

discuss a plant.) Scattered patches among solid *Equisetum* dominated site. Didn't make any attempt to survey anything but the cloest area. Could have easily (Hah!) made a huge polygon taking in a good portion of the forested wetland.

September 21, 2005

HRC, Gardner MT

Collected from the edge of the patch approaching the HRC from the west by the visitor parking - flat; w/ *Sarcobatus vermiculatus*, *Kochia scoparia*, *Gerardia squarrosa*

6537 *Chenopodium album*?

(noticeably not as far along phenologically as the native *C. bolanderi* also in the vicinity)

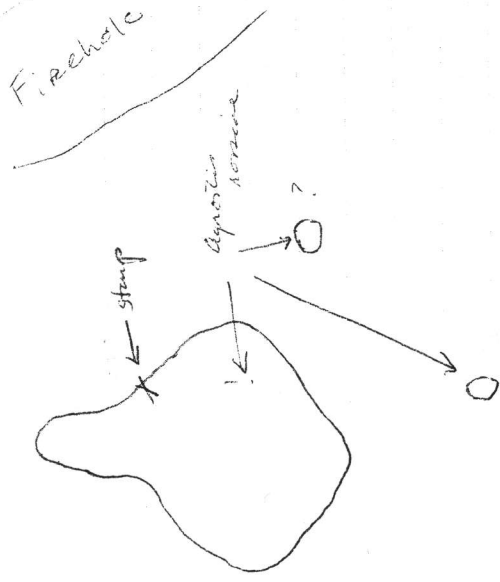
FIELD SEASON STARTS!
2006

Spent May 2, 3, 5 w/ Judy Hargill + Wayne Hargill on the start of the Bryophyte survey. On May 2 we went down the Old Gardner Road stopping just above Mammoth, at the first NE facing aspen grove, at the first slash, and then fairly low in the *Thuja* spruce zone. We then drove over to Reese Creek and looked at material both along the creek and up on the terrace to the east. First stop was at the former Crested wheatgrass field which is now solid *Allyrium desertorum* where Judy didn't locate any mosses. On May 3 we spent the day on the Upper Terrace parking at Elephant Back and then working the area of the Downed Cotton in the Doug fir forest and various cracks including the spring oozing over the terrace forming an orchard w/ *Eucalyptus* etc. Then stopped at the new restrooms in Mammoth and took a quick look at the scrubby cloest to Angel Terrace. Last stop of the day was on the Sand Loop Road towards Tower where the runoff from the terraces crosses under the road. We examined the area both above and immediately below the road.

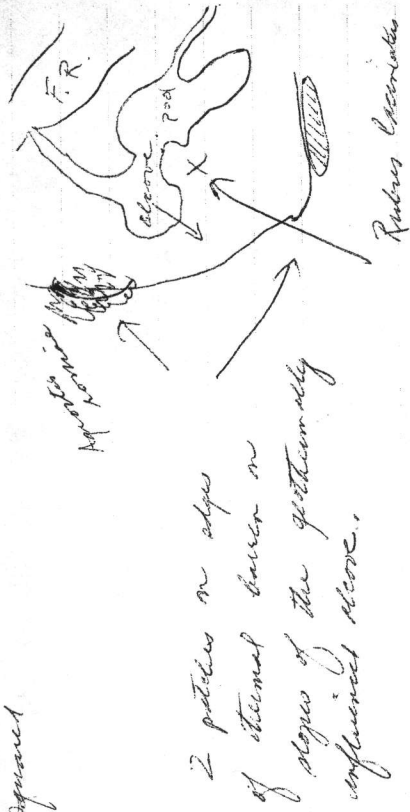
On May 5 we went to Old Faithful

and spent most of the day in the vicinity of Lone Springs. On the return we had a quick stop to show me where the *Orkothotium praeconisum* site is on the Frazier Canyon Drive, which is roughly at the first turn after the road reaches the river edge up on the adjacent moist cliff slope.

May 12, 2006
Drove out w/ Brenda Waters to check on the *Holcus lanatus* to see if it is far enough along to spray which it isn't. High, but soon. Walked along the Firehole on the west side of the river w/o seeing any *Agrostis* ssp. Came back on the west side and checked the *Agrostis* site on the thermal baron. Alivi and well and should be perfect for survey in 1-2 weeks.



Another warm patch roughly north
~ 50 m, actual area about 1 meter
square



Rubus lasiocarpus

May 14, 2006

DL's Faithful Summary. 11 Jan 2006

Patrol at Black Spur Basin and worked up old road route to Black Spur Post.

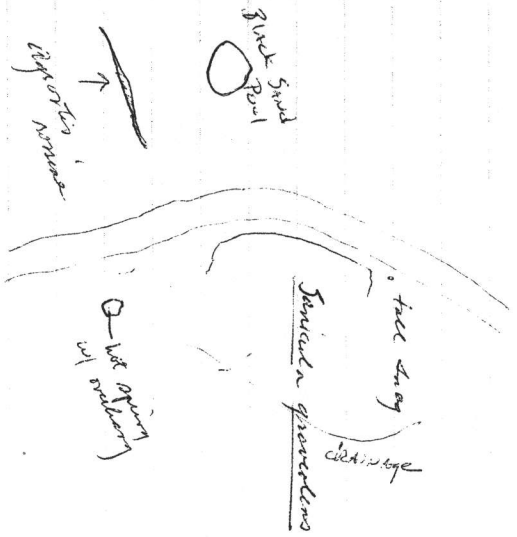
Found me *Lycopodium* sporophyte at the Wilkete Shyler area. The site along

the old runway drainage east of Black Spur Post is clear and more things alot

of weeds present including *Bromus tectorum*, *Phytolacca* stems etc.

Senecio grasslands near Black Spur Post - large patch

o ← Touchdown



Wops, some *Sonchella* just coming up - so too early still to be *complanata* anyway.

Under the *Senecio* Spring *Lycopodium*

sporophyte sites. Also and west, somewhat between 500 - 1000 plants

two years. *Phytolacca* stems present in the same area which I don't believe was here the last time I checked the site along w/ the usual

Senecio.

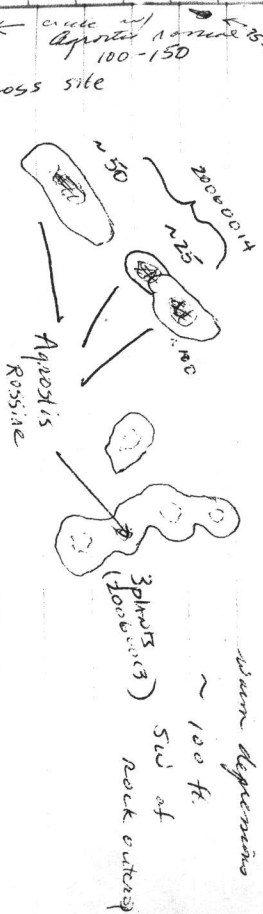
Continuing.

Senecio grasslands dropped out (seems

not quite so far along... so may not be near) then started finding it about 100-150

feet west of the rock outcrop at Pine Springs adjacent to the way with prominent

rocky area.



o ← Rock outcrop



~75-100 plants

3m EPE, DOP. 9

0512098
4923617

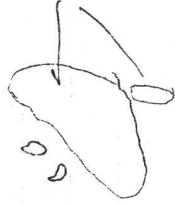
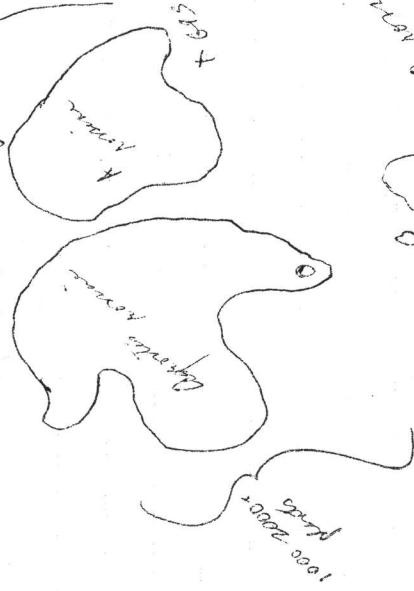
~100 meters east of
road outcrop and ~300m
N of former area w/
hot springs

Usoc. include *Reconitulum concavum*,
Dichostictium longispinum, *Uromia*
peruviana, *Uromia acuminata*

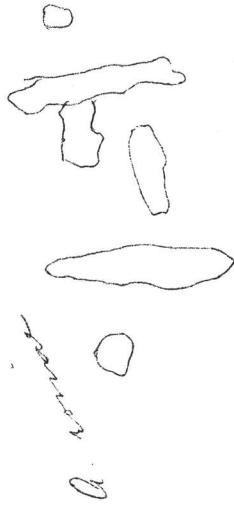
Further north, stromatolites seen with
several old hot spring depressions -
settling on SE edge of glacier north
part 5m EPE 13 DOP

0512162, 4923720

containing domes to NW



to NW



edge of Abritian sand over (bottom) *Agrotis rosea* present) is *Agrotis rosea* w/ no polygon 20050004 - some weeks as last year ~300-500 plants of *Agrotis rosea*

20050005 - ~100 plants

? 20050006 - ~10 plants

0007 - ~50 plants

0008 - ~150 plants

0009 - ~50 plants

May 18, 2006

Windy afternoon - walked out from parking spot where Stephens Creek Rd crosses Jardschicki Creek. Followed ridge back on alluvial deposits then dropped down beside railroad grade. A small area that appears to be a substructure fine soil - i.e. the fields. Area ~100m x 25m, suboptimal!

