tracks at
the trail crossing - mostly
going downhill. Andrea &
Dave followed 2 way wolf
tracks over horse tracks
most of the way down.
They saw small (pup?)
tracks (2 way) on trail
for several hundred yards
on ridgeline near salt
lick at saddle.

Returned to camp 6:30pm

6/27 To Root Rch after
packed up Camp. Fly from
Root tomorrow. Set up
Camp @ meadow N & E of
Root - same as Jen & Matt.
Checked old rendezvous
sites - None had been
used in last year. Found
3 more excavations in
same draw (~5-6' deep)
& 3 scraped out pup
bed cups - last years?
Freshest sign was 2
log dug out by bear
(hair found) in last 2 weeks.
Hiked up thru ~~the~~ young LP
to older DF/BARU/ASPEN

ridgeline. Steep, but looked
good - no wolf excav. found
1 m. deer doe feed. Hiked
to lower gentle terrain &
surveyed across ridges
between the 2 drainages
E of Root Ranch. Josh
went up ridge E of camp
& found more excavations.
Rainy & T-storms in pm.

6/28 Thursday AM.

Rained most of night.

We hiked up "ridgeline"
SE of forks of drainage
by camp to check on
excavations & dug beds

Josh found yesterday.

We went to ridgetop - circular
flat. Little sign up high
^{only} bear scat. On lower

"ridgeline" E of camp we
found 1 excavation under
a large DF root and a
few possible root wad
sites. Old scats; nothing
from this year. Josh had
seen several other excav.

digging yesterday, but we couldn't find them.

SUMMARY:

Covered much of likely area for a den, but found no fresh scat concentrations or excavations from this spring. Very surprising. We did find 6+ additional old excavations from previous years. Collected a severely worn ball joint elk femur near meadow excavation.

Cal Henry took kids on
a horsepack trip up the
South Fork Whimstick.

He saw fresh wolf
tracks from the salt
lick to the stream crossing
same as we did 2 days
ago, and he saw tracks
continue on the trail to
the ridgetop (thru LP).

No new tracks this am.
No pup tracks noted.

6/28 PM

Dave & I walked down airstrip to investigate "dead animal" smell. Found a very old aged dead appaloosa horse ~ 7 days dead.

It had a bite to top of nose above nostrils, hide opened at top of jaw; 3 bear like claw holes on neck and 5 claw holes on ribs ~ 3/4" dia. Rear / hip eaten otherwise mostly maggots. Wolf scat w/ calf elk hooves Bear or wolf scat with gut contents, maggots, deer fawn hoof. No bullet hole,

to skull; Legs do not show injury. No chase scene, but tail hair & gut parts scattered. Meat not eaten much & hide not torn. ^{Hip bone gnawed}

I talk to Cal Henry to see if he knew what happened.

It looked like a possible predation, but he said the horse had coliced then semi recovered before it died. They hauled the carcass from the corral.

No scavenging for 2 days.

So, even tho it looked like possible wolf predation w/ bear scavenging it was not. Main features not pred: hide intact, little meat gone, maggots ate most.

No chase scene.

7/27/02

Chamberlain Wolf Search

Jim H (NPT), Amie-June, Tyler, Nathan

Heard wolf howl w/ of airstrip.

Backpack to Smokehouse

Ruums. Camp. Strawberries

ripe + grouse huckleberries

Potted spruce grouse in camp

3 a few big huck.

Moose Jaw Mdw: TOTAL

devastation by the Flossie

Fire. No veg regrowth in

mdw - 6" - 3' deep ash

Following at each step. Some

places have a thin moss

crust. Wolf den site old

growth spruce patch is

burned & trees are all down

No dens anymore due to ash

+ treefall.

The Moose Jaw Mdw den
site and meadow around
is no longer a good
wolf (or bear or elk) site.
1 old wolf track. No
fresh scats all day.

To B-50's rendezvous mdw.
4 sets wolf trx cross

Moose Jaw
+ 2 elk

the drainage going S.

