

Technical Report No. 188
SMALL MAMMAL STUDIES ON JORNADA
AND PANTEX SITES, 1970-1971

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ABSTRACT

Results of the small mammal studies on the Jornada and Pantex Sites of the Grassland Biome revealed populations of rodents markedly reduced in 1971 from 1970. Biomass estimates of rodents in grams per hectare on the Jornada in 1971 as compared to 1970 revealed amounts that were 75% less in the spring, 65% less in summer, and 56% less in the autumn. The rodent biomass at Pantex was also less (except in autumn) in 1971 than in 1970: spring, 33% less; summer, 84% less; and autumn, 26% greater. Lagomorph populations remained about the same or greater in 1971 than in 1970. Because a different census technique was used in 1971 than in 1970, data were difficult to compare. Studies of the impact heteromyid rodents have on the desert grassland of the Jornada were assayed by excavating and mapping their burrow systems. An aboveground index of belowground burrow extent was developed.

Rodents, rabbits, and bats were also collected to obtain weight, reproductive, food habit, and additional demographic data. A total of 300 specimens was taken, representing 19 different species. Considerable effort was devoted to snap trapping since rodent populations were low.

The extended drought on both study plots, with resultant general absence of aboveground forage and seeds, may have been the principal factor in the low population densities of rodents.

INTRODUCTION

Studies of the biodynamics of small mammal populations were continued on the Pantex and Jornada Sites in the Comprehensive Network Program of the U.S. IBP Grassland Biome. The design of the small mammal study was set forth in Technical Report No. 85 (French, 1971). Unless otherwise noted, studies at Pantex and Jornada were conducted in accordance with this design. Specific objectives of the studies in 1971 were (i) to estimate population densities of rodents and lagomorphs using various techniques, (ii) to convert population density estimates into biomass, (iii) to record reproductive condition and food habits from sacrificed specimens, and (iv) to interpret functional impact of certain key species of rodents on areas of intensive study.

Population estimates were based on four sampling periods (May, June, August, and November) on both sites. Sampling was conducted concurrently at both sites to generate comparable data. Demographic data were obtained from live-trap grid plots in the same positions as those in 1970 (on a lightly-grazed condition at the Jornada and on an ungrazed plot at Pantex). All specimens sacrificed were preserved for future examination and are housed in the museum at Texas Tech University, Lubbock. Graduate students who assisted me in the field and laboratory were R. E. Martin, K. G. Matocha, T. R. Mollhagen, and R. W. Wiley.

MATERIAL AND METHODS

Rodent populations were estimated by live-trapping, marking, and releasing them on a grid quadrat on each site. These grids were identical to live-trap grids utilized in the 1970 study (Packard, 1971). Each grid

was identical in size (2.76 ha in area of coverage) and had 12 × 12 trap stations (144 total) with two traps at each station. The trap stations were located 15 m apart. The same method of marking live-trapped mammals was employed as in the 1970 studies (toe-clipping, Packard, 1971). All information obtained from live-trapped mammals was recorded on data form NREL-10 as in 1970.

In contrast to the 1970 studies, there was no pre-baiting; and traps were opened, baited, and checked for a 5-day period. Sherman live traps (aluminum 3 inches × 3½ inches × 9 inches collapsible) were used on the Pantex quadrat, whereas wire-can traps (Fitch, 1950) were employed at the Jornada Site. The latter type of trap was used at Jornada because of its higher ratio of catch per trap in sandy soil areas in comparison to the Sherman live traps (Packard, in press).

Museum Special mousetraps, four-way Victor rattraps, additional Sherman (galvanized) live traps, and wire-can traps were all employed on both sites to obtain samples of rodents to be sacrificed for weight, reproductive, and food habit information. These mammals were collected in various habitat types on both sites.

