

AN INVESTIGATION OF THE  
CURRENT STATUS OF PRAIRIE DOGS  
(Cynomys ludovicianus ludovicianus (Ord)).  
IN THE VAL MARIE, SASKATCHEWAN AREA.

Progress Report

Project - (61-41-01)

Period Covered - July 25 - 28, 1966

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August 11, 1966

## PROJECT REPORT

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Marie, Saskatchewan area.

Investigator: John G. Stelfox

Location of Project: Val Marie, Saskatchewan

### Introduction:

This study of prairie dogs (Cynomys ludovicianus ludovicianus Ord.) in the Val Marie area of Saskatchewan is part of an overall study of the Val Marie - Killdeer region to determine its potential as a Prairie Park. Previous studies (Elliott (1964), Carson, Watson, Beck and Elliott (1965), and Merrill and Muir (1965)) have indicated the area has a high potential as a Prairie Park. The above studies in particular Elliott (1964) make reference to prairie-dog towns in the Val Marie area and Mr. Elliott provided considerable information of locations and conditions of these "dog" towns.

Though prairie dogs were the prime concern in this study, it was also required that data be gathered on the following subjects:

- (1) A determination of the carrying capacity and range condition with particular reference to the possibility of re-stocking the area with animals now extinct, for example buffalo and fox.

- (2) A mammal and bird census.
- (3) Major animal populations and their habitat and environmental situation.
- (4) The possible effect of visitor use and recreation impact upon the wildlife of the prairie.

Soper (1938) reported on his extensive field survey work in search of prairie dog towns in southern Alberta and S.W. Saskatchewan in 1927 and 1937. The same author reported further on the status of prairie-dogs in Western Canada in 1944 (Soper, 1944). His findings revealed no prairie dogs in Alberta and a few colonies in the Val Marie area of Saskatchewan along Frenchman river. It is now understood that this localized concentration of prairie dogs along the Frenchman creek watershed east of Val Marie is the only area in Canada where this species is to be found.

Some poisoning of these colonies has occurred within the past decade by local ranchers while on the other hand the Saskatchewan Provincial Government has provided some grazing tax abatement to ranchers grazing cattle on the Dixon Community Pasture in an effort to prevent further reductions of prairie-dog populations. It was deemed advisable to bring the data up to date on prairie-dog numbers and distributions.

At this date the study is not complete and it is hoped that a one-week field trip in the fall can be arranged to complete the investigation on the above mentioned four subjects in addition to the prairie-dog investigation.

Procedure:

To become acquainted with short-grass prairie plant communities and related bird and mammal species, the author attended the Annual American Society of Range Management Field Trip in the Cypress Hills region of S.E. Alberta and S.W. Saskatchewan for the period July 20 - 22, 1966. The field study was designed to discuss the various plant communities and their reactions to various grazing pressures by livestock and big game. At prescribed stops, talks on vegetation, wildlife, geology and history of the Cypress Hills area were given by authorities on each subject.

From the Cypress Hills the author travelled to Eastend and then to Shaunavon for interviews with old-time residents Corky Jones, Billy Boch and Dr. Dixon. These gentlemen volunteered considerable information on early populations and distributions of prairie-dogs, bison, kit fox, black-footed ferrets and eagles in southern Saskatchewan.

The author then proceeded to the Frenchman creek area east of Val Marie where ranchers Walt Larsen, Bruce Dixon and Raymond Monvoisin were interviewed with regards to current and past populations of the above species. Four of the existing ten prairie-dog towns were examined by the author to gather first hand information on their current status. A continuous record was also kept of all wildlife observed during the study.

Results:

Black-tailed Prairie-dog (*Cynomys ludovicianus ludovicianus* (Ord.))

Soper (1938) described his investigation of south-eastern Alberta in the vicinity of the Milk river and south-western Saskatchewan near Val Marie in 1927 looking for prairie-dog towns. Prior to that date it had not been reliably established that prairie-dogs existed in Canada. Mr. Soper was unsuccessful in locating prairie-dogs in Alberta but did locate one colony about six miles north-west of Val Marie (Colony 1). This small colony had 26 burrows and was located on the Case Prescott ranch. Incidentally, this colony was wiped out in 1937 when the area was inundated by the Val Marie reservoir (Soper loc. cit.).

Following this discovery in 1927, more "dog" towns have since been located and reported on. A historical record of each colony or prairie dog sighting is presented below in Table 1 and Figure 1 followed by a more detailed description of each colony.

Figure 1 below shows the location of each prairie dog colony recorded or of individual sightings. It also separates the colonies or "scout" observations into four historical periods as follows:

<u>Period</u>	<u>Symbol</u>
Prior to 1912 not recorded since	.....
1927 to 1941 " " "	— — —
1927 to 1941 and still present 1964-66	● ● ● ● ●
1964 to 1966 not recorded prior	○ ○ ○ ○ ○

Figure 1 is of interest in that it shows the presence of nine and possibly ten colonies currently in existence. Two of those reported along the lower part of Big Breed creek may prove to be only one colony as a result of one erroneous land description.