May 19, 2006

Old Fieldplot survey (damned grasses)
Amongst the new habitat the CP forest
at the edge of the Old Old Fieldplot
Campground to the Fossil Pine for
damned grasses. A large oak
through the stand of trees to the
edge of the damage adjacent to the
road. ~ 100m x 50m w/ plants
intermittently scattered, a few dense
concentrations of 10-25 plants, but
generally highly scattered and sparse.
About ~ 3 hours surveying the edges
but since the species seems to prefer
open to partial shade and moist disturbance
the edges may not be correct though
true. Additionally, early in season though
appears to be up and is beginning to show
at several locations w/in polygon.

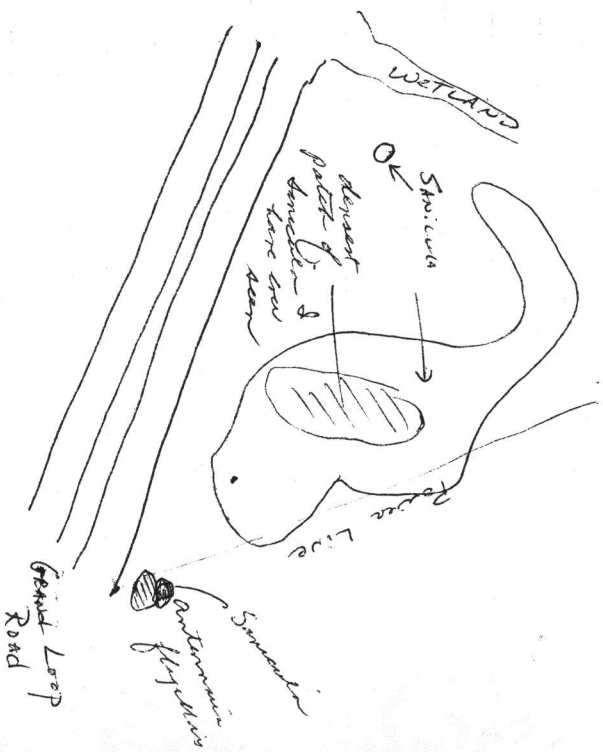
May 22, 2006

Old Fieldplot survey w/ Steve Miles
GPS unit malfunctioning so no GPSing
so per original plan

Chamaecrista *flapellensis* note just west of
The Ridge on north side of road

~ 20' x 15' wide x roughly 25'
north of road on edge of the forage
pine woods in probably glaucous till -
fairly dense, blue. include PCD,
Mycosium nitens, *Stemmatium luteum*,
etc.

Large damaged grasses patch that
is on the north side of the
Forest Loop Road from where to
where fence line comes next to
near the wetland that goes to
south of Pine Springs.



Just coming into bloom - no plants in
fruit yet. Assoc. include *Actinostemon*,
Adyrum, *Jomataum tetrastratum*, *PICO*
Antennaria spp., *Hydrophyllum*
etc.

Checked the cool pool NW of Interchange
alias 'The Pitstop'. No *Aquilegia scopulorum*
present this year and Por annum is
present in the best protected area.

May 23, 2006

Barbara Swan

The small patch that appears
to be a possible area that is
undisturbed as an example of what the
fields may have been originally.
Dominated by *Por sandbergii*, *Styria*
cinerea, *Agropyron spicatum*, *Cyrtopogon* sp.
(blue rhizomatous), *Taraxacum redowskii*
on edge of *Stachys*

1.2 D07, 4m EPE 0520539, 4987858

6538 *Desmantha*

6540 *Monticola*

Old Fairport survey w/ Steve Miller
v GPS unit #9

Area just done is the thermal area
behind High Bridge v OF Bridge

20060001 - *Aquilegia scopulorum*, polygon
nice patch at north end, scattered,
with some thick spots on south end.

Some areas without any or just
a few scattered plants. Did large
polygon to include possible habitat
so perimeter roughly follows thermal
area - hot ground perimeter. Elsewhere
Bromus tectorum just outside occupied
Aquilegia habitat. Other weeds present
include *Agropyron subtruncatum*, *Phacelia*
lyallii, *Cerastium* sp. v *Vernonia*
~ 500 plants 100' x 30'

20060002 - *Agrostis noronae*

Thames bank directly east of
first site w/ *Bromo tectorum*, *Melospiza*
ochrea & *Erigeron annuus*

20' X 15'

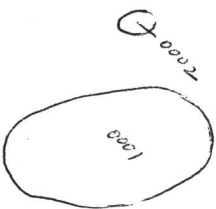
~ 200-300 plants

0-0001

0-0004

0-0005

0-0003



20060003 - *Agrostis noronae*

Thames bank ~ south of 20060001
~ 1 m square (variable density)

~ 50 plants w/ *Erigeron*, *Geranium*,

Melospiza [[1' pin taken]]

20060004 - *Agrostis noronae*

Eastern exposure above Thames
bank ~ 15' X 8' ~ 100-200 plants

w/ *Melospiza leucophaea* & *Penicillium*

occidentale & *lim*

[4 pins to be inserted]



20060005 - *Agrostis noronae*

N of 20060004 w/ *Penicillium ochromutans*,
Dactyloctenium aegyptium, *Veronica americana*
etc. ~ 15' X 8' ~ 100 plants

[4 pins]



20060006 - *Agrostis noronae*

S of 20060004 ~ 25' X 10'

w/ *Penicillium ochromutans*,

Melospiza leucophaea, *Erigeron annuus* in
~ 100 plants

[5 pins]



20060007 - *Senecio* quadratus

large polygon through PICO

w/ variable associates. Plants don't

to occur in the more barren and

less vegetated areas. *Erigeron* probably

~ 100 m X 150 m - very rough

quadrant. *Senecio* very scattered

w/ a few plants here, there most

large gaps. *Erigeron* sparse, probably

100-150 plants only - due to grass.

All plants blooming or only leaves.

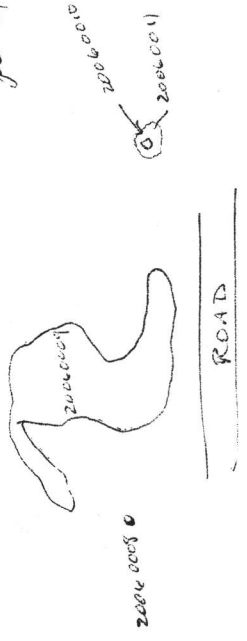
20060008 - *Senecio quadratus*

Erigeron annuus ~ 10 plants in

PICO, 5m X 5m. w/ *Artemisia*

parryana

20060009 - *Samolus prostratus* - large polygon
 w/ P10 etc - again in more
 barren sites. Center of polygon
 densest concentration & have seen
 ~ 500 plants (20010005 basically some
 polygon so include w/in
 20060004 pt 11/07)



20060010 - *Samolus prostratus* - pt
 .5 m buffer - 1 blooming plant
 w/ *Mearns nitens*, P10, *Rumex*
acetosella, *Samolus tetractenus*

20060011 - *Samolus prostratus* - pt
 .5 m buffer - 1 plant (2 polygones)
 w/ some as 0010

20060012 - *Samolus prostratus* - pt
 .5 m buffer - 2 veg. plants (single bio)

Another pt \Rightarrow 20060010 a small
 4-sided polygon - another single leaf

20060011 - *Antennaria filigularis*
 polygon immediately adjacent to
 Grand Loop Road on north side w/
 bushes of, P10 *Heterostemma depressum*
 on gravel trail / obsidian sand

20060012 - *Antennaria filigularis*
 large polygon on gravel trail / obsidian
 sand ~ E of road outcrop in Pine
 Springs to east of *Agrostis rosea*
 site on lower ground SW edge of
 open area. Assoc. include *Heterostemma*
depressum, *Juncus*, *Heterostemma granulosum*
 and a few *Antennaria tripartita*

20060013 - *Agrostis rosea*
 3 plants directly east of Pine
 Spring road outcrop w/ *Chenopodium*,
 & *Cryphaea*

20060014 - *Agrostis rosea*
 3 pts buffer + join .5 m buffer

Eric Springs

Agrostis horvathii site 20050008

4923388.27, 512051.21

w/ *Yucca venia*, *Melicope cetera*,

Heterostachys depurata, *Panicum acuminatum*

Poa arida bower - prostrate, many
varieties.