B-50's Rend. Mdw: Howl 2x
no response. Survey
edge - No wolf evidence.
10+ elk near mdw.

7/28: Amie-June & Holly
→ 3 Blaze Trail → 3 Blaze
Mdw → Red Top Mdw

1st Mdw ^{our} Howls spooked 40 elk.
Pair of sandhill cranes in
Mdw flew twd 3 Blaze Mdw.
No wolf sign. Continuous
elk trx on 3 Blaze trail
from camp. 5 elk beds @ ^{mdw}

2nd Mdw small pond w/ LT
salamander larvae. No wolf
sign. Elk trx (old) in mud.

3 Blaze Mdw: spotted frog (1")
at marsh mud. Many hairy w/ ^W
Tree swallows, blackbird ♀,
Snipe in marshy mdw.
No recent elk use.

No Wolf sign. Mule deer
buck (sm 4pt) near 3Blaze Mdw
Bear scat (grass) on 3Blz Tr.
and bear scat (ants) on S asp
slope betw 3Blaze Mdw &
Red Top Mdw - in PSME.

Red Top Mdw - little use, old trails
to S x Chamberlain Cr. into
unburned PICO & above is
PSME, ABLA, PIEN.

Chamberlain Cr: clear, deep, many
2-4" fish, a few >6". Spotted
frogs (2", 8+ frogs) at 2nd (w)
Chamberlain^{Cr} trail Xing.

Elk lick/bedding area - old trails
abundant, a few elk Trx, 2 pellet pile
I followed E stream to wallow mud.
Many elk Trx (mostly old). NO

WOLF Sign. Spike elk
crossed Chamberlain Cr.
near lick crossing - glossy
red coat, spikes ~6".

Cow elk carcass @ lick crossing.
Young cow w/ bone marrow.
Dead 1-3 months. Legs were
in water before - hair slipped
& skin intact. One leg had
hide turned inside out like
bear would do. Nasal area
eaten, neck @ skull attached.
Big bed in grass with long
white hairs & some wolf looking
undercoat hairs. Wolf scavenged
most likely. Wolf scat w/ red elk
hair nearby on trail.

Nathan & Tyler: Smokehouse

→ Fish Lake → Sheepeater Lookout

Wolf tracks ^(Wolf) around Fish Lake

Upper Trout Cr (1 fresh)

Recent meat scat by
Sheepeater Lake. ~10

elk spooked at Lick.

W. load 2 1/4" above Upper Ramey Mdw
at stream crossing

Jim H: Upper Red Top Mdw then
to Lower Lodgepole Mdw. No
tracks, little sign.

7/29 Holly, A-J, Tyler, Nathan
backpacked 6 miles up 3 Blaze
two hand mdw to camp.
Amie June & I surveyed Hand
Mdws. Tyler & Nathan surveyed
Upper Ramey mdw. We
saw wolf tracks (1 adult
headed N) on the main trail
on both sides of our camp -
from last night / today. Spruce
grouse on trail. Maybe old pup
tracks.

Hand Mdws - extensive
stringer mdws. 2/3 of edge
surrounded by LP burns
(20 yrs ago), some good sites
for wolf rendezvous. ^{we} Howled
at sites. No wolf sign from

this year. Elk & deer beds
(2-6 beds) scattered; 1 group
of 34 elk beds. A-J saw 1
cow elk, 1 white tail doe.
Snipe, mallard young; many
spotted frogs, + tadpoles in
1 pond @ "thumb" of hand,
1 1/4" W. Toad in marshy
spring area of upper Moose
Cr part of Hand Mdws - near
Camp trail confluence,

Nathan & Tyler:

No wolf sign. No elk
or deer beds. Upper Ramey
Mdws mostly unburned around.
Ground squirrels everywhere.

Jim H to Little Lodgepole Mdw,
Hotzel Cr area - no wolf sign

7/30/02 Marten @ ^{camp in} burned LP.