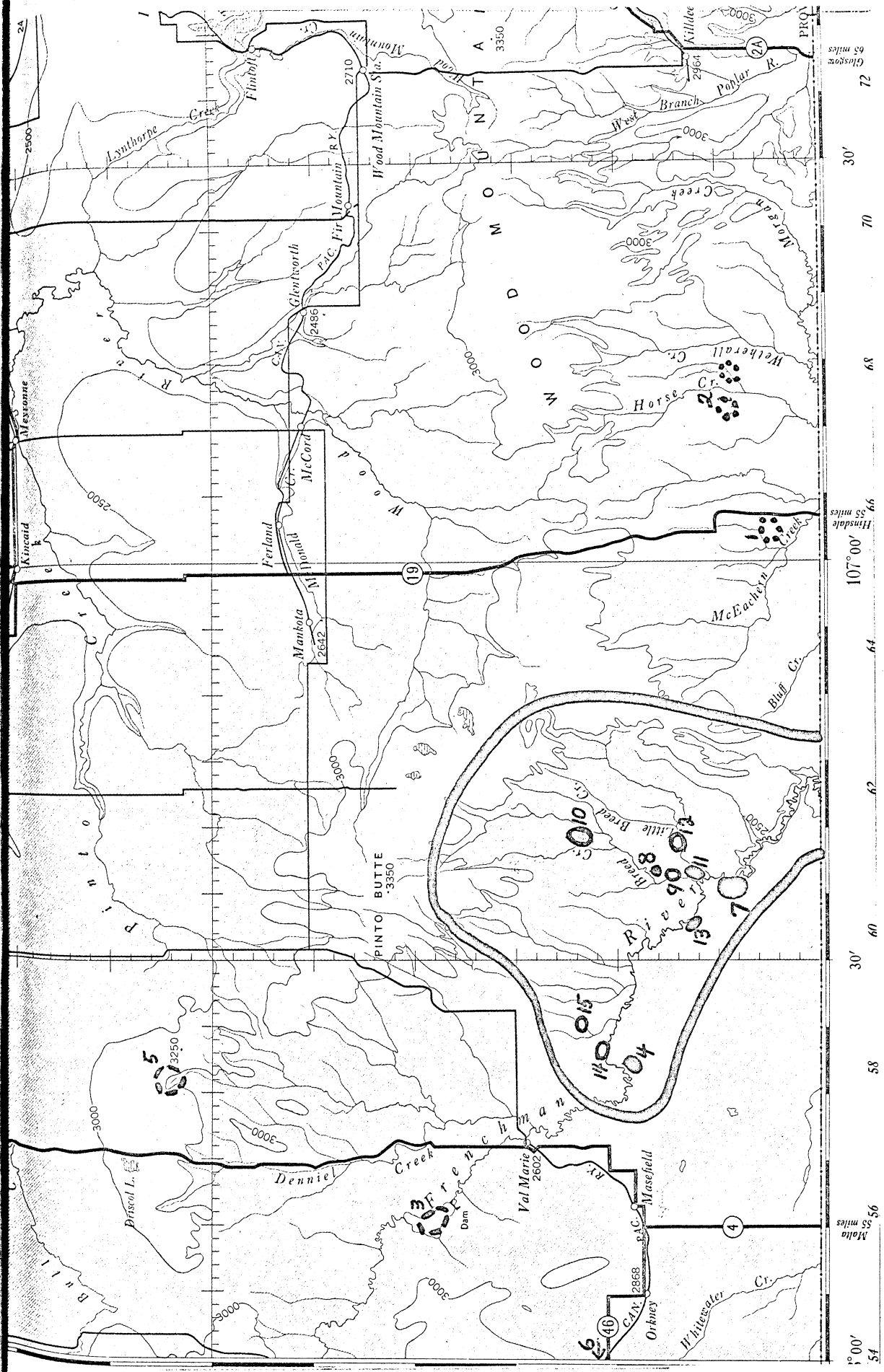


Figure 1. Prairie-dog colony observations 1900 to 1966.  
 — prior to 1912 then died out  
 - - - 1927 to 1934  
 ••• colonies active from 1927 to present date Aug. 1966  
 - - - present colonies not recorded up to 1941  
 - - - suggested boundary for bison herd

Table I below presents the land location of each colony as well as the period when the colony was active.

**Table I.** Locations of prairie-dog towns, or individual sightings, in southern Saskatchewan for the period 1900 to 1966

No.	Land Description	Locality	Period Active	Population
1	Secs. 25, 26, 25, 26 - Twp. 1 - Rge. 8 - W3	McEachern creek	prior to 1912	colony
2	Secs. 29 & 30 - 1 - 6 W3rd	Horse creek	" " "	"
3	Sec. 14 - 4 - 14 W3	Prescott ranch (Frenchman river)	1927 - 1937	26 burrows
4	NE $\frac{1}{4}$ Sec. 23 - 2 - 13 W3*	Prairie Dog Buttes (Frenchman river)	1914 - 1966	large colony
5	Sec. 14 - 7 - 13 W3	Cadillac (Denriell cr.)	1934	1 caught
6	Sec. 22 - 2 - 26 W3	Supreme (Battle cr.)	1930	colony
7	Secs. 27 & 34 - 1 - 11 W3	Dixon ranch (Frenchman river)	1927 to 1966	large colony
8	Secs. 22 & 23 - 2 - 11 W3	Big Breed creek	1964 to 1966	small colony
9	E $\frac{1}{2}$ 15 - 2 - 11 W3	" " "	1927 to 1966	small colony
10	Sec. 7 - 3 - 10 W3	" " "	1964 to 1966	large colony
11	Secs. 3 & 10 - 2 - 11 W3	Little Breed creek	1927 to 1966	small colony
12	W $\frac{1}{2}$ 12 & S $\frac{1}{2}$ 13 - 2 - 11 W3	" " "	1964 to 1966	" "
13	NW $\frac{1}{4}$ 5 & Sec. 7 - 2 - 11 W3	Frenchman river	1950 to 1966	small colony
14	Sec. 6 - 3 - 12 W3	" " "	1950 to 1966	" "
15	Sec. 8 - 3 - 12 W3	" " "	1950 to 1966	" "

\*Mr. Walt Jansen reported that this dog-town at Prairie-dog Buttes was the only dog-town known in the region in 1914. In the drought of the 1920's prairie-dogs moved eastward and northward from this parent colony. On April 10, 1965 the Saskatchewan National History Society obtained a 33-year lease for the NE $\frac{1}{4}$  23 - 2 - 13 W3rd Meridian thereby giving the Society legal means to provide protection to this colony of prairie-dogs (see the Blue Jay June, 1965).

A brief history of each colony or sighting is presented below:

Colonies #1 & 2-

Ranchers in the McEachern and Horse creek areas reported to Elliott (1964) that these colonies were active up to about 1912 at which time they and the Richardson's ground squirrel's died off as a result of some disease.

Colony 3-

This small colony comprised of 26 burrows was studied in 1927 by Soper (op. cit.). As this colony occupied the Frenchman river lowlands that was flooded by a storage dam built in 1937, the colony died out that year and no new colonies adjacent to this one have been reported.

Colony 4-

This colony is reported to have been the original prairie-dog town from which other colonies along Frenchman river originated. According to rancher Walt Larsen (personal interview July 26, 1966) it was the only known dog-town in 1914. During the drought of the 1930's he reports that prairie-dogs moved northward across Frenchman river and eastward from this colony to establish new colonies in the vicinity of Breed and Otter creeks. In 1929, Mr. F. Bradshaw of the Saskatchewan Provincial Museum visited this dog-town (Sec.25 -2 -13 W3rd) and reported it to contain 500 mounds with some 1,000 prairie-dogs (Soper, 1944). In 1937 Soper estimated this colony to cover at least 700 acres with mounds 25 - 50 yards apart and supporting roughly



8,700 animals (Soper, loc. cit.). This colony is still active.

Colonies\_5\_&\_6-

Colony 5 consists of a specimen collected in July 1934, 12 miles S.E. of Cadillac and presently in the National Museum of Canada. It was believed to be a stray or scout from the "Prairie-dog Buttes" colony some 27 miles due south (Soper, loc. cit.). Colony 6 was reported to exist in 1930 near the Consul-Val Marie railway a few miles S.E. of Supreme. This was reported to be a small colony, presumably at the headwaters of Battle creek which flows southward into Milk river (Soper loc. cit.). There have been no further records from these two locations.