Density of lagomorph populations was estimated using the technique developed by Flinders and Hansen (1971a,b) and Hansson (1969). Census routes were laid out through habitat comparable to the intensive quadrat plots insofar as was possible. The routes did not follow any traveled roads (Fig. 1 and Fig. 2). Only Route 1 at the Jornada passed through an area somewhat dissimilar to the quadrat site. The initial 3 miles of this route traversed a mesquite (*Prosopis* sp.) sand dune area. Observed jackrabbits and cottontails were recorded on data form NREL-15 (French, 1971). Sufficient repetitions

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JORNADA EXPERIMENTAL RANGE
 DONA ANA COUNTY
 NEW MEXICO
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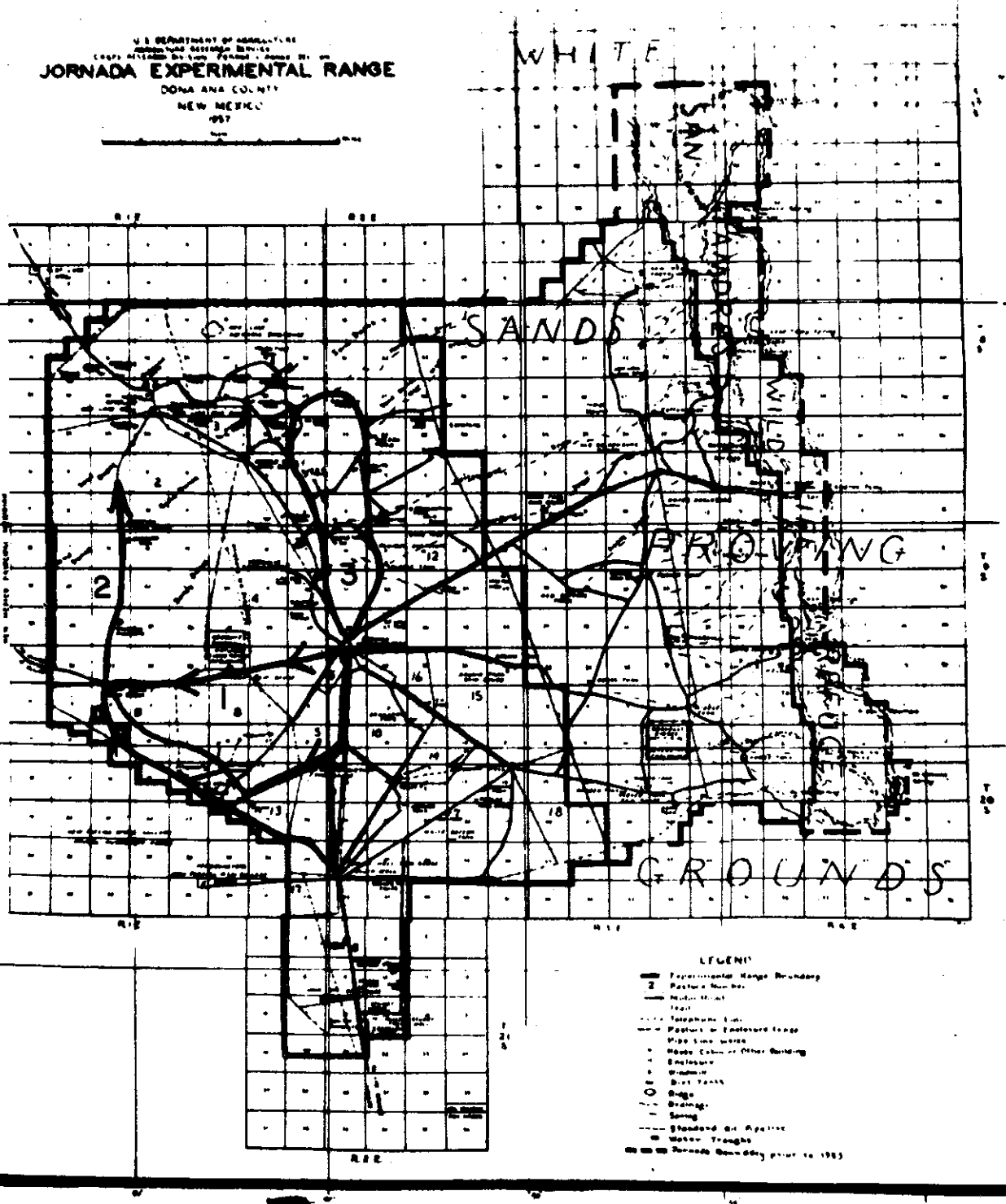


Fig. 1. Map of Jornada Experimental Range showing location of study plots. Westernmost plot was live-trap grid.