6541 *Cenchrus*

20060015 - *Agrostis horvathii* - polygyn

along lower creek mostly in shade

on morning, quite a bit of the
above *Centropus* & *Yucca venia*

along w/ *Panicum acuminatum*,

Thysanotus heteros etc. 30', 8' wide

~ 150 plants

20060016 - *Agrostis horvathii* - 5m highest pt

w/ *Heterostachys depurata*, *Cynops crinitus*

Panicum acuminatum ~ 25 plants

May 31, 2006

Old Faithful Survey w/ Heidi Anderson

Surveyed the lower Canyon near flat

NW of railroad line at corner

before polygyn. Polygyn - locally

yellow *Centropus tepaloides*, w/ *Heterostachys depurata*,

Heterostachys densiflora, *Pluchea dentata*,

Antennaria macrophylla etc, *Walnut* spp.

Thysanotus heteros, *Yucca venia* etc.

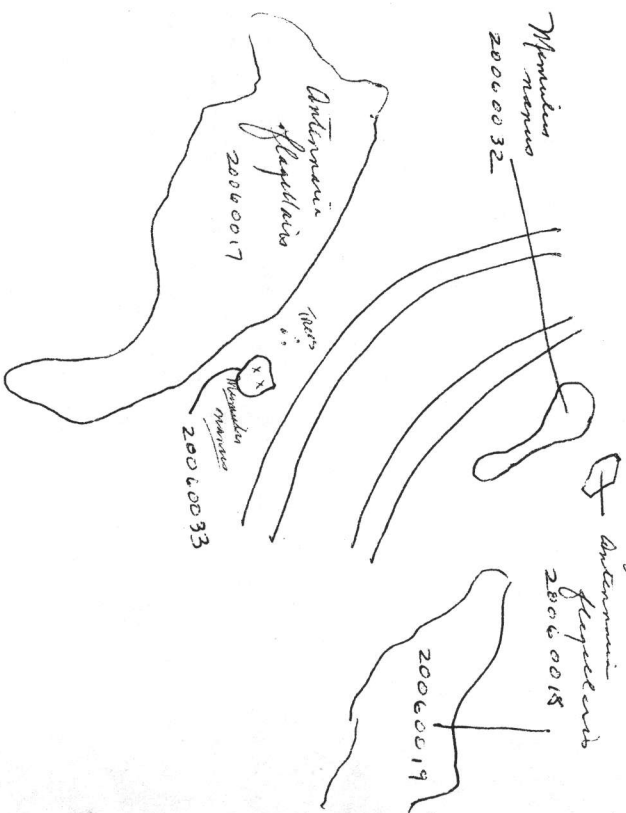
20060017 - polygyn - *Antennaria flagellata*

Yucca venia
20060032

Yucca venia
20060033

Yucca venia
20060034

Yucca venia
20060035



Antennaria flagellata
20060018

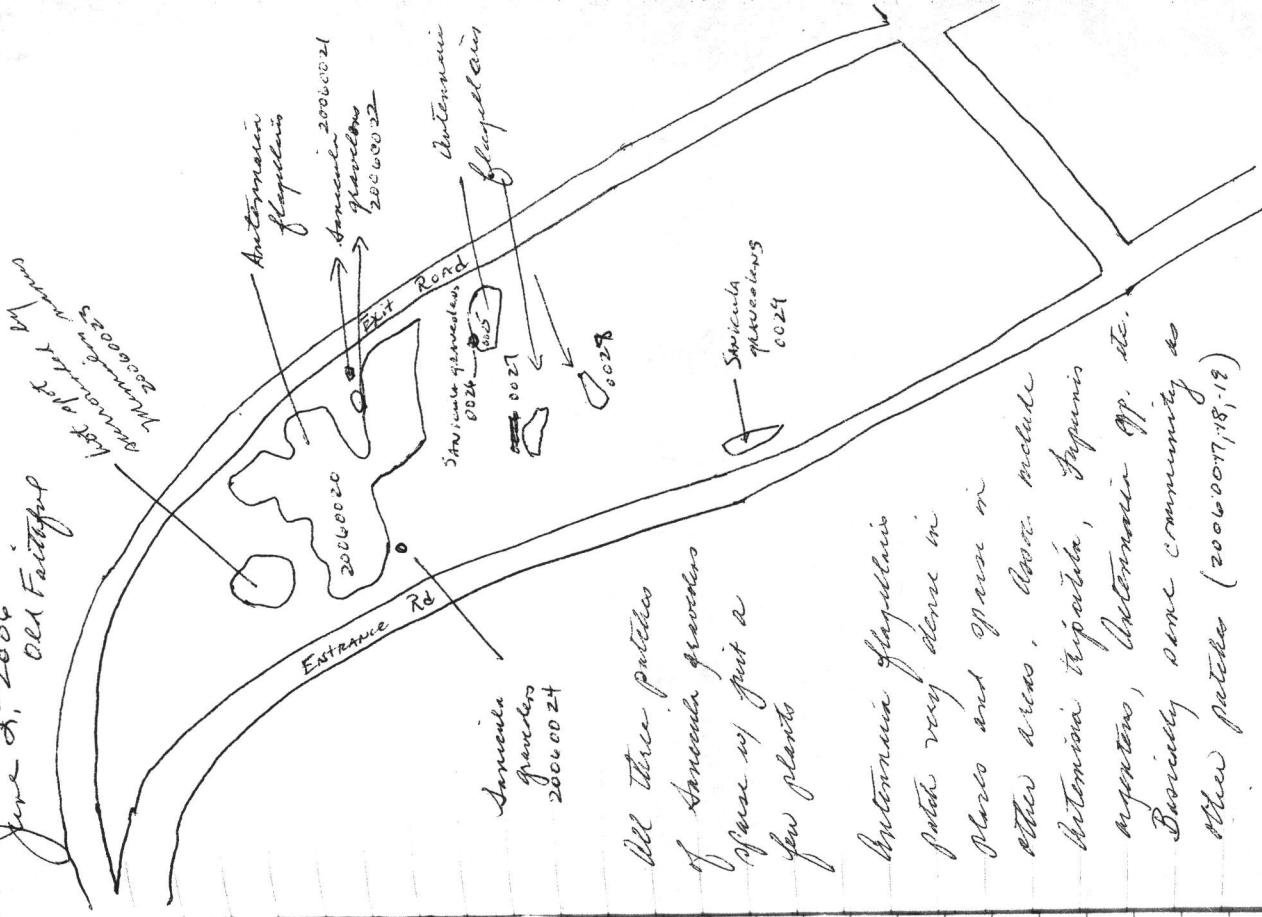
Antennaria flagellata
20060019

Another small patch of *Antennaria flagellaria*
flagellaria 2-3 (1) plants w/
Antennaria microphylla, *Rumex crispus*
Cerastium arvense, *Muscovida nutans*,
Tomatium triternatum, *Hydrophyllum*
capitatum and *Rumex acetosella*.
 ~ 15' x 5'

20060018 - *Antennaria flagellaria*
 collection of 8 pts to make polygon

20060019 - *Antennaria flagellaria* polygon
 large area between the entrance
 road and the Grand Loop Road just
 east of the interchange in alluvial
 deposit primarily black sand, in
 areas dense, sparse in other areas
 # of plants - sparse vegetation so
 who know 50-100? (500?). Areas
 include *Antennaria* spp., *Asterotheca*
depressa, *Juncus ~~acutatus~~ argenteus* (w/ just a few
 hairs on back of banner), *Antennaria*
tripartita, *Phacelia hastata* etc.

June 27, 2006
 Old Fairfield



All three patches
 of *Senecio grandis*
 sparse w/ just a
 few plants

Antennaria flagellaria
 patch very dense in
 places and sparse in
 other areas. Areas include
Antennaria tripartita, *Juncus*
argenteus, *Antennaria* sp. etc.
 Basically same community as
 other patches (20060017, 18, 19)

Next patch of *Antennaria* *plegatensis* is
open, < 5' plants? w/ *Syringia*
argentea, *Caryophan* flowers, *Antennaria*
sp. , ~ 5 *Antennaria* *repens* etc.

2 more patches

1) 5-10 plants ~ 15' x 5' (E)
in bloom so see the rest of them
w/ *Helleborus* *depressus*, *Ranunc*
acris, *Thalictrum* *nutans*,
Caryophan flowers, no *Antennaria*

2) 5-10 plants ~ 15' x 10' (E)
w/ *Helleborus* *depressus*, *Antennaria* sp.
Ranunc *acris*, *Lactuca* sp., *Stranthis*
tortuosa

Anemone *franchetii* patch in old winter cave
w/ *actaea* *PICO*, *Ranunc* *acris*,
Antennaria sp. etc. 25-50 plants, several
in bloom (patch is next from last)

Examined winter survey of area between
entrance & old cave from "Pudgy"
to the corner at the OF down town.
Plenty of *Caryophan* imbedded in
Stranthis, especially in stems
down area and the distinct ground

near the bridge!