Colony\_7-

This large colony lies west of the Bruce Dixon ranch on the west side of Frenchman river. It was visited in 1931 by Charles Holmes of Dollard, Saskatchewan who reported that it extended over 600 acres. It lies nearly midway between the mouths of Little Breed and Otter creeks, although on the opposite side of Frenchman river (Soper, loc. cit.). This colony is shown in Figs. 2-7 inclusive. The area covered by the colony appears to be nearly one square mile or roughly 600 acres. On July 26th at 7:45 P.M. I was able to count 396 prairie dogs, visible from one spot using a 7 x 50 pair of binoculars. I would estimate their total numbers to be at least three times this figure or roughly 1,200 plus. There is no history



Figure 2. Bruce Dixon ranch along Frenchman creek, just east of prairie-dog town.

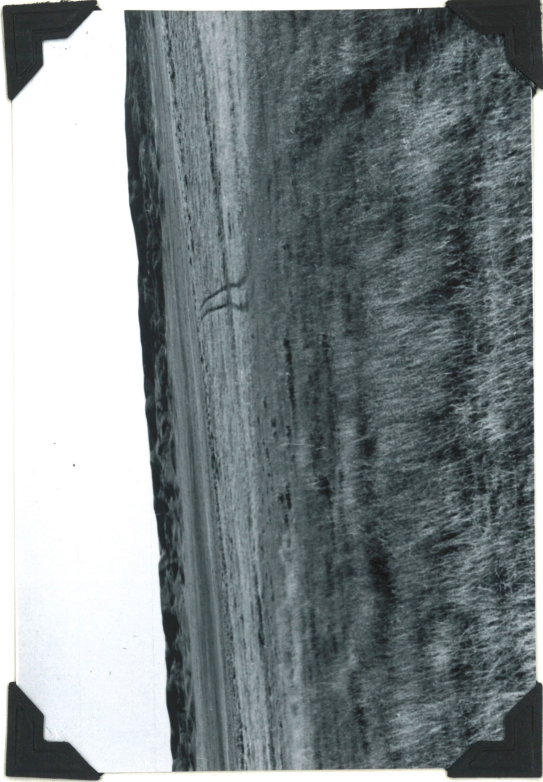
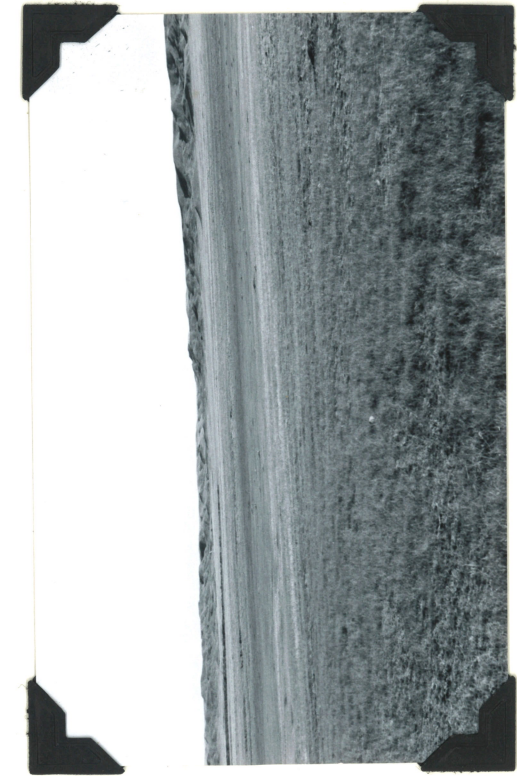
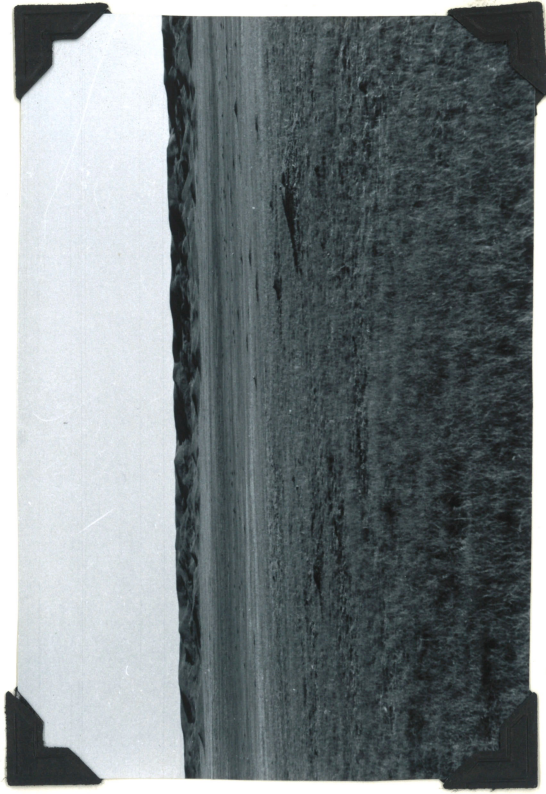
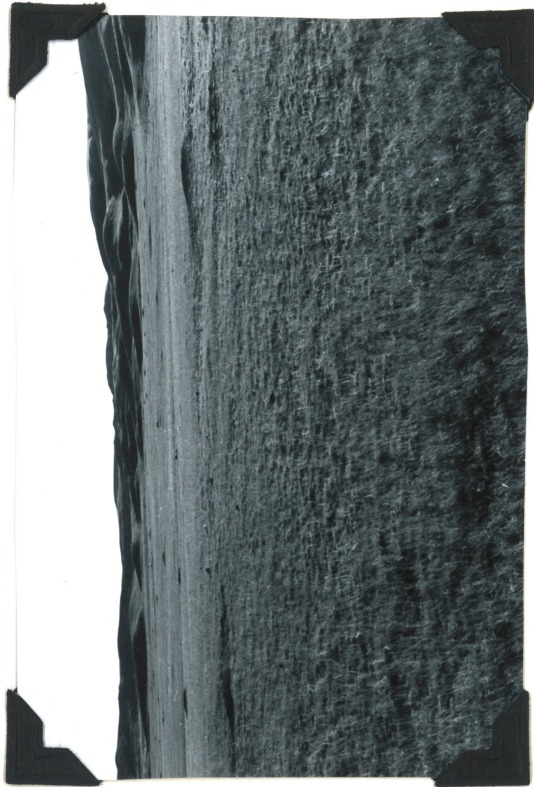
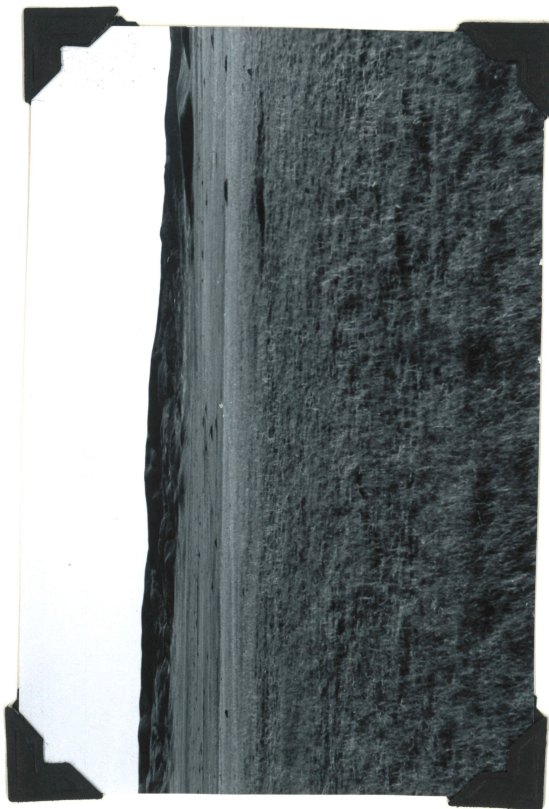


Figure 3. Prairie dog town west of Dixon bldgs. discernable in valley bottom in Secs. 27, 28 & 34 - Twp. 1 - Rge. 11 W 3rd Mer. !