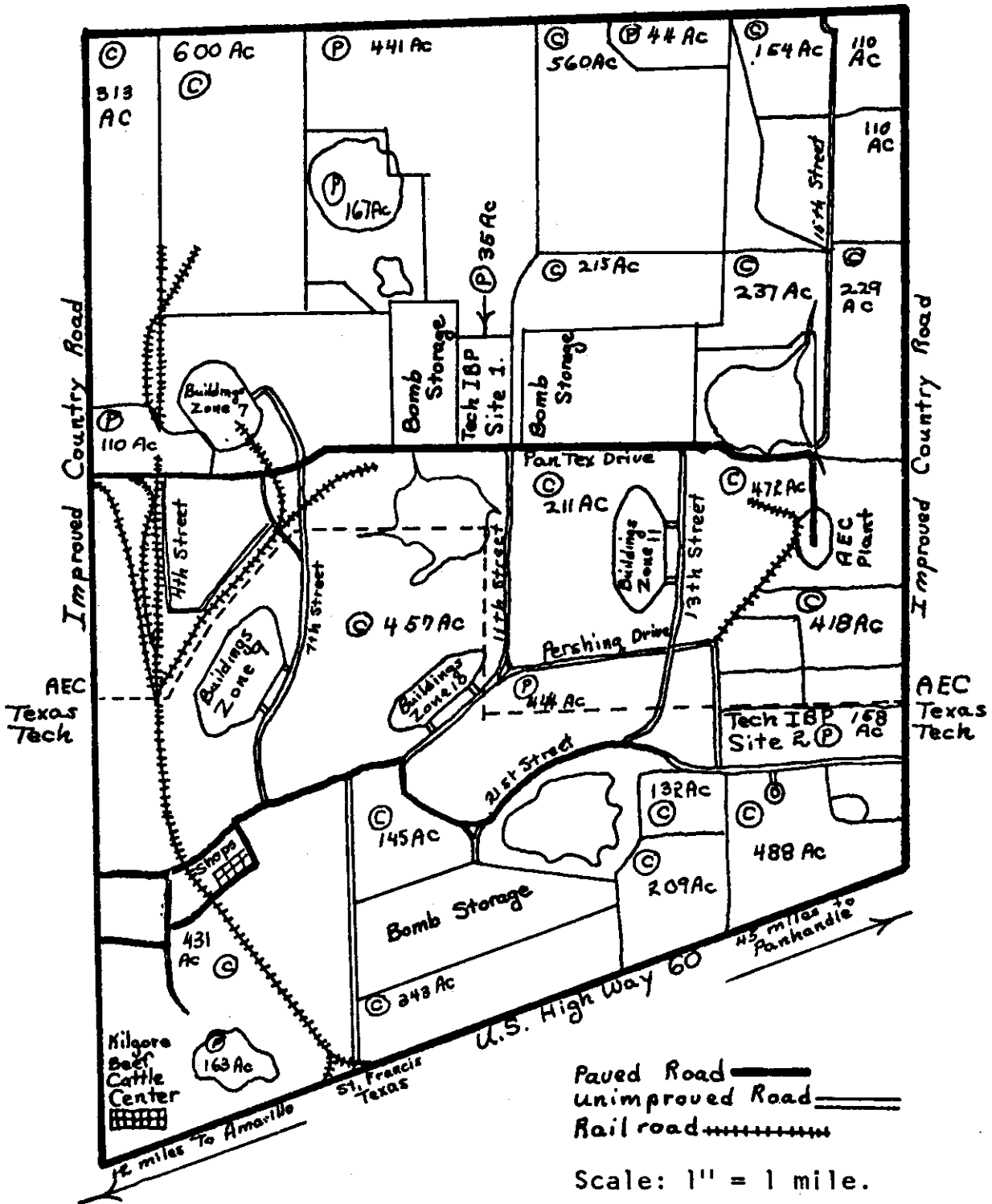


Fig. 2. Map of Pantex Site showing area of lagomorph census plots.

were made to permit statistical analysis of data and estimates of density. Additionally, black-tailed jackrabbits (*Lepus californicus*) and desert cottontails (*Sylvilagus auduboni*) were collected to obtain weight, reproductive, and food habit information.

Excavation and mapping of heteromyid rodent burrows (Vorhies and Taylor, 1922) were conducted at the Jornada Site. Data generated from this study were recorded on data form NREL-16. Attempts were made to save all materials (seeds, grass leaves, and tubers) found in the burrows. After a number of burrows were excavated and mapped an aboveground index system was developed. Essentially, this index assumes that belowground activity in the form of the burrow system has relevance to the area disturbed on the surface. These areas on the surface are readily recognized as they are without appreciable surface vegetation and are permeated with openings into the burrow system (Fig. 3). Surface areas were mapped using a walking planimeter which quickly permits computation of the area of disturbance. The number of burrow systems was counted on the quadrats (the live-trap plot and the snap-trap plot of the 1970 studies), and a percentage of area disturbed in these plots was computed.

