

U. S. DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY

Form Bi-689

FIELD DIARY

Mr. E. A. Goldman

(Official title.)

Period, July 7 to Aug. 12, 1925

Arkansas-Montana-S. Dakota
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Trichostema heterophyllum
Gardner sp. of *Trichostema*

Agropyron nuttallii

Thamnotis mollis
H. & A. Nutt.

Stipa comata
Nuttall's Darling Needle

Andropogon furcatus
Nuttall's Grass

Aspiditis lachrymans
Cuffey's Fern

Desmodium tenuiflorum
F. & A. Nutt.

July 7, Marshall to ~~Greenwood~~ ^{Freeman}
Spp., Arkansas.

Left Marshall 8 a.m. by auto with
H. R. Koen, Forest Supervisor of
Ozark Nat. Forest and travelled via
Western Grove, Harrison and Fulton
to ~~Greenwood~~ ^{Freeman} Spp.

This route afforded an excellent
idea of the timbered character
of the country north of the
Cent. Sec. of the Ozark Nat. For.
While there there are cultivated
sections most of the area is in
forest and the dilapidated
character of buildings is evidence
that the people are not
thriving. Crops are poor, at least
this year, and most of this section
would be of greater value in
forest.

Wolves, a few said to occur

July 7 con.
in section near ~~Freeman~~ ^{Freeman} Joss.

Deer. Extremely few remain ~~the~~
left in this section. A Joubert
ranger said he knew where
on Buck Branch there were 7
deer last year only 1 buck and
2 does are left.

Vegetation. In old fields a dense
growth of ^{subshrub} sassafras, blackberry
and some ^{small} chinchapin is
followed gradually by larger
growth.

Quail. Numerous in this
section.

July 8. Freeman Trps.

~~South to Fair~~ west to vicinity of
Indian Lk, then back to Freeman Trps,
then northwest to Piney Creek and
circled east and south west of Indian
Bayou drainage and south to Russellville.

Trees, Beech, Birch, persimmon,
dogwood, red bud

Deer food. Would consist of a
great variety of plants that
grow in the forest, including
various species of leguminous
vines and many shrubs as well
as small trees.

Permitted Stock on Ozark Forest

77 cattle Twingston Lk. Unit.

17 " " " " "

37 " " White Rock Unit (west end)

About 350 on whole Forest

also a very few sheep, hogs and
horses.

July 8 con.

The Timber cutting. First cutting largely of walnut many years ago.

Fire protection formerly organized abandoned in 1913 and resumed in 1921.

Timber cutting.

Slaves 26 heading cut 18 to 24 in length, Slaves 26 - 48 in in length averaging about 36.

selling now ^{at} 65 per m. ^{cut} 4 1/2 in in width sap wood end all.

R.R. ties, sell for 75 cts. deliv'd on the R.R. 18 ft long 6 x 8 in. sq.

July 9, Cass R. S. Ark.
Left Russellville about 10 AM.
and reached Clarksville about
noon. As guests of Rep. Mountzell
Ragon Mr. Koen and I had
luncheon with the Rotary Club.

We both spoke at the Rotary
Club meeting on local conditions
affecting game and fire on
the Ozark Nat. Forest and did
not get away until about
3 PM. Arrived Cass about
6 PM.

Route was northwesterly
and afforded a good idea
of country which is timbered
continuously all the way
across from middle to
western section of Ozark
Forest.

July 10. Cars to
Russellville.

Rode over higher country
in eastern part of western
Div. of Ozark Nat. Forest,
affording good idea of
character and returned to
Russellville 8.30 P.M.

Western Div. is of sandstone
very similar in character
to middle division and like
it is excellent game
country.

July 11. Left
Russellville 4:06 P.M. for
Washington, D.C.

July 12-13. En route
Washington D.C. arriving on
latter date 3:45 P.M.

July 14-15, at work.
D.C.

July 16. Left work.
3:30 P.M. ~~arrived~~

July 17-19. En route
to Dixon, Mont. arriving
on latter date; met at
12:27 P.M. by Frank H. Ross
and made a trip to
substation near Ravalli
returning late in afternoon to
Brown Range.

July 20 (Mon). Natural
Bison Range.

Rode today with Frank
H. Rose over upper part
of Bison Range checking
our proposed elk trapping
proposition.

July 21 (Tue.), Nat Bison
Range Mont.

Rode with Rose over
parts of Bison, special attention
given to sheep range on
Ravalli side.