On our better entrance line east
about loop Road on edge of survey from
the New station area, found a small
patch of *Menyanthes* *arvensis*, ~ 50 plants
in fruit, stem, and just a rosette. Also
25' x 10' w/ *Artemisia* *testudinum*, *Calyptanthus*
umbellatus, *Helleborus* *depressus* &
Polygonum *aviculare*.

June 5, 2006

Old Fairfax survey w/ Herb Antennaria

20060020 - *Antennaria* *plegatensis* polygon
between entrance and exit cave
~ 100m x 50m w/ 700 plants in
bloom w/ *Antennaria* *repens*, *Helleborus*
depressus, *Caryophan* sp. etc.

20060021 - *Anemone* *franchetii* (4 plants to
make a polygon)
w/ *Antennaria* sp., *Caryophan*
flowers, *Ranunc* *acris*,
2m x 2m; < 15 plants, mostly
leaves

20060022 - *Sarcocolla gracilis* (6 pts for polygon)
 ~ 5m x 3m w/ *Antennaria* spp.
Juglans argentea, *Muscivora nutans*
Cicogonum spp. *Carex geyeri* (< 25 plants)
 a few *Stemodia*

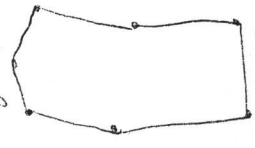
20060023 - *Mimulus nanus* - polygon
 approximate boundaries since so few
 of the plant are seen (< 100 all told)
 Some years the dot spot is surrounded
 by a purple carpet, though alot
 of sites see now... so don't know
 if will happen again. Just to
 narrow boundaries on a good year.
 Error. inside *Polygonum austriacum*,
Bromus tectorum, *Potentilla oleosissima*,
Vulpia octoflorum, *Cerastium* sp. (6541)

20060024 - *Sarcocolla gracilis* - 3 pts polygon
 4 sites, not blooming ~ 1 m²
 w/ *Cicogonum flavum*, *Carex geyeri*
Antennaria spp. near double domed trees

20040025 - *Antennaria flagellaris* - polygon
 w/ *Rumex acetosella*, *Antennaria* spp.
Cicogonum flavum, *Juglans argentea*
 w/ a few *Antennaria tripartita*
 10m x 8m in bloom

20040026 - *Sarcocolla gracilis* - 3 pts polygon
 < 15 leaves, no inflorescences w/
Rumex acetosella, *Muscivora nutans*,
Antennaria spp., *Juglans argentea*
 2m triangle

20060027 - *Antennaria flagellaris* -



7 pts polygon
 crossing over
 points so needs
 to be elongate
 rectangle

w/ *Helleborus depressus*, *Muscivora nutans*,
Antennaria microphylla, *Juncus*
tectorum etc. < 10 plants

20060028 - *Antennaria flagellaris*, 5 pts polygon
 w/ *Helleborus depressus*, *Rumex*
acetosella, *Antennaria* spp. *
 one *Antennaria tripartita*



20040029 - *Sarcocolla gracilis* - pts polygon
 7100, *Antennaria* sp., *Muscivora*
nutans etc on soil derived from
 sintec, in bloom < 30 plants
 last estimate 25-50

20060030 - *Mimus mexicanus* - polygon w/ pt
mostly on *Croton* and w/
Myoporum laetifolium, *Heterostachys*
repens, *Bomua tetanum*, *Calpurnia*
coriacea

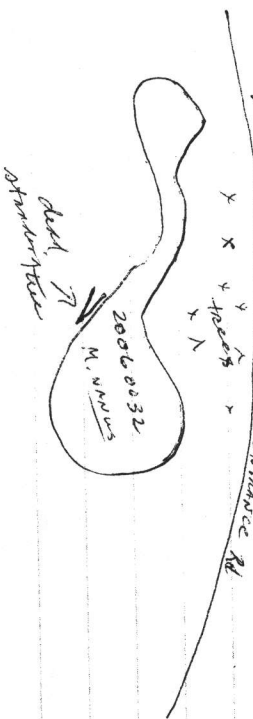
classified out polygon 20050013 (*Mimus mexicanus*)
at top of dune on south side of short drop
Road - lower only find 2 plants showing a
brief streak of the dune. Not a good yard
for *Mimus mexicanus* survey.

20060031 - *Mimus mexicanus* - polygon
This polygon was from the dune through the
ridge. Very few plants showing so
polygon looks approximate. Best ends
has a few plants and the rest was a
questionable from my memory. Need to visit
among other this species is showing a good
form. Plants may or probably are
impacting the site w/ *Bomua tetanum*,
Myoporum laetifolium, *Bolanderia stevensii*,
Leucostemum spp., *Leucospora* (no V. name
yet) etc. *Opuntia metelii*, *Heterostachys*
repens, *Myoporum laetifolium*,
Leucospora, *Myoporum laetifolium*,
Leucospora, *Myoporum laetifolium*,
Leucospora etc. This polygon about maps the

polygon that was done in 2005 which
only came to the edge on the north
side of the dune so need to take
structures using both polygons until a
year that can be done.

20060032 - *Mimus mexicanus* polygon w/
some pt where narrow

Not spot on south side of entrance
road between entrance road and short
drop Road. Ridge, very open for
Mimus mexicanus 1000 plants in bloom
or already fruiting, so presumption are
based on presence of plant or presence
of similar/related looking that is
designated adjacent



Lower, include *Bomua tetanum*, *Myoporum*
laetifolium, *Leucostemum* spp., *Myoporum laetifolium*,
Myoporum laetifolium, *Myoporum laetifolium*,
etc. This site probably also
being impacted by *Myoporum*

20060033 - *Mammillaria* minus, pts @ polygon

Only 10 plants, minute, border
follow this year occupied habitat since
I have no specific memory of the
look of this patch. Again look
of *Bromus* testudinum w/ *Hypochaeris*
lyrata, *Polygonum aviculare*. All
but 3 of the plants in bloom, all
well under one inch. This site
is about 8m x 4m rounded

20060034 - *Orobanchaceae* Congdon - 1 pt
needs 2 meter buffer at a
maximum. Found 4 inflorescence
Caucasus at base of obelisk on
slope (*Mammillaria* minus site) on
N side of spit road towards Pine
Springs. Arise include *Heterostemma*
depressum, *Rumex acetosella* etc.
Sped to survey late in summer
15' from road and towards road

20060035 - *Mammillaria* minus - polygon
slope x facing of Obeliskian sand w/
Microtheca oligocarpa (mostly on edge)
Aluminum tuberosa (open)
Panicum thermale (mostly on upper
mes), *Bromus testudinum* - sited on
lower slope ~ 50-75 plants mostly post
blow

June 6, 2006

Fairy Falls for trail clearance, notably
4 piles of logs and boards (bongie piles)
that need to be burnt. The pile
closest to Fairy Falls was situated in a
wetland w/ *Carex* vegetation, *Sidaea glandulosa*,
and *Torreya californica* w/ *Carex lasiocarpa*
close by so suggested moving the pile
towards Sugarloaf Aspen ~ 200 meters
into a PLO stand (1988 burn) w/ little
understory.

Walked to Sugarloaf Aspen - found both
a better patch of *Hypochaeris* *lyrata*
and an infestation of *Stictecia* *crepitans*
between social trail and edge of adjacent
Aspen pool 5m ENE 1.2 DOP 0509834
4930128
Aspen trail and then the slope almost
to the water edge. suggests entire
trail system needs to be cleared in the
Fairy Aspen Basin vicinity

The boardwalk in the major wetland
has been pulled out and resited through
PLO. *Cinchonum polytachin* is a
conspicuous component of pairs of that
wetland.

20060036 Mammulus nanus polygon

20060037 Mammulus nanus polygon

June 9, 2006

Meeting w/ Sharon - Barnard and
Eastern Shore elders to discuss and
locate a representative site for the 2
game sites that ^{we} disturbed in the Fishing
Bridge area. The site located for the
reburial is East of the Fishing Bridge
Museum within the edge of the old
Fishing Bridge campsite. Sandy soil
with *Cricarium leavis* in the vicinity
but not at the proposed location (immediately
adjacent and likely to recolonize the area.
Fascinating day

June 13, 2006

Old Faithful survey

Located another *Mammulus nanus* site
west of location of "Hot Spots" or collection
barren w/ *Saxipetalum* sp., *Parvula*
viridula, *Sporium umbellatum* etc.