Figures 4 & 5. Close-ups of dog-town west of Dixon bldgs. showing the lower (eastern) portion of colony. Looking southward towards Montana border.





Figures 6 & 7. Close-ups of upper (western) portion of prairie-dog town west of Dixon ranch bldgs. in Secs. 27, 28 & 34  
-Twp. 1 -Rge. 1 -W3rd Meridian. July 26, 1966

of prairie-dog poisoning at this colony and the "town" is presently thriving. Aesthetically, this prairie-dog town is in a very picturesque setting.

#### Colonies 8 & 9-

These colonies occur along Big Breed creek and are relatively small colonies. I have not personally viewed them but they are reported to be quite active according to rancher Bruce Dixon. Soper (loc. cit.) makes reference to colony 9 in the E $\frac{1}{2}$ 15 -2 -11 W3 in his 1937 study and reported it to be 1.5 miles from Frenchman creek near Big Breed creek and about 3.5 miles north of the colony between the mouths of Little and Big Breed creeks. Colony 8 is located in Secs.22&23 -2 -11 W3rd according to Elliott (op. cit.) and from a legal description given the author by rancher Dixon. These colonies may represent only one colony.

#### Colony 10-

This colony along the west side of Big Breed creek is one of the largest prairie-dog towns in southern Saskatchewan. It covers an area 0.8 miles long by approximately 0.25 miles wide. Figures 8 to 12 inclusive show the prairie landscape adjacent to and within the confines of this large colony.



Figure 9. Close-up of Big Breed creek prairie dog town believed to be the most northerly colony in Canada.



Figure 11. Big Breed creek prairie-dog colony looking westerly from the east side near the creek. A heavy growth of pasture sage (*Artemisia frigida*) gives this dog town a purplish-grey color tone.



Figure 8. Big Breed creek prairie-dog town in Sec. 7 -3 -10 W3rd Mer. in background, as observed from south end of colony, July 26, 1966.



Figure 10. Big Breed creek prairie-dog town as observed from south side of colony looking in a north-westerly direction.

Figures 12 & 13 show the prairie landscape east of Big Breed creek. The Stipa - Agropyron faciation characteristic of this bench land is in direct contrast to the Bouteloua - Agropyron faciation found at the Big Breed creek dog town site where Opuntia cactus and Artemisia frigida were prevalent.



Figure 12. Prairie bench land (Stipa - Agropyron faciation) above and to the east of the Big Breed creek prairie dog town in Sec.7 -3 -10 W3rd Mer. Big Breed creek valley in background with prairie dog colony in extreme right part of valley.



Figure 13. Prairie bench land north-east of Big Breed creek. Note the Stipa - Agropyron faciation characteristic of this higher moisture efficiency area.

It is worth mentioning at this point that the common grasses associated with the prairie dog towns were blue grama grass (Bouteloua gracilis (HBK.) Lag.), June grass (Koeleria cristata (L.) Pers., spear grass (Stipa comata Trin. & Rupr.), western and northern wheatgrasses (Agropyron smithii Rydb.) and (A. dasystachyum (Hook.) Scribn.), Sandberg's bluegrass (Poa secunda Presl.) and plains muhly (Muhlenbergia cuspidata (Torr.) Rydb.). Western porcupine grass (Stipa spartea Trin. var. curtiseta Hitchc.) was also observed to a lesser extent on the better soil sites. The Big Breed creek prairie-dog town seemed typical of the Bouteloua - Agropyron faciation occupying a clay loam, eroded solonchic soil. Viewed from a distance, as seen in Figure 8, the entire colony had a greyish-blue appearance due to the prevalence of pasture sage (Artemisia frigida Willd.). Both Opuntia and Mamillaria cactus were common. Common forbs observed at this dog town were Colorado rubber-weed (Hymenoxys richardsonii (Hook.) Cockerell, stemless rubberweed (H. acaulis (Pursh) Parker), plains aster (Aster canescens Pursh), rabbit brush (Chrysothamnus nauseosus (Pall.) Britt.), small flowered rocket (Erysimum inconspicuum (S. Wats.) Macm.), purple prairie-clover (Petalostemon purpureum (Vent.) Rydb.), showy everlasting (Antennaria pulcherrima (Hook.) Greene and A. nitida Greene), and woolly yarrow (Achillea lanulosa Nutt.). Also present around the dog town and near Big Breed creek were the taller shrubs and trees, in particular, hoary sagebrush (Artemisia cana Pursh), greasewood (Sarcobatus vermiculatus

(Hook.) Torr.), silver salt bush (Atriplex argentea Nutt.), western snowberry (Symphoricarpos occidentalis Hook.), rose (Rosa spp.), sandbar willow (Salix interior Rowlee) and buffaloberry (Shepherdia spp.).

The Saskatchewan Government currently provides a grazing tax abatement to ranchers using the Dixon Community Pasture on which the above prairie dog town is located. These ranchers are not required to pay grazing fees on that portion of the pasture covered by prairie dog colonies. This progressive step towards conserving prairie dog towns ensures the survival of the Big Breed creek colony at least.

#### Colony 11--

This colony located about one-half mile from Frenchman river between the lower reaches of Big and Little Breed creeks was studied in 1941 by Soper (1944). This dog town was reported..."to cover many acres on a dry flat with a sparse, shortgrass cover sprinkled with clumps of greasewood and sagebrush." In 1964 this colony was reported to be doing well (Elliott op. cit.). Rancher Bruce Dixon gave the legal description of this colony to the author as NE $\frac{1}{4}$ 3 -2 -11 W3rd Mer.

#### Colony 12--

This colony lies along Little Breed creek in the NE $\frac{1}{2}$  of Sec.12 & S $\frac{1}{2}$  of Sec.13 -2 -11 W3rd. No mention was made of this



"town" when Soper worked the area in 1941 (Soper op. cit.), indicating that this is a relatively new colony. It was reported to be doing well in 1964 (Elliott op. cit.) though it is a relatively small colony. Dixon's have no intention of poisoning colonies 11 & 12 so their welfare is relatively assured for the immediate future.