Sheep. Saw 3 ewes and
their lambs in one place,
they ran up a little valley
and found 2 large rams
of which I succeeded in
making photographic exposures.
A yg. ewe in another place
appeared to be alone. This ewe
although nearly full grown
had had no lamb this year.
^{Two other ewes seen later.}
Odocoileus (wh. tail), one on

Bison Range caught last
year in another part of the
State (near Libby) by a state
game warden ~~and~~ as a fawn

July 21 con,
and brought up on the
bottle was exhibited at fairs
last year. This deer now
has antlers in his second
year with 5 points on one
side and 4 on the other,

Trip today was skirting around
via creek side of area to Pinta
canyon and then back over top
of hills.

Pica. considerable number
seen along Pinta canyon,
dozens often in sight at a time.

Forage. One of the most valuable
types growing from persistent
root stock has been seriously
damaged ^{in part} but now seems to be
holding its own. The condition
of this favored type may be
taken as an index of general
forage conditions.

Luteo-fulva - wh belly,
black face, sides of head
crown whitish,
of breast salmon, very
green yellow - black
→ rump spotted, white,

(Wed.)
July 27, Natural Bison
Range.

Made trip in forenoon with
Rose by auto to inspect buffalo
herd. We failed however to
find the main herd.

Buffalo. Now partly mottled,
sides and rump often dark
and sleek and a patch of
rough worn pelage left
over shoulders. Seasonal
culling of herd could be done
well at this time, as condition
can be determined better now than
earlier in season as in spring
shaggy coats prevent determining
character so well, and later
in season all are fat and
imperfections less easily
seen.

July 22 con.

Molothrus. One seen riding on buffalo and clinging to shaggy back despite efforts of buffalo to dislodge it by tossing its head and by shaking.

Buffalo. Most of them in good condition. Cowbird riding on back caused some annoyance as buffalo tossed its head, walked off shaking.

Afternoon trip to Nine-Pipe Reservoir.

Horned grebe

Empidonax cyanus.

Agelaius

Sturnella.

Phalaropus (Wilson's)

Shoveller

Ag. albis.

Black tern

July 22 con.
Lesser Yellowlegs ?
Blue-winged Teal ?

~~Barn Swallow~~

Fulica americana

Kingfisher

Cliff Swallow

Foster's Tern

Greater Yellowlegs

Am. Osprey

Marsh Hawk

Mourning Dove

Mallard

Great Blue Heron

Barn Swallow

Avocet - 2 seen.

Night Hawk.

Nine-Pipe Reservoir. This Federal

Bird Refuge includes the waters
of a large dam covering several
hundred acres and affording con-
siderable breeding ground for

July 22 con.

water birds. It is grazed by stock to water's edge however, in many parts and there is a general lack of marsh cover for birds. A number of grain fields near afford some nesting cover for ducks, but it is unfortunate that cattail flog and marsh areas are so extremely limited. Near the reservoir are a number of small pot-holes some up to several acres in extent, bordered by cattail flogs which afford shelter for a number of water birds. According to Rose most abundant breeding duck is Mallard, followed by shoveller, blue-winged teal and scaups. Birds listed above noted in vicinity

July 23. National Basin
Range.

Made trip with Rose in morning
to substation to look over plans
for feeding corral for sheep.

Location is favorable for
establishing a feed yard, to be
reached by a pass-way across
a gulch which will bar buffaloes
and elk. Also proposition to be made
along hill-side for a capturing
chute.

Trip in afternoon to Nine-Pipe
Reservoir.

Ruddy - several small
groups of 3 to 6.

Mallard - flock of perhaps
500.

Scam - 3 or 4.

Gadwall? 2

Belted Lark.

July 23 con.

Truck - Dark head body and
tips of wings - Blue wings
below tips conspicuously
white in flight. 2 seen
circling about together.

Another view of these seems to
reveal whitest under parts,
brownish head & neck and
white probably in secondaries.

Aechmophorus occidentalis
One seen.

Blue-winged teal - A pair
seen flying.

Western solitary Sandpiper -
Several seen.

July 24 (Fri.), National
Beison Range.

Worked on manuscript. Made
trip to Dixon to meet James
Bonds, who were expected
according to telegram, but
they did not come.

July 25 (Sat.), Nat. Bison
Range.

Jones Brothers arrived in
morning and Rose and I
spent the day going over
elk capturing program.

Rode in hills most of day.
Buffalo. Found in bunches
of 25 to 50 or 75 animals in
a number of widely separated
places.

Elk. Several bunches of
five or six to 75 seen
in various parts of the
range. Usually scattered
through the timber or may
be found in groups in the
open even at midday. Groups
may be found lying in shade
of trees.