~ 50 plants in bloom 30' x 15'

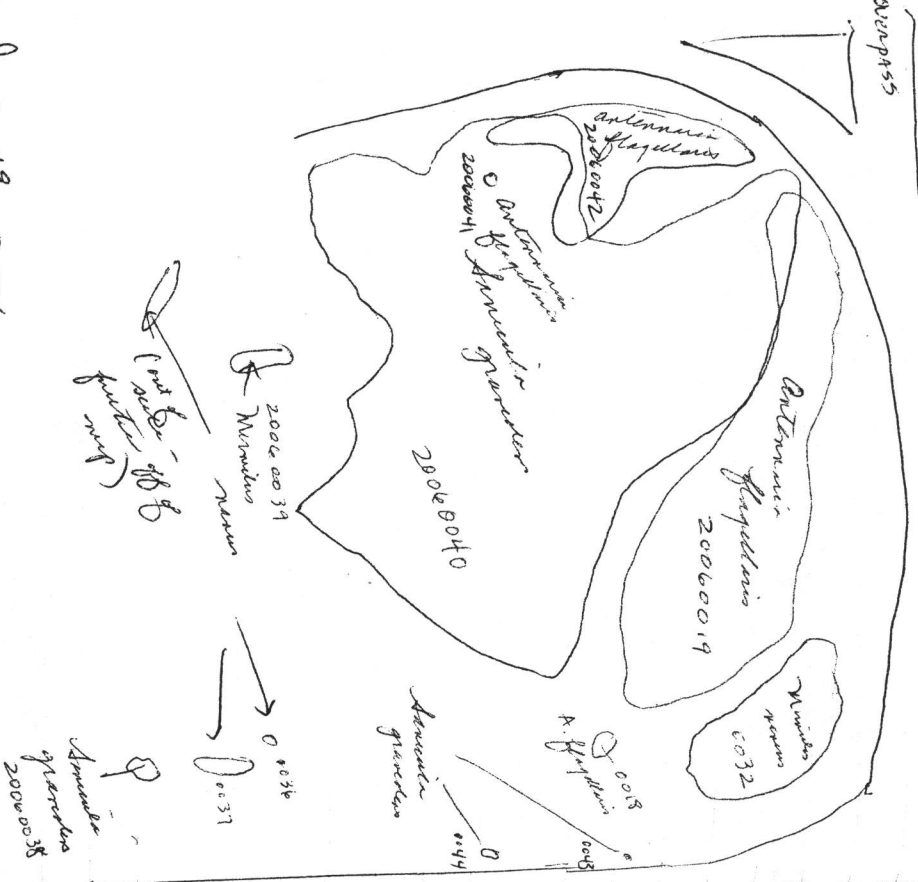
Located an outlier of *Antennaria flagellaris*
near the Grand Loop Road just off of
the one currently w/ red pin flags. This
one w/ dark yellow pin flags
~ 10' x 10' on soil derived from outcrop
w/ PICO, *Antennaria microphylla*,
Apocynis nitens, *Cicogonum umbellatum*,
U. majus etc. sparse

Infestation of approximately 50+ spotted
knifweed plants on the westmost
entrance lane into OF directly behind
small patch of PICO right by
drainage gade 4m EPE 1.0 DOP
0512417, 4923093 - Right on edge
of *Antennaria flagellaris* site

2 small patches of *Stenactis geminata* near
edge of entrance road - one marked w/
green flag; one w/ red & dark yellow

Large *Stenactis* sites could have been
surveyed as many small sites but would
be almost impossible to do...

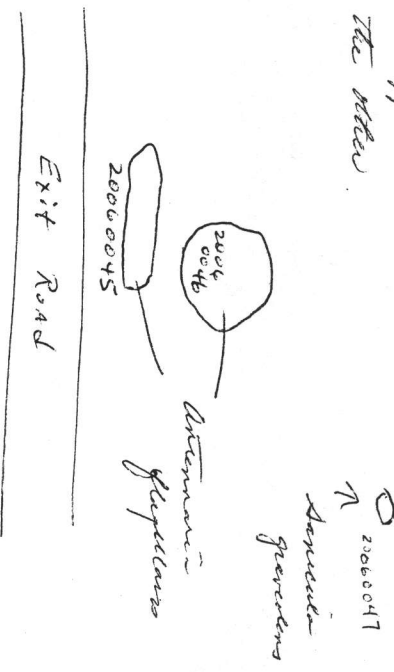
Overpass



June 19, 2006
Old Fairplay survey

Traced at dirt turnout on exit lane
W of railroad to DF Sh. survey
open area on N side of exit way
just E of parking spot. 2 patches
of *Antennaria flagellans* w/

Antennaria repens, *Eriogonum flavum*,
Antennaria sp. etc. One site is
below the other.



Also a small patch of *Stemmatica grandis*
in the outer part - young (partly
shaded in trees).

Then continued over to the area between
about top road and entrance road to
survey for *Stemmatica grandis* to the
east of the turnout area (hit spot etc.)

A patch in the interior of trees close to
the railroad patch - very small!
w/ only a couple in fruit
larger area on PICO between turnout area
and railroad) obtained from three patches
begin surveying the area...

Thermally influenced steppes and barren
w/ *Mimulus nanus*, *Polygonum aviculare*,
Bromus tectorum, *Calyptochloa umbellata*
7m ESE, 17 DOP, 0512619, 4922980

6542 Lepidium

Hardt & Elizabeth appear so GPSing into Insais
GPS - hard held w/ Heidi at contacts, Elizabeth

20060038 - *Sarcocolla graveolens* Polygon
in P100 island between entrance Road
and Grand Loop Road w/ *Mimulus nutans*,
P100, Fox nemora, *Artemisia congesta*,
Rumex acetosella ~ 20' x 10' very
sparse (25 plants mostly vegetative
(2 fruiting inflorescences))

20060039 - *Mimulus nanus* polygon
in open sinter barren w/ *Phacelyston*,
Artemisia, *Rumex acetosella*
N 30' x 15'

20060040 - *Sarcocolla graveolens* - monotonous polygon
w/ P100, *Chloa* spp. etc. w/ *Rumex*
acetosella, *Cerastium arvense*, *Eriophyllum*
denatum, *Artemisia* spp.

20060041 - *Artemisia flagellaris* 4 pt polygon,
10² ft - few plants w/ *Koeleria*
crispata, *Eriogonum umbellatum* var.
Mimulus nutans
major, *Heterotheca depurata*; in
bloom

The pt at interchange to add to
polygon 20060040

need to change
edges of polygon to
include pt into polygon



20060042 - *Artemisia flagellaris* polygon
along edge of road w/ *Eriogonum*
umbellatum var. *major*, *Artemisia* spp.,
Eriogonum umbellatum var. *chilense*,
Heterotheca depurata etc.

20060043 - *Sarcocolla graveolens* - 3 pt polygon
w/ 1m² < 10 leaves
in P100 w/ *Mimulus nutans*, *Artemisia*

20060044 - *Sarcocolla graveolens* - 3 pt polygon
2m² > 50 leaves
in P100 w/ *Mimulus nutans* etc.

N side of exit lane

20060045 - *Antennaria flagellata* *Polygon*
25-30' x 10' w/ *Erigeron flavus*,
Antennaria depurata etc. (see below)

20060046 - *Antennaria flagellata* *Polygon*
25' x 20' w/ *Erigeron flavus*,
Antennaria depurata, *Antennaria* spp.,
Rumex acetosella, *Juncus acutiflorus*,
Urtica angustata
DOTS + 0046 cord have been made w/o
one *Polygon* since track was swept
between patches

June 21, 2006
Old Facility during

Surveyed the water between the thermal tanks +
runoff from the stream
and between Grand Loop Road and Entrance
Road for *Sparganium angustifolium*, sparse
scattered in open wetland w/ PICO, for
mosses, *Antennaria macrophylla*, *Urtica*
mosses, ~ 100' x 25'

W. side EPE 100 DOP 0512593, 4923065

Antic drain between Entrance R1
and Grand Loop road w/ *Urtica procumbens*,
Sparganium, *Erigeron angustifolius* =
floral white to pink

6543 *Neoselinia*

6544 *Sparganium*

8m EPE, 2.1 DOP 0512699, 4923107
Entrance Road on volcanic ground

~ 100 m west of tunnel exit to DF line
w/ *Bromus tectorum*, *Urtica* var.
intermedia depurata, *Ruellia lanceolata*

6545 *Sparganium*

N of Bivert Basin along Grand Loop Rd
on edge of wetland in grass and
young shrub slope to wetland - w/ *Urtica*!