7AM Lone wolf howled
from S of our camp. No
response. We howled 5
min later - nothing. WOLF
PUP tracks on the trail
to N over our tracks of
yesterday. At least 2 pups
no adult tracks; 2" x 2"
round tracks. May have come
from drainage below camp,
Nathan & Tyler followed pup
tracks (some ^{are} on trail) to 3Blaze

intersection.

Holly & Amie-June hiked down draw from Camp (Lodgepole Creek) to search for a rendezvous site then returned up another fork of drainage. Little/no use of riparian by anything. No game trails. Springs & water abundant. Mostly unburned LP/VASC or PIEN/LP/riparian. A-J found a bear skull. Saw spruce grouse 4X: ♂, ♀, fledgelings.

1:00 Backpack 6 mi back to Chamberlain,

Write Up

① Human Interest topics

① Cougar - Cougar relations / killings
reprod

② Elk age vs ^{wolf} pred vs elk pop status

③ Wolf territory use Δ relative to Cougars

④ Historic deer, elk, human, predator relationships on Big Cr

(mouse)
(Bear)
BIG H
ELK
DEER
(BBC)
COY
COUG
WOLF

HUMAN
Hunters pre
Hum predator 1895
1895-20
1895

20-40 40-60 60-80-00
80

RARE PRESENT common

th abundant

abundant

May 26 Cougar Brutus
Mort Signal @ Ramey
mouth

12:15 At Acorn Airstrip
via Ray Arnold (15 min flight
including locate 3
cougars')

4:15 Located "Brutus"
carcass in the trail at
Big Ramey crossing (on
W side 5 M from stream.
No obvious external injuries
Lying in trail facing W with
back to stream. Front
legs crossed. A big
cougar. Carcass somewhat
bloated but he does NOT

look emaciated or like
he has lost muscle bulk
(^avery husky looking cat).

The collar looks tight
on his swollen neck, but
I can slip a finger
under the collar.

Looks like he was walking
along trail then collapsed/
laid down in normal body
position + around eyes

top of nose & rt side
of face and forehead ~~possible~~
injury - looks like canine
bites to nose bridge.

No blood or infection,
just a dried up gouge
of hide sticking up - 2

Several ~~one~~ ^{ruffed} grouse
drum around Little Ramey

Only W side stream is
flowing, 1 MOREL

Aspens & Mt Ash to transpl?

Bear pooped in burned
cabin debris @ L. Ramey

Picked a bag full of
morels while looking
for ^{elk} carcass near
Carpenter's Gulch.

Tent caterpillars hatching on
hawthorn

Return 5/27 8:45 -

Carrying home: coagor skull +
collar & samples, morels,
metatarsus of Elk 2000 old
cow just E of Mile Flat, 30
-hubarb

Grouse (beige solid) egg shell
with bird peck-depredated

2 Blue grouse feather
piles on trail today. Ticks

Photo of tobacco ^{both}
can mining claim ^{kinds}

above cougar @ old trail
(burned tree & can) - can
nailed flat surface up
into tree, 6' high.

Old scrape on ^{old} roadbed
130 M above carcass.

Old scrapes along Big Cr trail
50 M E of Ramey crossing

No fight scene on trx/trails
in grass E of Xing nor
above & W, nor trail to W.

In water fight? Don't know,

8:30 END Hike to MONUM CAMP.

* Lg cougar trax' going twd
carcass ^{site} (in mud - ck
rain dates) from road
bed switch backs → trail
that joins Big Cr Tr @ kill
Is ~ 80 M uphill & due W
of carcass

PAD 2 7/8 W x 2 1/8 L

PAW 4 1/2" x 4 1/2" splayed
out

There are lg tom tracks ~~are~~
~~also~~ from since the rain
yesterday too - fine
soil dirt - not compacted -
to check on carcass? again?
today while I was there?

Collected hide / hair
samples off shoulder
& chest. Collected head,
lysed buffer; meat,
hair under claws, lenses,
Collar & ear tag collected.