July 26 (Sun.), National
Bison Range.

Rose and I made a trip up
Thompson River about 75 and
return mainly on a fishing trip.
Day's trip took into lodgepole,
pine country. Several trout
large enough to save, the
largest about 10 inches long
were taken by me. About
half a dozen smaller ones
were caught and thrown
back into the stream.

July 27 (Mon.), Natural
Bison Range.

Jones Brothers came out
from Defon in afternoon and
remainder of day was spent in
discussion of elk trapping
project. In morning various
matters in connection with
Bison Range management were
discussed with Rose.

July 28 (Tues). National
Bison Range.

Jones Brothers came out
from Pipe before noon
and day was devoted to
discussion of elk removal
project.

In the afternoon a trip
was made up Pauline
Coulter to site of proposed
canals.

July 29 (Wed.) National
Bison Range to Drummond,
Mont.

James Doerflinger arrived from
Dixon about 10 A.M. and
discussion of elk removal
was continued until about
2 P.M. when I left with them
by auto en route to Wind
Cave, South Dakota. We
arrived at Missoula about
4 P.M. where I had short
conferences with Mr. Fred
Marrell and with Theo. E.
Marlowe, the former Dept.
Forester and the latter
Chairman of the State
Game Commission. We
arrived about 8.30 P.M. at
Drummond.

July 30 (Thurs.) Drummond,
Mont. to Three Forks, Mont.

Left Drummond about 8 A.M.
and about 11 miles beyond
Garrison on road to Helena
ran into a washout which
took several hours to pass.
A flood had washed out
parts of road and for over
100 feet had left a deep
deposit of debris mixed
with hail the washed soil
washed down being 1 to 2
ft. in depth. Continued from
this place at 12:30 and
reached Helena about 3
P.M. Had conference with
Deputy State Game Warden
Kearney in State Game Warden
Robt. A. Hill's office and

July 30 con.
continued from Helewa on
road to Boguwan at
6 P.M. Reached Three Forks
about 9 P.M. and stopped
for the night.

July 31 (Fri.) Trip
Three Forks, Mont. to Mammoth
Wyo.

Left Three Forks about 9 A.M.
and arrived at Mammoth 5 P.M.

Aug. 1 (Sat.), Mammoth 2 days,
to east entrance of Yellowstone
Park near Sylvan Pass.

Left Mammoth about 10.30
A.M. after conference with
Mr. H.M. Albright, and made
the loop route via Old Faithful
geyser and north to Canyon
Camp and thence back to
Yellowstone Lake Junction and
east to east entrance where
we arrived 10.30 P.M.

Aug. 2 (Sun.), East entrance
Yellowstone Park near Sylvan
Pass to Ten Sleep, Wyo.

Off about 8:30 a.m. and
arrived Ten Sleep about 6 P.M.

Scenic route for about
50 miles to Cody and thence
through rolling hills country
to Ten Sleep near west base
of Big Horn Mts.

Aug. 3 (Mon.) In sleep
to Newcastle, Wyo.

Left In Sleep about 8:30
A.M. and arrived Newcastle
about 11:30 P.M.

From In Sleep road climbs
up steeply to crest of Big
Horn Mts. which are fairly
rugged in places, altitude on
top being about 10000 ft.,
where the road crosses, and
timber line peaks are in
sight in various directions.

Aug. 4 (Tue.) Newcastle
to Wind Cave Game Preserve,
off about 8 AM and
arrived Wind Cave Game
Refuge about 4 PM, where
I found Mr. A. P. Chambers,
the warden in charge.
Went through Wind Cave in
evening.

Wind Cave, contains numerous
~~golden~~ passages said to extend
many miles. We followed the
short route which is said
to cover in the two directions,
in and out about 2 miles;
a longer route covers about
4 miles. Cave is especially
noted for the so-called
box formation.

Aug. 5 (Wed.) Wind Cave
Saw Refuge,

Rode in parlors with
Mr Chambers and the
Jones Brothers.

Aug. 6 (Thurs.) Will leave
Game Refuge.

Final conference with
Jones Brothers and they
left for the east in the
afternoon.

Aug. 7-10, Wind Cave.
Working on correspondence,
reports and routine registration
matters.

Aug. 11, Will leave Home
Purview to Baxter State Park
and return.

Area - 61440 - 12 miles
sq. under fence - in whole
park about 107000.

Mt. goats, 5 - 3 outside in
general area.

Fence - merely 5 ft - woven
wire - with barbed wires
varying in number on top.