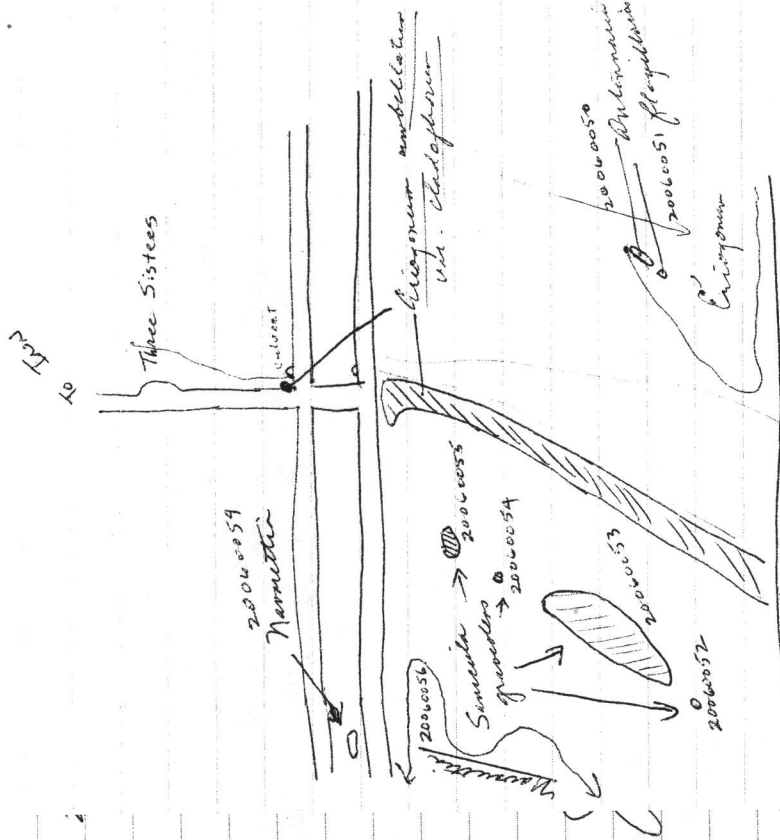
Recess metallic *Plantago lanceolata*, *Heteropogon*
loquax, *Erigeron annuus*
Sm EPE, 1.9 DOP 0513069, 4927751

6546 *Urtica* *flagellata*

June 22, 2006

Old Faithful Survey

Parked at Three Sisters. Walked along edge of runoff - right at intersection some *Eriogonum umbellatum* var. *chaetense*



In flagged (red → pink → chartreuse) the Navarretia site or thermal area west of Three Sisters runoff between entrance road and Grand Loop Road, found

a small patch of thermal *Agrostis scabra* (TAS) w/in polygon of *Navarretia*

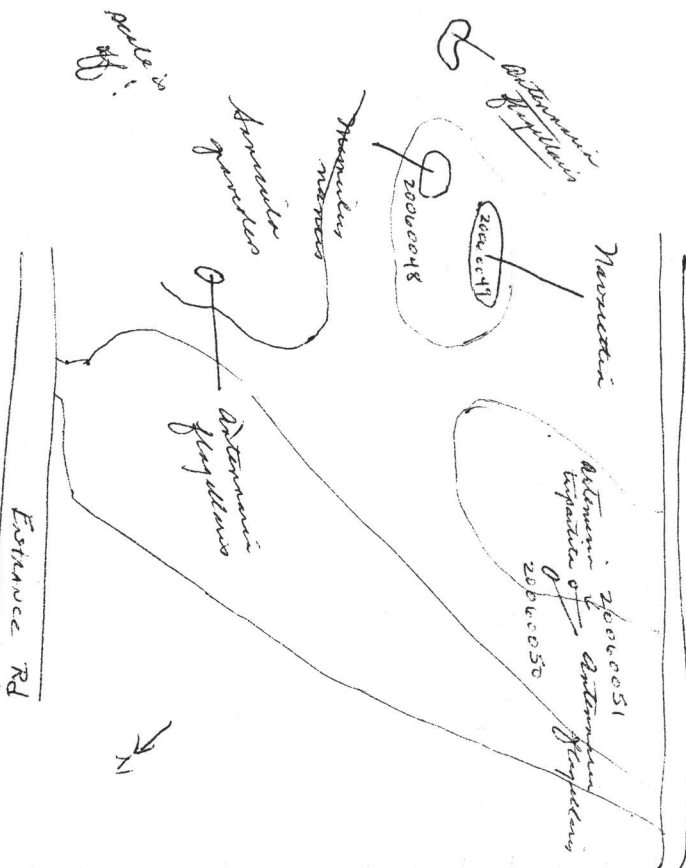
Superficially of yellow clover on edge of hot spot (bison tracks) on east side of thermal basin near entrance road. Assoc. include *Bromus tectorum*, *Cerastium fontanum*, *Euphorbia glyptopetala*, *Sparganium rubra*, *Portulaca oleracea* (what a natural community....)
4m EPE, 1.1 DPT, 0572680, 4923047

6547 *Trochilium*

June 23, 2006
Old Faithful Survey

Surveyed east side of Three Sisters runoff between Grand Loop Road and Entrance road. Found 2 small patches of *Antennaria flagellata* in *Antennaria flagellata*, *Eriogonum umbellatum* var. *chaetense*, & *Antennaria flagellata* community.

GRAND LOOP ROAD



Small *Thymus pratensis* < 75 plants in opening (*Thymus* influence) on a small block and mix with *Erigeron tectum*, *Panicum acuminatum*, *Heterostemma depressum* ~ 25' x 15'

Small *Mammula maritima* patch < 50 plants on east end of *Thymus* influence opening w/ *Erigeron tectum*, *Stachys triflorus*, *Heterostemma depressum* ~ 20' x 10'

Erigeron umbellatus var. *stachysifolius*

corner in the *Antennaria sparganii* patch

(grass flagging) *Antennaria sparganii* patch on grass corner across dirt in PICO (young, stand very recent) w/ *Antennaria sparganii*, *Erigeron umbellatus* var. *major*, *Rumex acetosella*, *Stachys triflorus* ~ 30' x 15' density east of *Mammula maritima* patch

broader small patch = 1 plant? = 2m² ~ 50' further east w/ *Erigeron tectum*, *Antennaria microphylla*, *Mammula maritima* w/ *Rumex acetosella* right on edge of patch. One day of dense grasses on site.

broader, grassier! small patch of *Antennaria sparganii* includes open site larger than small grasses site ~ 20' x 10' on western end / adjacent patch and w/ PICO (a few small in vicinity), *Heterostemma depressum*, *Erigeron umbellatus* var. *major*, *Stachys triflorus* etc.

large *Antennaria sparganii* site (grass flagging)

June 26, 2006

Old Fairbairn Survey w/ Jeff Dale

20060047 Sarcula gracilior polygon
on ~~soil~~ glacial till (obscure sand)
derived soil - openings in woods
~ 20' x 5' w/ Dactylis glomerata,
Rumex acetosella, Fernis contorta, Asplenium
< 25 plants, mostly leaves; 1 inflorescence
in fruit - site on N side of cut road
w/ Three Lakes Road

20060048 - Mimulus nanus polygon
on silicious silt <sup>w/ Bromus tectorum,
Poa compressa</sup>
Sagittaria arifolia, Helianthus divaricatus
(sparse); ~ 20x15' out in open;
easternmost patch in cleared lower part
N of Grand Fogg Rd and east of Three
Lakes road ~ 50 plants

20060049 - Nardus polygon
on silicious silt w/ Bromus tectorum,
Helianthus divaricatus, Panicum acuminatum,
Poa compressa, Panicum capillare
~ 30 x 15' ~ 75 plants

20060050 - Antennaria flagellaris - polygon
w/ Erigeron umbellatus var. Cladophorus,
Panicum hypoleucum, Panicum capillare,
Helianthus divaricatus; ~ 20' x 8'; sparse

20060051 - Antennaria flagellaris polygon
same assoc. w/ Rumex acetosella; ~ 2m²
glacial till soil (cops decided to make it
a point and w) (meter radius around

20060052 - Sarcula gracilior polygon
None so one point w/ 1 meter radius
w/ Tomatium tetrandrum, Blackia hirsuta,
Mimulus nutans (originally narrow
triangular shape)

20060053 - Sarcula gracilior polygon
in open PICO w/ Helianthus divaricatus,
Rumex acetosella, Cerastium arvense,
Poa pratensis - large in woods ~~site~~
of main Narraville site, 7100 plants

20060054 - Sarcula gracilior - point - 2m radius
w/ Demoligi hirsuta, Mimulus nutans,
Carex gracilis, Poa pratensis

Booth
June N
of Hunt
July 24
w/ Jeff
Dale
35m²
small

20060055 - *Spananella guatemalensis* pitogon
at forest opening w/ small PICO, large
peper, *Heliconia* (shades), *Poa* proteoides,
Heliconia mutata; ~ 30' x 15'

20060056 - *Spananella* pitogon
large *Spananella* pitogon in thicket
thicket (not type area) w/ *Heliconia*
depressa, *Bromus testatum*, *Poa compressa*,
Leucophaea spp. ~ 200 m x 200 m
> 2000 plants

20060057 - *Spananella guatemalensis* - pt
1 meter tufts (small open spots, in
2 flowering plants in state of PICO w/
for spp., *Rumex acetosella*, *Stachys*
agrimonia

20060058 - *Spananella guatemalensis* - pitogon
1.5 meter tufts w/ *Bromus testatum*,
Panicum capillare, *Leucophaea* *guyanaensis*
actual site more a wetland than a
creek - open, there more so pitogon

20060059 - *Spananella* - pitogon
w/ *Bromus testatum*, *Panicum acuminatum*,
Heliconia *cyanea* 50' x 15'