Colony 13-

This colony lies along the south side of Frenchman river and adjacent to the road running between Walt Larsen's and Bruce



Figure 14. Frenchman river valley as it appears near prairie dog town #13, looking westward along the south side of the river towards Walt Larsen's residence, July 26, 1966.



Figure 15. A good crop of native forage (Crested wheat grass and timothy) produced on the alluvial flood plain adjacent to Frenchman creek and near to prairie dog town #13.

Dixon's ranches. Soper (op. cit.) reports that "it lies in the NW $\frac{1}{4}$  of section 5, township 2, range 11," while Bruce Dixon gave the author the legal description of SW $\frac{1}{4}$  -2 -11 W3rd. Elliott op. cit. shows it lying in Sec.7 -2 -11 W3rd and that it contained about 50 burrows. When the author examined the colony on July 26, 1966, 113 mounds were counted and 91 prairie-dogs were visible above ground. The dog town lies adjacent to the road shown in Figure 14 and south of the alluvial lowlands along Frenchman creek shown in Figure 15. It is very accessible to the public via the road shown in Figure 14. There are signs of it increasing in size during recent years.

Colonies 14 & 15-

These colonies lie in Secs.6&8, Twp.3, Rge.12 W3rd Mer. on the north side of Frenchman river. They are situated on an alluvial and "outwash" fan below the rattlesnake nest marked on Figure 16. Colony #15 is shown on this figure and the viewer will note the deteriorated condition of the "town" following a heavy poisoning program during the last three years. Most of the burrows had a cobwebbing over the entrance but I saw 3 prairie dogs and two burrowing owls at this site. These two colonies were active for some 15 years prior to being poisoned in 1963. Walt Larsen, owner of the ranch maintained that the areas were kept black and devoid of vegetation for this period by the prairie dogs. One year after the towns were poisoned out the area returned to a heavy stand of "bluejoint".

Figures 16 & 17 show the good stands of grass that have taken over both colonies.

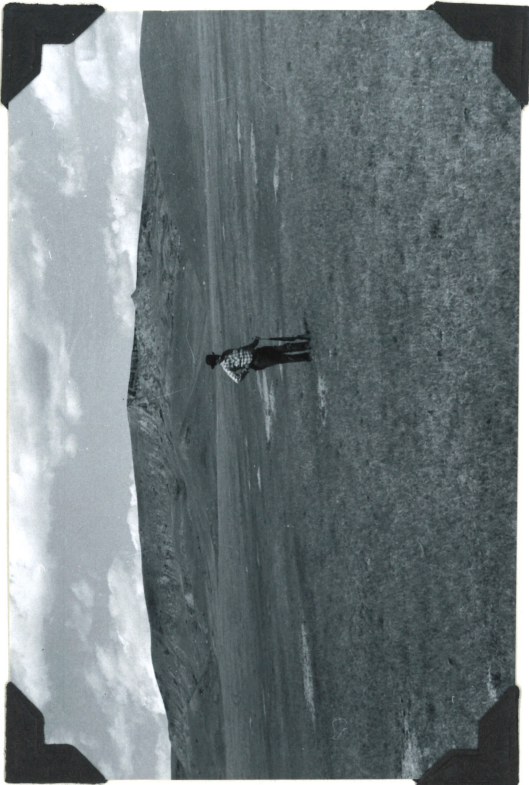


Figure 16. Old prairie-dog town #15 poisoned in 1963 and now containing only a few active mounds. A good stand of grass has grown over the area. A large rattlesnake nest is located at the base of the vertical escarpment in the background.



Figure 17. Old prairie-dog town #14, poisoned in 1963. Only a few prairie-dogs remaining. The site of the parent dog town #4 is located in the background south of the Frenchman river.

The main grasses observed by the author at these locations were junegrass, western wheatgrass, northern wheat grass, Sandberg's bluegrass and

plains muhly. The good stands of grass presently being produced on these old dog-towns as well as the report by the rancher that the area was a productive livestock winter range prior to the prairie-dogs taking it over seems to contradict the common belief that prairie dogs do not seriously deplete cattle forage and that they occupy poor range sites.

The site of the parent prairie-dog town (Colony #4) described above and active since prior to 1914 can be seen in the background of Figure 17 on the south side of Frenchman river. The river course is represented by a dark browse line while the dog town is located in the valley to the south of the river. In the foreground can be seen some of the old mounds from Colony 14 although the near-complete grass cover indicates that this colony has almost completely disappeared.

#### Range Conditions and Carrying Capacities

In the Val Marie area 50 to 60 acres of range are required to maintain one animal-unit on a yearly basis (Merrill, 1965). The best livestock and bison range was observed to be along the bench land above Frenchman river (Figures 12 & 13). Portions of the flat alluvial plains along the Frenchman river have fair livestock carrying capacities (Figures 14 & 15). As one progresses eastward away from Frenchman river towards Killdeer range conditions deteriorate and the area takes on a true badland aspect.

During the 1800's bison evidently were quite common in southern Saskatchewan. Dr. H. Dixon on whose ranch several prairie-dog towns occur reported having seen numerous bison skulls in the Frenchman valley area. Rancher Walt Larsen reported that bison evidently used the Frenchman valley a great deal as he has seen numerous skulls and deep trails made by them. He was also of the opinion that these animals normally migrated south into Montana or further in the winter to return the next spring. Rancher Raymond Monvoisin of Little Breed creek remarked that bison skulls were plentiful near a spring along this creek. This evidence shows that Frenchman river and Breed creeks were originally favorable for bison, at least during portions of the year. It was commonly believed that prior to the great overland emigration to California that divided the bison into two bands, they were found in summer on the plains of the Saskatchewan and the Red River of the North and spent the winter in Texas (Roe 1951). North of the United States, bison still performed very extended migrations as late as 1858. They are described as merely leaving the more exposed portions of the plains during the deepest snows and severest periods of cold to take shelter in the open woods. There are numerous attestations of their former abundance in winter at Calton House, in latitude 53° east of North Battleford, as well as at other Hudson Bay posts (Allen 1876). Hornaday (1887) remarks "The herds which wintered on the Montana ranges always went north in the early spring, usually in March, so that during the time

the hunters were hauling in the hides taken on the winter hunt the ranges were entirely deserted. It is equally certain, however, that a few small bands remained in certain portions of Montana throughout the summer. But the main body crossed the international boundary, and spent the summer on the plains of the Saskatchewan, where they were hunted by the half-breeds from the Red River settlements and the Indians of the plains." Evidently at least some bison remained on the Western Canadian prairies throughout the winter, according to statements by Catlin (1851) to the effect that..."It is very evident that, as high north as Lake Winnipeg, seven or eight hundred miles north of this, the buffalo subsists itself through the severest winters, getting its food chiefly by browsing amongst the timber, and by pawing through the snow, for a bite at the grass...". Roe (op. cit.) seemed to feel that although there was a pronounced north-south migration in the spring and fall seasons there were similarly east-west movements and that some bison were found throughout their entire range at almost all periods. One may conclude then that the Val Marie - Killdeer area of Saskatchewan supported larger numbers of bison during the summer than during the winter but that some probably remained in the most suitable localities during the latter period. It seems reasonable to assume that they would seek out the open wooded areas along the north side of Wood Mountain during periods of inclement winter weather. They likely also concentrated in favorable micro-climatic areas on the open prairie, especially where protective brakes and bluffs or