Plan now to put 5 on top.

Elk - about 1200 at least.

Buffaloes - 91 adults and
11 calves counted.

Deer - about 1000 of the
two kinds.

Buffalo calves began to
come about 18 of May.

Aug. 11 con.
Albert Lea Hide & Fur Co.,
Albert Lea, Minn.

Mr. F. A. Patton ^{Hermosa, so says} is in
charge of ~~game~~ ^{game} work at
Buster State Park says
he considers this firm
reliable and thinks they
would tan skins cheaper
than some others.

Antelope Refuge, Eastern
part of Handz led. Slim
Buttes County 15 miles
east of Buffalo. Nearly good
4 miles or - 16 miles of fence.
Mr. Patton thinks in ~~the~~ middle
there were about 1000 antelope
in that section. Mr. Patton
thinks would be devoted to
antelope alone. Idea to to
catch 200 or more used

Aug. 11 am.

Mt. Sheep. Patton says of him
killed by elk in winter
when fed oats.

Mr. C. C. Hudson - in charge
of Lodge at Custer State
Park.

Trip included Sylvan Lake,
and Harney Peak, a very scenic
area.

Aug. 12. Wink Cave.

~~Evening~~

Grazing. Effect of grazing, especially by elk are abundantly shown by disappearance, with juice of thimbleberry in general, especially of *Symphoricarpos* and also of the common sage. and the appearance in the patches of *Psoralea* and various weeds.

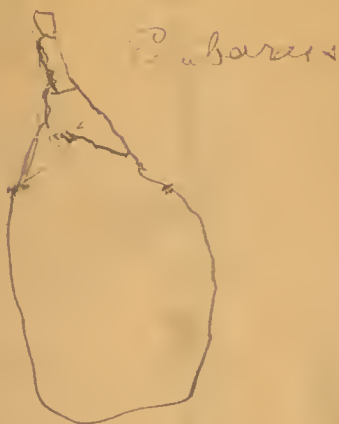
Yellow pine. Abundant reproduction in pasture, but young growth being injured by game, apparently browsing of larch tips which makes them stubby.

Plum. Thickets piled or browsed as high as elk can reach.

Nettles. Cow-nettles are in place considerably browsed by game presumably elk.
Roll in patches and prepared reports.

W. H. Jones
Middlebury Mass

Joseph Maxwell
P. O. Newbury - Newbury



PENALTY FOR PRIVATE USE
TO AVOID PAYMENT OF
POSTAGE, \$300.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY.

WASHINGTON.

OFFICIAL BUSINESS.

U. S. Department of Agriculture,

Washington, D. C.

8-4043

Bureau of Biological Survey.

Bison Range.

Rose says allotment do not
give him sufficient leeway
for hauling work. Many jobs
have to be done that require
two men, such as paving, and
emergency jobs such as a
break in ditch. ~~He~~
He urges that he should have
an allotment for extra labor
@ \$10 = 1080, also item for
"smoking supplies" is insufficient
no additional tools, locks for
gates, repairs for wagon
wheels, new screen for door
and other odds and ends come
up, or item for "special and
miscellaneous" should be
increased ^{to a great} ~~to a~~ ^{needed}
~~for~~ ^{for} ~~to~~ ^{to} ~~time~~ ^{time} ~~to~~ ^{to} ~~time~~ ^{time} ~~as~~ ^{as}
to haul wagon, light
wagon on range & light for
many hauling, should have

~~5/11/44~~
~~No. 1~~
~~2020~~
~~E. C.~~

2/ ^{wagon}
have heavy ^{equipment} especially as
we now have ^{to go} after
both wagons ^{would be} needed
at once, sled is needed for
winter work. Plows will
need to be replaced in near
future. Shop equipment (saw, drill, vice and most of
small tools in shop are
property of a man who works
for us and will be needed
later by him having no im-
munity of tools, so put his tools
on Range rather than ^{supply},
~~with~~ P. modified and small
equipment shop needed ^{where}
our own work can be done
instead of being ^{at} outside.
This should include ^{wagon}
shed. Should have a ^{small}
probably something like

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a Dodge or that in 1910s,
truck that could make
good time on roads when
well loaded, and funds
available buildings should
be repaired.

Feed for mountain sheep
will be needed - say 5 lbs.
a day of grain - 2 or 3 of
bags for winter. ~~500~~ 500 lbs
of grain for winter (rolled
oats or rolled barley) about
\$10.00 for grain. Hay item
would be about 20.00 per T.
or say \$75.00 for feed for
season.