Measurements

3'0" x 2'5/8" Fr L Paw $L \times W$ $L \times W$ Pad 1 1/2" x 2"

3'5 1/4" Body length to tail
(w/out head) base (need to add head
length too) +
Tail Length = 2'4 1/2"

5'9 3/4" Total length (need to
+ head add head length to
this #)

1'1/4" Hind Foot L

3'4 3/8" Back leg L

Freshness & severity of injuries suggest the fight was near here (maybe E side of Ramey?) Not with C-6 cat. This spot is adj. a sm rock outcrop. No scats/scrapes seen except 1 near Mile Flat @ 3 yrs dead elk carcass. As I write I see a shrub that looks "cat sprayed" (collected it).

Bite to throat and nasal bite were both fatal.

All other external canine holes etc were hemorrhaging inside.

Hair matted between hind legs but no injuries felt on lower 2/3 body.

NECROPSY:

- * Bite to throat major hemorrhage on RT side
- * Top of bite thru RT eye orbital crushing zygomatic arch.
- (*) Bite thru top of nose destroyed all of NASAL passages. "I think he was 'glad to lie down & die & get over the pain.' Still surprised no external blood. Where was fight? Who was other tom?"

notes the size of a cougar canine
No sign of a fight here.

Canine puncture under
rt jaw and skin
hemorrhage ^{just} below collar
on neck L side. A thickened
dry patch of hide under
collar transmitter 1 1/2" w x 3" long
on neck - hair not worn
but skin trauma. Cougar

Checked his claws - hair
under claws. Collected
sample meat from him
+ hair under claws.

HAIR & blood on claws ^{esp} thumb _{#2}

Left outside claw broken off

No canine marks on collar.
Hair has slipped under collar.

* 5 of 8 back toenails
broken off ^{couple} - ham in
broken ~~ra~~ claws.

* Canine hole thru hide @
shoulder (6mm dia ~~9mm~~) -
not as large as nose (9mm)
canine holes. Other
into the skin injuries
between shoulder blades
and @ elbow.

Insides of front & rear legs
looks wet & matted - still
NO blood anywhere. ^{ex}

* 5mm canine hole inside
Rt forearm. Skin thick
/ scabbed at top front of
rt forearm - no hair loss
maybe a little blood.

9/14 Curt said Monumental ♀ & 3
pups had been collared

Photos Roll #2 400 ASA Slide

- 0-2 5/30 Spruce Grouse
3 " Wolf? bed near elk calf remains ^{6900'}
4 " Jen & Matt w/telemetry equipmt.

Curt Mack (w) (208) 843-7328 ext 2411
(H) 746-9962
(w) (208) 843-7335

Photos

- 13, 14 Diggings near pup den (RV#3) 9/11
15, 16 Pup den @ Whimstick (RV#3) 9/11
17, 18 Diggings?
19 20 Sm den ^{in root} near site of 6/4-6/6 (RV#2) 9/12
21-23 Rendezv. den of 6/4-6/6 (RV#2) 9/12
24 Area of RV#3 - site is ^{sm lodgepole} center photo 9/12

Chamberlain B9 & B16 up to 10 animals
Lone ♂ Elk City → Moose Jaw B33
Monumental B22 + unk ♂
B24, B34, B3 missing lone males

- 1) Confirm reproduction & # of pups (3 times)
- 2) Document location of summer rendezvous sites
- 3) Summer diets: scats, kills

DATA SHEETS: Telemetry, Reproduction, Homesite,
Scat, Mortality + Daily field log.

Reprod. survey: Howling - follow Harrington & Mech
(5 howls 2-3 seconds apart / bout)
Howl when only pups present.

Scat collection - must have tracks, radio, other sign
to verify wolf. Sample # on bag & form

Telemetry ≥ 1 signal/day

Mortality: data form & collect/find skull, mandibles,
metatarsus; mort # = HA #1, HA #2... then relabel

"Definite wolf kill" = chase tracks, blood/hair trail,
blood splatters on broken veg, rumen separated from
carcass, carcass parts pulled away from hair mat
where prey died. "Probable wolf kill" = evidence
of wolf feeding on carcass - scats, bones chewed,

B09 - M	8.105
B16 - F	8.045
Sub ad -	8.860

8.425

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