heavy willow shelter could be found. It is worth noting that rancher Walt Larsen, who has ranged along the Frenchman river east of Val Marie for the past 50 odd years, states that his cattle winter very well on the open range of his ranch and that he suffers no appreciable losses even during the most severe winters. This evidence suggests that at least portions of the Frenchman valley would winter bison satisfactorily. The author proposes to study the value of the Val Marie - Killdeer area for year-round bison range more fully this fall. Present knowledge, however, indicates that the Frenchman river, Breed creeks and Otter creek drainage system is likely the most favorable bison range of the entire Val Marie - Killdeer region. A suggested boundary for a future bison herd is given on Figure I. This area takes in all the known prairie-dog towns, includes portions of the flat prairie bench land as well as the rough brakes extending downward to the well-watered Frenchman river, Breed and Otter creek lowlands. All six "Mixed Prairie" faciatiations described by Coupland (1950) seem to be represented, to some degree at least, in this area thus allowing the bison a good variety of prairie vegetation to select from. It also includes areas of rough buttes, brakes and thick willow cover that will be of value during periods of inclement weather.

#### A Mammal and Bird Census

The following species were seen in the Val Marie, Frenchman river, Breed creek and Mankota area;

A. Bird Species-

1. Herons, Egrets, Bitterns - Family Ardeidae

None were seen but ranch workers reported seeing the great blue heron (Ardea herodias) along the Frenchman river.

2. Swans, Geese, Ducks - Family Anatidae

(a) Geese - Rancher Raymond Monvoisin of Little Breed creek reported having a pair of large Canada geese (Branta canadensis) on his ranch for the past two summers. They brought off two goslings in 1965.

(b) Ducks - Pond ducks were common along Frenchman river. Positive identification was not made of the various groups observed though most appeared to be mallards (Anas platyrhynchos), pintails (Anas acuta), gadwalls (Anas strepera), green-winged teal (Anas carolinensis), blue-winged teal (Anas discors), shovellers (Spatula clypeata) and baldpates (Mareca americana).

3. Vultures - Family Cathartidae

(a) Turkey vulture - (Cathartes aura)

Mr. Corky Jones has lived in southern Saskatchewan since 1898 and he reported that turkey vultures used to be very plentiful up to the time of World War I (1914). No further historical records of this species were obtained.



(b) Eagles - Subfamily Buteoninae

Dr. Dixon reports there are still lots of bald eagles (Haliaeetus leucocephalus) in the Val Marie area, while ranch hands on Walt Larsen's ranch report seeing a few bald eagles and also some golden eagles (Aquila chrysaetus) along Frenchman river and Breed creek. Bruce Dixon reported that a pair of golden eagles have a nest on Otter creek and that two large golden eagles were seen in early June 1966 along Breed creek. He further reported eagles to be more numerous during recent years. Most of the eagles are golden eagles.

(c) Harriers - Subfamily Circinae

1. Marsh hawk (Circus cyaneus)

Five marsh hawks were seen on July 26 and 27, observed as three singles and one pair.

(d) Falcons - Subfamily Falconinae

1. Prairie falcon (Falco mexicanus)

One was seen making a sweep over the prairie-dog town in Sec.7 -2 -11 W3rd Mer. on July 26th.

4. Grouse - Family Tetraonidae

(a) Sharp-tailed grouse (Pedioecetes phasianellus)

Four broods numbering 7, 6, 6 and 8 juveniles per brood were seen in the vicinity of Big

Breed creek. They appear to be quite common along the prairie bench-land and brakes leading down to the stream bottoms. Workers on the Larsen ranch reported seeing a flock of about 50 sharptails on the hayland in July, 1966.

(b) Sage grouse (Centrocercus urophasianus)

This species was found to be very plentiful all the way wouth of Cadillac to Val Marie, east of Val Marie to Coriander, along the Frenchman river, Big Breed creek, north to Mankota and east to Cadillac. Eight broods numbering 5, 3, 6, 2, 3, 5, 5, & 7 as well as 8 hens and 2 unclassified for a total of 46 sage grouse were seen on July 26 and 27th. A large sage grouse dancing ground is reported at the Big Breed creek prairie-dog town in Sec.7 -3 -10 -W3rd Mer.

5. Pheasants, Partridges - Family Phasianidae

(a) Ring-necked pheasant (Phasianus colchicus)

A light population is found along Frenchman river and Breed creeks. A hen with 8 chicks, two cocks and one unidentified were seen along the Frenchman river.

(b) Gray (Hungarian) partridge (Perdix perdix)

A light population occurs along Frenchman river and Breed creeks, while a fairly good population is found on the benchland where the native

prairie is interspersed with cultivation. Four broods numbering 9, 14, 11 and 19 in addition to four pairs of adults were seen on July 26 & 27.

6. Plovers, Turnstones - Family Charadriidae

(a) Killdeer (Charadrius vociferus)

This species was common along Frenchman river and was quite common between Mankota and Cadillac.

7. Snipes, Curlews, Sandpipers - Family Scolopacidae

(a) Long-billed curlew (Numenius americanus)

One was seen east of Val Marie on July 26th towards Coriander.

(b) Willet (Catoptrophorus semipalmatus)

This species was locally abundant along the Frenchman river. Five were seen on the Larsen ranch and another bunch of five on the Dixon ranch.

(c) Sandpiper (Erolia spp.)

One group of about 15 sandpipers (unknown species) were observed east of Val Marie on July 26th.

(d) Marbled godwit (Limosa fedoa)

One group of four were seen by an alkaline slough east of Val Marie on July 26.

8. Pidgeons, Doves - Family Columbidae

(a) Mourning dove (Zenaidura macroura)

This upland game bird is very common

east of Val Marie. A total of 63, averaging 2.4 per group, were seen throughout the area on July 26 & 27. Their distribution was widespread over the area studied.

9. Owls - Family Strigidae

(a) Burrowing owl (Speotyto cunicularia)

Two were seen at the old prairie-dog town north of the Frenchman river on Walt Larsen's ranch and one was seen at the large active dog town west of Dixon's buildings.

(b) Short-eared owl (Asio flammeus)

One was seen along the Frenchman river and two along Breed creeks.

10. Flycatchers - Family Tyrannidae

(a) Western kingbird (Tyrannus verticalis)

This species was seen several times along the Frenchman river.