~~There~~ No provision for
regular patrol of Range
someone should ride

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at least one day twice a week, Extra labor could be used for this at times if necessary, but Rose should be able to do much of this himself on detail work.

~~in~~ ~~labor~~ animal work should be continuously on job,

Buffaloes, about 60 should be killed this year - inferior individuals to be culled from herd. These should really be fed when range dries up to put them in condition. Some feed will be required in any case while holding them to the 7. labor.

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Buffalo. Easy crop lifted
this year - about 64 up to
June 30 and a few more.

Deer. Some feeding of deer
is necessary in winter to
keep them about place.

Mixed forage, needed for
various animals at old
Cove.

6) Brink House, Needed when
it can be constructed for
men when working about
the place.

Buffalo meat. Possibility
of selling to man named
Daily in Missouri, and
possibility of turning over to
F.S. If not disposed of very
soon should be destroyed
to stop fill of \$50 to \$100
per month for storage -
cost varying with bulk.

Buffalo meat. Plans should
be made (2 1/2 miles)

Plan to capturing caribou,
should be supervised. Transport
will work some on this at old
times.

ambulance parties - about 500 lbs. to
be made as soon as practicable -
can be carried another year or so.

7) Game, and birds, to be
furnished gratis etc when
possible. This would, of
course, require building of
traps etc!

8/ Buffalo meat Plans
should be made for
selling early in season.
Possibly so might be sold to
old customers through corre-
pondence. ~~It~~ Roughly
estimated 400 buffaloes should
maintain, this estimate to
be modified in accordance
with range conditions.

~~21 70 to 75 bulls~~
~~of which 24 are 3 years old~~
or older leaving 76 which might
be killed (Bulls)

29 old, 11 years or under
and 20 cows all ages 5
considered practically
worthless a total of 60
head, this number to vary
in accordance with elk
disposed ~~of~~ could be
maintained by adding 15 or 20 bulls.

9/ Water development, Springs should be open up and developed so that animals can drink and water available for possible fire fighting. A lot of pipe needed for this unit could be obtained. Possibly available from surplus stocks in hands of Govt. Piping needed at substation, also at Buffalo pens, some pipe at Nebraska that way be available. Some piping needed near house and various other places,

Substation, To be moved to new site.

Asst's quarters, Needs bituminous and porch needed, and eventually six tie tanks.

10/
Topographic map needed
also geologic reconnaissance
needed. Map to be made for
Geol. Surv? This might include
map of timber, rock strata,
and grass areas. An own
man to fill in gaps
in explanation. Rose says
University would do this if
we could put up \$1,000 for
cost of work.

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Buffalo meat, Rose thinks
he could sell them if
he could get out on road,
or he thinks he could
~~just~~ knows of a man
who could sell them on
a commission of \$25 per
head. If approved by
Wash. office he will
write him.

Instead of selling at flat
price of \$150 F.O.B. Missouri
sell 7 old bulls with lubed
horns \$125 each - 5 eight year
old bulls sharp horns \$250
each, 17, 3 & 8 yr. old bulls
\$~~125~~ \$125 to \$200 depending
upon size, 11, 2 to 3 yr. old
bulls \$100 to \$150 according to
size. To be sold hog dressed.
Total bulls 40 to be killed.

12) Buffalo meat con.
allows 10.5 to 150 depending
on type. - Total 20

Dressed meat 20 cts
per pound no sale of
less than one side to
a customer including
N.P. R.R. - this to avoid
having front quarters left.

In addition to above
not less than 72 live
animals preferably 3 years
old and under should
be removed if possible, to
reduce to estimated
carrying capacity with
elk removed. If 60 buffalo
are culled and 72 sold
alive and 450 elk removed
spring feeding may be reduced
1/2 next season.

13) Spring Feeding, Rose
estimates this can safely
be discontinued only when
buffalo and elk are
reduced to a total of
500 with division funds
to control their feeding.

Wind Cave,

Number of animals estimated
as of July 1st - 1923-24-25.

	1923	1924	1925
Buffaloes	106	126	122
Elk	250	250	200
Antelope	17	7	11
Deer (B.F.)	2	2	?

(Reduced from 34 to 11 in
1918 by predatory animals)

Hawes in about 4 months
from Nov. to Mar. last
winter took 59 coyotes
& 6 bob cats on the
Wind Cave Park, nearly
all outside fences however.

Aug. 14 - total number of buffaloes
about 123 - of antelope 13.

Buffalo calves about 19 this year
(over)

Each value perhaps 25 or 30,
but exact number unknown.