20060060 - *Heliconia* *floribunda*
on *Heliconia* *andrea* *andrea* PICO in opening
mostly young PICO w/ *Poa* *compressa*,
Heliconia *depressa*, *Leucophaea* *umbellata*
var. major, *Rumex acetosella*
~ 50' x 30'

20060061 - *Heliconia* *floribunda* or - pt 1.5m
Heliconia *andrea* *andrea* PICO in forest
opening w/ PICO, *Leucophaea* *depressa*,
Heliconia *microphylla*, *Heliconia*
20060062 - *Heliconia* *floribunda* - pitogon
w/ *Heliconia* *depressa*, *Eragrostis*
umbellata *var. major*, *Rumex acetosella*
major forest tree *Heliconia* *andrea* site
~ 20' x 10'

June 30, 2006
Old Forest Survey w/ Steve Anderson,
Gary & Wayne Hupre

Heliconia *capitata* or *andrea* in
fringe diversity out of *Heliconia* *andrea*
site, at least 12 *Heliconia* *andrea*
9m EPS, 2.0 DOP, 0514294, 492471

July 3, 2006

Let's start take for trail route
along the Outlet Meadows, in on
Map (black w/ star & 3 white rocks)
w/ Bill Hopkins, Michael Curtis, & Ann
Johnson. At the cabin was Mark &
July for trail crew and Pauline Jones &
Jean - backcountry rangers

July 4, 2006

Outlet Meadows at possible new
campsite w/ *Astragalus alpinus*,
Astragalus alpinus, *Mulin spicatus* near
copse of *Abies/ Picea*
14 EPE, 3.4 DOP, 0547460, 4900578

6548 Hedysarum

Southern edge of Outlet Meadows on
edge of talus slope - full sun,
20° slope east facing by Cary
peyeri, *Epilobium angustifolium*, *Poa
whobleri*

10m EPE, 1.9 DOP, 0546658, 4900231

6549 *Phacelia pensina*

July 5

Canoe over to Mexican Creek, for
water and camp take. Fished out
of the water a sample of the common
Potamogeton along the way, just in
front of the cabin & ~ 100 m from
shore - totally submerged
542100E, 4903900N; Elevation 7455'

6550 Potamogeton

Looked at temporary route at second
bridge in the White Creek drainage in
Thames area. 12 (at least) *Potamogeton*
multiflorus plants near temporary route
while bridge is repaired. Also, include
Dactyloctenium aegyptium, *Panicum rugosum*,
Ageratis scabra, *Panicum acuminatum*
4m EPE, 1.0 DOP, 0538584, 4905099

At first crossing of White Creek (closest to
Payson Pass) New France Group stopped
to look at bridge. Can route in
few associates (*Aceris leptis*, *Agrostis*)

6551) near station
- 6 mi EPE, 14000', 0538316, 4905706

55
6551 Station

July 11, 2006

East Fork of Spencer Creek

along creek at proposed park barrier

Associates on the over include

Neosium membranaceum, *Ribes*

auribotrydium, *Ribes lauratum*,

Senecio tenuipetalis, *Juncus utahensis*,

Myrtocarpus obtusifolius, *Staphylea trifolia*,

mostly *Senecio engelmannii* by the

Highway 493 above. Less on signs

so *Juncus tenuis*, *Onoclea sensibilis*,

Cyperus etc., 9 mi EPE, 20000', 04971465, 4980025 "

marks most used w/ *Asplenium platyneuron*,

Epilobium sp., *Mertensia oleicola*,

Senecio heterophyllus

6552 *Pandanus*

West side of East Spencer Creek w/
Hesperococcus lanatum, *Ribes parviflorum*,
Epilobium cuneatum, *Senecio tenuipetalis*,
Desmodium columbianum - shrubby, below
observed as a small seedling that
presumably necessary to 1-2 m from
creek - 2 specimens present
shrub *laevigata* & *stolonifera* - both
Ribes present. No *R. aureum* seen
or likely to be there.

Just south of trail intersection w/ 1
mile going by East Spencer Creek
and the other up the main fork in
open thicket stand w/ *Pinus* etc.
gracilis, *Catanagopsis rubra* and
Thermopsis rhomboides. East

6553 *Staphylea*?

Also one *Senecio heterophyllus* or at least
approximating it in the talus ridge near
the trailhead. Not enough material
to collect.

9 m EPE, 1.0 DOP, 0493644, 4984322

One robust *Ranunculus acris* plant against the log bumper in the east side of parking lot closest to Specimen Creek w/ *Poa pratensis* and *Pterisella gracilis*

6554A *Ranunculus acris*

6554B Road

(100 m upstream)

July 12, 2006

Mt. Washburn w/ July + Wayne Harper
5m EPE, 1.2 DOP, 0544027, 4963023

Rocky west facing outcrop on crevice, 10° slope among rocks w/ *Arenaria canus*, *Droba oligosperma*; *Penstemon attenuatus*

6555 Dahn

Mt. Washburn

Spring turf w/ *Corallorhiza innata*,
Asplenium platyneuron, *Fragaria virginiana*,
Cryptogramma spp. - west facing on east
side of road 5° slope

4m EPE, 1.0 DOP; 0544552, 4962076

6556 Carex

6557 Elymus

July 13, 2007

West Thumb Overlook Trail w/ Bill Hopkins
Surveyed the proposed new route for the trail, i.e. reroute, because of the thermal activity (steaming small holes) in the current trail. Called up during the proposal with a little dirt since found

3 plants (fruiting) of *Sonchella prostrata*.

The *Sonchella* was in typical habitat, i.e.

old volcanic cinder soil from smelter with opening between vegetation areas. Probably more in the area but didn't survey it. Also in the area was *Festuca occidentalis* and *Holcus ruber* in old gravel forest.

July 14, 2006
 Old Field Survey w/ Jeff Dale 0757

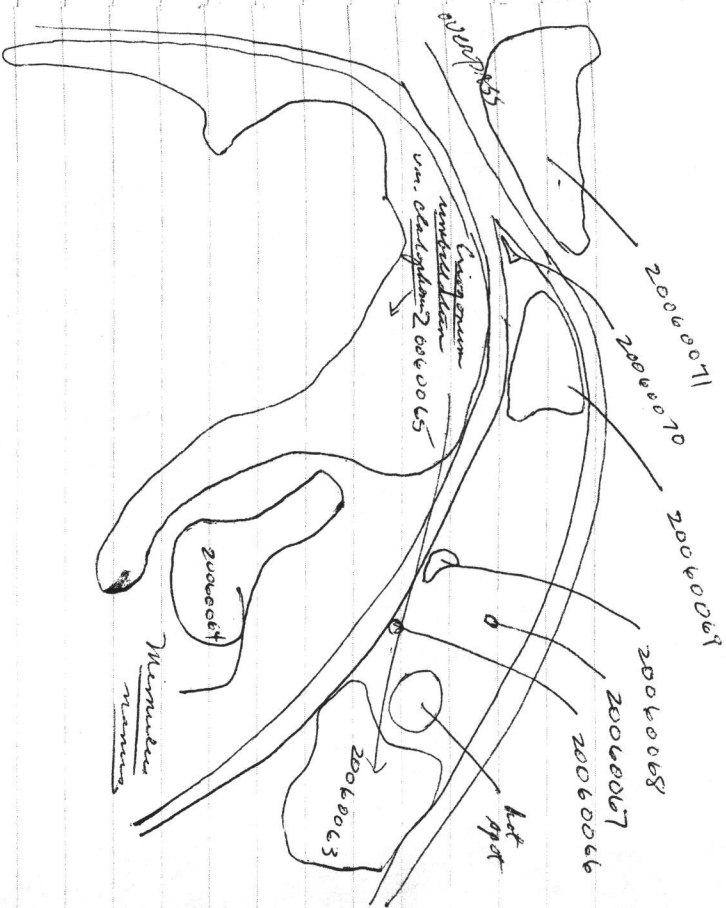
Between wet and entrance here near

'Patch 1' - *Eriogonum umbellatum*
 w/ *Chelydromus* w/ *Ferns acutella*,
Antennaria flaytensis, *Heterotheca spinescens*,
Humulus corymbosus, *Antennaria hypoleuca*

20060063 - *Eriogonum umbellatum*
 w/ *Chelydromus*
 just east of hot spot between entrance
 and wet ferns - large polygon

20060064 - *Thymus nemorosus* polygon
 leading of 20060032, cold only
 just 2 sections - apparently
 original polygon totally removed - up.
 But! As this is just an
 approximation of it ...