(b) Say's phoebe (Sayornis saya)

One was seen at Walt Larsen's buildings along the Frenchman river.

11. Larks - Family Alaudidae

(a) Horned lark (Eremophila alpestris)

This species, the western meadowlark and the lark bunting were the most common small birds observed along the prairie trails. Another small bird believed to be the Sprague's pipit was also common along the trails.

12. Swallows - Family Hirundinidae

The cliff swallow (Petrochelidon pyrrhonota) and/or the barn swallow (Hirundo rustica) were seen on the evening of July 26th along the Frenchman river near Dixon's ranch buildings.

13. Crows, Magpies, Jays - Family Corvidae

(a) Black-billed magpie (Pica pica)

This species was very common along the Frenchman river and Breed creeks.

(b) Common crow (Corvus brachyrhynchos)

Though not as common as the magpie it was seen in several places on July 26 & 27th.

14. Mockingbirds, Thrashers - Family Mimidae

(a) Brown thrasher (Toxostoma rufum)

One was seen in the shrubby cover along Frenchman creek near the bridge west of Dixon's.

15. Shrikes - Family Lanidae

(a) Loggerhead shrike (Lanius ludovicianus)

One was seen along the Frenchman river on the Dixon ranch.

16. Meadowlarks, Blackbirds, Orioles - Family Icteridae

(a) Western meadowlark (Sturnella neglecta)

This species was very abundant throughout the area.

(b) Redwinged blackbird (Agelaius phoeniceus)

Several of these birds were observed along the Frenchman river.

(c) Brewer's blackbird (Euphagus cyanocephalus)

This species was common along the Frenchman river valley.

17. Grosbeaks, Buntings, Finches, Sparrows - Family Fringillidae

(a) Chestnut - collared longspur (Calcarius ornatus)

Several of these birds were seen at the Big Breed creek prairie-dog town.

(b) Lark bunting (Calamospiza melanocorys)

This species was found to be common throughout the area.

B. Mammal Species-

1. Order Lagomorpha (Pikas, Hares, Rabbits)

(a) White-tailed prairie hare (Lepus townsendii campanius Hollister)

One was seen along the Frenchman valley and one along Little Breed creek valley.

(b) Black Hills cottontail rabbit (Sylvilagus nuttallii grangeri (Allen))

One was seen along the Frenchman river on the Larsen ranch.

2. Order Rodentia (Rodents)

- (a) Richardson ground squirrel (Citellus richardsonii richardsonii (Sebina))

This species is very common throughout the area and is also found on the periphery of the prairie-dog towns.

3. Order Carnivora (Carnivores)

- (a) Prairie coyote (Canis latrans latrans Say.)

One was seen and some heard along Breed creeks.

- (b) Northern Plains red fox (Vulpes fulva regalis Merriam)

Though none were seen, the author heard from several sources that this species had increased in numbers very noticeably during the last few years. Workers on both the Larsen and Dixon ranches remarked seeing them quite often in the last couple of years along the Frenchman and Breed valleys. A similar increase in their numbers is presently occurring to the west in the Cypress Hills and throughout southern Alberta. They were practically unknown in southern Alberta until about 1963, but are currently showing up in many prairie localities.

(c) Prairie kit fox (Vulpes velox hebes Merriam)

None were seen and none reported as observed by residents in the Val Marie area during the last 20 years. Dr. H. Dixon remarked that the kit fox had practically disappeared for about 20 years but that it is now coming back and is becoming quite plentiful. However, his son Bruce and their ranch hand felt that Dr. Dixon was referring to the red fox as they had not heard of anyone seeing a kit fox in recent years. It is just possible that with the marked increase in red fox numbers that the kit fox may return to this prairie region if there is a nucleus of them in the near vicinity. Old-timer Corky Jones stated that the kit fox was very common in southern Saskatchewan until about World War I (1914).

(d) Black-footed ferret (Mustela nigripes (Aud. and Bach.))

Only one of the old-timers and ranchers interviewed had ever seen a black-footed ferret. Rancher Walt Larsen reported having seen one of this species in the 1930's at the site of the old parent prairie-dog town (#4) on the south side of Frenchman creek. He was able to distinguish the animal as not being a weasel or mink and some years later in describing it to an authority was informed that it was a black-footed ferret.



4. Order Artiodactyla (Even-toed, Hoofed Mammals)

- (a) Rocky Mountain mule deer (Odocoileus hemionus hemionus (Rafinesque))

Though none were seen, this species was reported to be presently very common along the Frenchman and Breed valleys by local ranchers.

- (b) Dakota white-tailed deer (Odocoileus virginianus dacotensis Goldman and Kellogg.)

One white-tailed buck was observed along the Frenchman valley and this species was reported to be plentiful throughout the area.

- (c) American prong-horned antelope (Antilocapra americana americana (Ord.))

This species is quite common throughout the Val Marie area. Two herds were seen near the Frenchman river and Big Breed creek. These herds were comprised of 3 bucks, 4 does with single kids and 1 doe with twins. On the Larsen ranch a worker had recently seen a buck with 4 does and 8 kids along the Frenchman river valley. They are reported to be much less numerous than prior to the inclement winter of 1964-65.

C. Reptiles and Amphibians-

1. Order Serpentes (Snakes)

- (a) Prairie rattlesnake

None were seen though this species is reported to be very common along the Frenchman river and to a lesser extent Breed creeks. A large rattlesnake den is situated just north of prairie-dog towns #14 & 15 about two miles north of the Frenchman river. Rancher Larsen reported that there were no rattlers north of the Frenchman river in the early part of the 1900's. It is interesting to note that he reported the prairie-dogs moved north of the Frenchman during the drought of the 1930's while rancher Bruce Dixon reported the rattlesnakes moved north of this river about 1937 when the river dried up. Perhaps the Frenchman river provided a barrier to both the prairie dog and rattlesnake, in some areas at least, until it dried up in the 1930's. In any event, the rattlesnake is reported to have expanded its range north of the river during the last few years so that it is now considerably more abundant. At the large den reported above, Mr. Larsen and others killed an estimated 65 rattlers one September a few years ago. He claims there were no snakes on his ranch prior to about 1950. During the week of July 19 - 26th, 1966 six rattlesnakes were killed on the Dixon ranch. Bruce Dixon reports them to have been very plentiful on the ranch (but south of the river) in 1934 as they had killed as many as 17 in

one day while haying. He believes there is a den on his ranch though it has not yet been found. Rancher Raymond Monvoisin who ranches near the headwaters of Little Breed creek reports having rattlesnakes on his ranch.

Major Animal Populations and their Habitat and Environmental Situation

Data on this topic was presented above in the Bird and Mammal Census section. However, a brief resume at this point is in order.

Deer (mule and white-tailed) and antelope are well distributed and quite abundant throughout the Frenchman river drainage east of Val Marie. Their numbers are down from those present prior to the severe winter of 1964-65. Habitat conditions look very favorable for their survival and perpetuity under current land-use practices.