20060065 - *Eriogonum umbellatum* w/ *Chelydromus*
 polygon - large, basically following the
 edge of the entrance road and then
 edge of the open dry meadow. Appears
 to meet just over and growing on little
 stream bank about 200 and
 reaction point. Does include *Heterotheca*
spinescens, *Humulus corymbosus*, *Ferns acutella*
 etc. *Chelydromus*, w/ *Antennaria flaytensis* polygon



20060066 - *Eriogonum umbellatum* w/ *Chelydromus*
 polygon on edge of road from
 w/ *Ferns acutella*, *Heterotheca spinescens*,
Heterotheca spinescens, ~10 plants

20060067 - *Eriogonum umbellatum* w/ *Chelydromus*
 polygon w/ *Thymus nemorosus*, *Heterotheca spinescens*,
Humulus corymbosus ~ 4m x 2m, 4 plants

20060068 - *Eriogonum umbellatum* w/ *Chelydromus*
 polygon w/ *Thymus nemorosus*, *Heterotheca spinescens*,
 for *Antennaria*, *Ferns acutella*, partially on
 road margin, ~ 25 plants

20060069 - *Eriogonum umbellatum* var. *cladophorum*
polygon w/ *Stigea crata*, *Heliotropium*
depressum, *Chaenactis douglasii*, *Rumex*
acetosella; ~ 50' x 20'; ~ 5-100 plants

20060070 - *Eriogonum umbellatum* var. *cladophorum*
triangle polygon for safety reasons between
pit and entrance lane. Gap between
69 x 70 due to maintenance (and
others) using gap as a turn around
area; w/ *Heliotropium depressum* + *Poa*
compressa

20060071 - *Eriogonum umbellatum* var. *cladophorum*
directly west of interchange on road side
of Grand Jopp Road w/ *Helianthus laetiflorus*,
Heliotropium depressum, *Chaenactis douglasii*,
Juncus ^{*depressum*} ~~*depressum*~~, 75-100 plants

There is *Antennaria* *flagellaria* w/in polygon
20060071 W of Two Way Traffic Sign

20060072 - *Eriogonum umbellatum* var. *cladophorum*
including photo under sign and in a
creek in the concrete; ~ 50 plants w/ some species
(site)

20060073 - *Eriogonum umbellatum* var. *cladophorum*
Chaenactis douglasii, *Eriogonum*
depressum, *Bromus marginatus*
(N end) ~ 15-20 plants

20060074 - *Eriogonum umbellatum* var. *cladophorum*
~ 35 plants; between Grand Jopp Road
and entrance lane from east w/
Chaenactis douglasii, *Eriogonum*
depressum, *Heliotropium depressum*

Dryophyte collection from East Spanish Creek
from July 11, 2006 for July Hayal. July
sorted for material worth saving
- steep N facing slope, shaded slope 50°
slope in WP3 on soil

6558 - *Antennaria*?

6559 - *Antennaria*

6560 - *Plumonium ruberellii*

6561 - *Linum*

6562 - *Hyssopus* ?

Rock along edge of creek near a stone & high water table, in plant zone on rock

6563 - *Brachyotum* ?

6564 - *Linum*

6565 - *Linum*

~~6566 - *Linum*~~ *Ptilis* wood ^{adjacent to} ~~edge~~ _{edge} creek

6566 - *Polka nut* ?

6567 - *Linum*

July 26, 2006

Harris - WUI, old quarry site on large terrace on N facing slope by *Urtica* *acutata*; 6m ESE, 1.1 DOP, 0524286, 4951767
Overlooked, young soil; large boulders

6568 spec - *Hyssopus*

Appears to be the only 1-2 plants in creek system. Next to existing adjacent area for this spec of pop.

Found first *Urtica* of entrance to *Sancti* *Crucis* canyon on E side of road by *Urtica* *acutata* on edge of road
1.9 DOP, 7m ESE; 0520839, 4969427
Elevating aquatic in grass about to dry up creek *Hyssopus*; edge of road
Large boulders

6569 *Polygonum*

July 27, 2006

Stephen's Creek Cross near pulling
area for chase trailers; plot w/
Centaurea repens, *Bromus eximius*

6570 *Agropyron cristatum*

6571 *Agropyron cristatum*

July 28, 2006

Norris WUI

Surveyed area south of the new
treatment plant. No rare plants found.
Area burned in 1988 except near Norris
Junction, so LP1 w/ P1C0, *Carex pycnantha*
etc. At the stream baron / hot spring
area at southern boundary of the
unit is a little *Juncus baezigi* at
the large stream junction to south
of boundary line of burn unit. Also, the
small wetland at/near the junction of the
water tank and w/ ^{soak} quarry has a nice
local population of *Arctostaphylos*.
Both these species have been dropped from

the WPNDD list.

Madison WUI

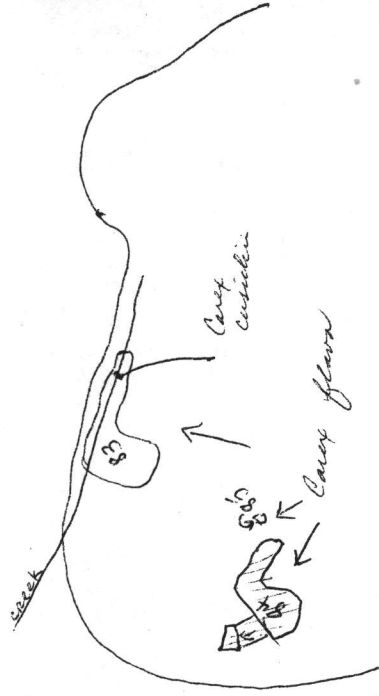
West unit - In the boundary of
the wetland which is the boundary of
the burn unit is a small patch of

Carex flexa 3x1 m w/

Trifolium multivium, *Carex viridula*,

Urtica dioica, *Agrostis stolonifera*

~ 5+10 plants in fruit; marked w/ pink flags
+ characteristic flags

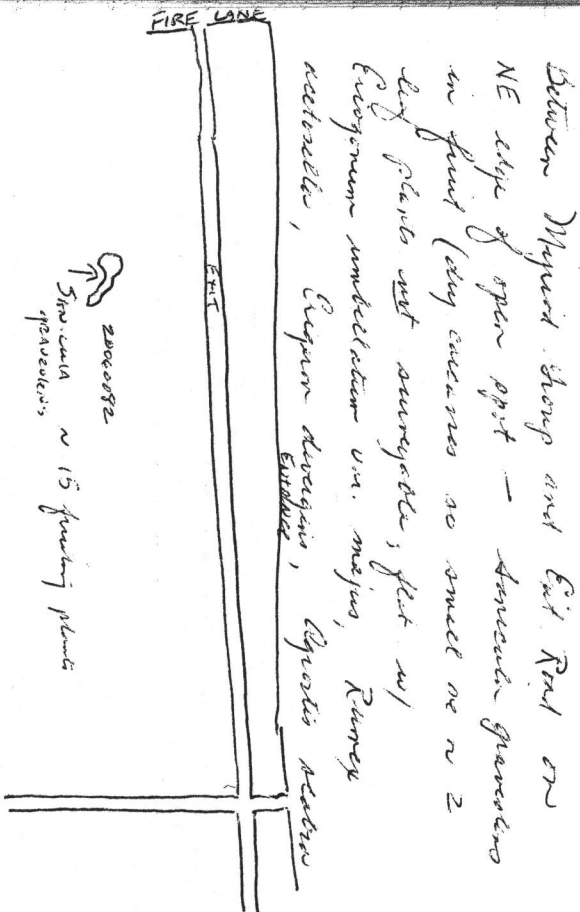


Wetland more scattered in spots in wetland
plot area w/ *Carex viridula*, also *C. culiciformis*,
etc.

July 31, 2006
 Old Fielded Survey

Along edge of old there just west of fire
 there are roadside grasses w/ Pennyc
 asteroids, *Eupatorium laetivium*, *Chrysothamn*
diffusum; 7m EPE, 1.6 DOP, 0513171, 4922619

0572 *Daucus carota*



0-3 hours

Former hot spring hole on edge of
 Myriad along (believe it and exit road)
 steep slopes of soil w/ *Elytaria arida*,
Pala. bicoloris, *Panicum acuminatum*,
Elytaria bracteosa, 4m EPE, 1.1 DOP, 0513027
 4922782

0573 *Euphorbia*

July August 1, 2006 (Function - stop - it
 cant be August already)

through large *Eupatorium umbellatum*
 var. *undulatum* are on NW side of
 Three miles roughly between Grand Loop
 Road and entrance road ~ 250 plants in
 bloom (Eupatorium form v. *umbellatum*
 var. *major* part) w/ *Helianthus scaberrimus*,
Achillea millefolium, *Panicum laetivium*
 etc. scattered in open in areas
 about same off to these road areas.
 Appears to need good sunlight.

Some patches along road edge

August 3, 2006

Old Faithful Survey w/ Jeff Dale

Eriogonum umbellatum var. *cladophorum*
side on south side of Grand Loop
Road east of the 'bridge' - w/
Artemisia tridentata, *Antennaria flagellaris*,
Hilobeta depressa, *Pumex acetosa*.

20060075 - polygon w/ *Eriogonum*
umbellatum var. *cladophorum* (see above)
large polygon west of Grand Loop Road
from road to old storage area!
Very scattered, rarely dense,
often 20' between plants
~ 200-300 plants ±