Coyotes and red foxes are presently in good numbers with the fox increasing to a marked degree in recent years. No information was obtained to indicate that the kit fox is present in the area but it may show up in the near future in conjunction with the build up of red fox numbers.

Upland game birds (sage grouse and sharptails) are well distributed throughout the area and are currently abundant. The two exotics (pheasants and grey partridge) are spotty in their distribution

but are found in limited numbers throughout the area. Mourning doves are common throughout the Frenchman river and Breed creek valleys. Habitat conditions are excellent for sage grouse and sharptails. Pheasant and grey partridge habitat is confined to areas of heavy herbaceous and shrubby vegetative cover along stream courses in the mixed prairie community or to shrubby areas on cultivated bench lands. Mourning dove habitat is restricted to areas where open shrub and tree cover is available along the stream banks, brakes and buttes or around farm buildings. Current habitat conditions are favorable for the perpetuity of this mixed upland game bird population. This is due to the interspersion of flat, open prairie bench land with rough, eroded terrain supporting patches of tall herbaceous and brushy cover. Similarly, the interspersion of native prairie vegetation with cultivated forage and grain crops is more favorable, from both a food and shelter stand point, than either straight prairie or straight cultivated land for upland game bird and ungulate mammal populations.

Figure 18 below shows the habitat preferred by sage grouse broods in mid summer. Undoubtedly they obtain a richer diet of vegetation and insect life along the periphery of grain crops, roadsides and edges of native prairie land rather than on straight native prairie habitat.



Figure 18. Mid summer sage grouse habitat east of Val Marie. Here the grouse forage along the roadsides and in the grain fields though always near to native prairie vegetation.



Figure 19. *Opuntia* cactus common in the vicinity of prairie-dog towns.

Prairie dogs and rattlesnakes have been on the increase during the last decade and the Saskatchewan government has taken steps to ensure the survival of at least one dog town on the Dixon Community pasture. However, a poisoning campaign on the Larsen ranch during the last three years has almost eradicated two colonies on the north side of the Frenchman river. It would seem desirable to obtain easements from the ranchers to protect the most spectacular prairie-dog towns at least. These are numbers 4 (Prairie-dog Buttes), 7 (Frenchman river, Dixon ranch) and 10 (Big Breed Creek, Dixon Community Pasture). Number 10 is already protected under the tax abatement scheme.

The rattlesnake nests should be protected if possible, especially some of the more spectacular ones such as the one at the base of the vertical escarpment on the Larsen ranch. As mentioned above the rattlers were subjected to very heavy mortality at this den a few years ago and during the same month it was dynamited. Such practices could wipe out local populations very quickly.

The Possible Effect of Visitor Use and Recreation Impact  
upon the Wildlife of the Prairie

The author is not qualified to discuss this subject at the present time. It will be discussed in a later report when more detailed information has been gathered for the entire Val Marie - Killdeer area. At the present time I can not envisage normal park visitor use being detrimental to any of the wildlife species mentioned above. This assumes that the discharge of firearms or destruction of habitat by visitors will be denied.

Summary and Conclusions

A preliminary survey of the short grass prairie and its related wildlife species in southern Saskatchewan was conducted between July 19th and July 28th. Of prime concern was the Val Marie - Killdeer area though it was deemed advisable to secure background information from other areas. An examination of prairie vegetation and related wildlife species was made in the Cypress Hills region of S.E. Alberta

and S.W. Saskatchewan during the period July 20 - 22 in conjunction with the American Society of Range Management field tour. From here, the author proceeded to Eastend and then Shaunavon to discuss wildlife populations and distributions in southern Saskatchewan during the late 1800's and early 1900's with old time residents now residing in these two communities. The author then studied the area east of Val Marie along the Frenchman river valley and Breed creek valleys and north eastward to Mankota. A study of the area between the Frenchman river and Killdeer is slated for mid-September.

Of prime concern during this study was the current status of the prairie-dog as well as the potentials of the area for reintroduction of extinct animal species in particular bison and kit fox. Briefly, the Frenchman river and Breed creek area holds a wonderful potential for a prairie park because it presents portions of each of the six Mixed-Prairie faciatiations described by Coupland (1950). The area offers an interesting admixture of flat prairie bench-lands interspersed with well eroded buttes, brakes, alluvial plains and fans, colluvial features and winding stream courses. There is the wide expanse of open, bare ground and low grass covered prairie, heavily eroded blow outs on valley bottoms but also thick herbaceous and shrubby cover adjacent to the streams and some of the more moist sites. All of these features blend to provide the diverse habitat features necessary to provide a maximum variety of bird and mammal species.

The prairie-dog has generally increased in number and distribution during the last decade so that presently there are at least nine and probably ten dog towns. Two of these are in a precarious state while the others are very active and thriving.

Rattlesnakes have similarly increased in number and distribution in the last few years. The large den on the Larsen ranch was almost wiped out by shooting and dynamiting a few years ago.

The potential of the Frenchman river and Breed creek valleys and adjacent bench lands for a bison range is very good. The condition of the Stipa - Bouteloua - Agropyron range is fairly good plus the fact that bison were found in this area in the 1800's. Due to the fact that cattle winter well on the open range along Frenchman creek, the area should support a herd of bison on a year-round basis quite readily.

Upland game birds (sage grouse, sharp-tailed grouse, pheasants, grey partridge and mourning doves) are well represented. Mule and white-tailed deer as well as antelope are in good supply throughout the area.

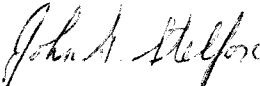
#### Literature Cited

- Allen, Joel A. 1876. The American bisons, living and extinct. Memoirs of the Museum of Comparative Zoology, Iv, No. 10, Cambridge, Mass. From Roe (1951).



- Catlin, George. 1851. Letters and notes on the North American Indians, 8th edition, 2 vols. London, 1851. From Roe (1951).
- Coupland, R.T. 1950. Ecology of mixed prairie in Canada. Ecol. Mono. 20: 271 - 315.
- Elliott, C. 1964. Trip from Val Marie to Killdeer, August, 1964. Typed report received from Park Naturalist Dalton Muir.
- Hornaday, William T. 1887. The extermination of the American bison, with a sketch of its discovery and life history. Smithsonian Report, 1887 (Washington, 1889), Part II, 367 - 548. From Roe (1951).
- Merrill, C. June 1965. National Park potentials in Saskatchewan. Planning Division Report #44.
- Roe, F.G. 1951. The North American bison. Univ. of Toronto Press, 1951.
- Soper, J. Dewey. 1938. Discovery, habitat and distribution of the black-tailed prairie-dog in Western Canada. Jour. Mamm. 19 (3), 1938.
- - - - - 1944. Further data on the black-tailed prairie-dog in Western Canada. Jour. Mamm. 25 (1), 1944.

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