Preliminary studies were initiated to study the effect that small mammals have on the utilization, dispersal, and germination of seeds. These studies are currently being conducted in the laboratory under simulated habitat conditions where certain measures of control can be enforced. Recovery of food caches in burrow systems of heteromyids provided additional information on seed preference and utilization.

The intent of the sacrifice-trapping program in the 1971 studies was to provide weight, reproductive, and food habit information but only cursory

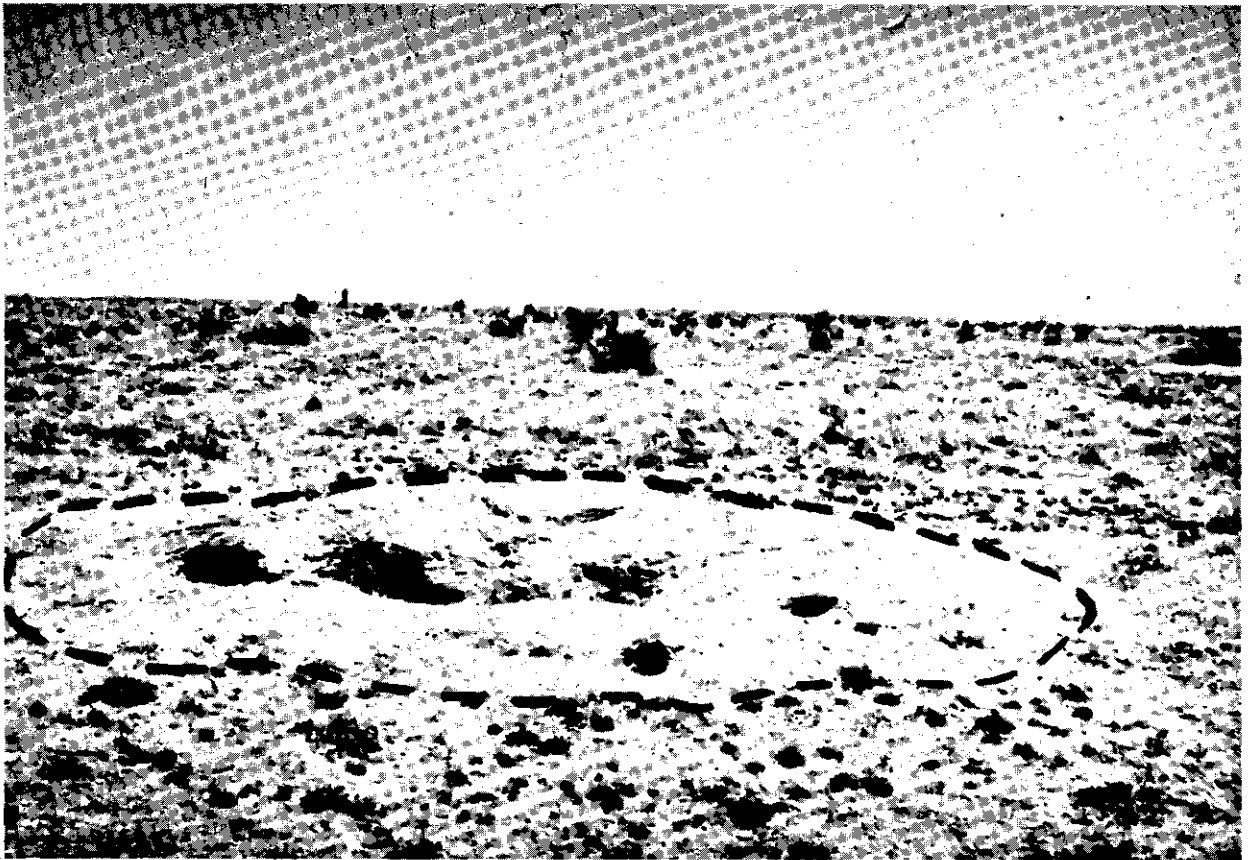


Fig. 3. Surface area indicating burrow systems.

information on population size and trends. All sacrificed mammals were removed to the field laboratories where they were autopsied, weighed, and measured. Autopsy data were recorded on data forms NREL-12A and NREL-14 as in the 1970 study.

Most specimens (85%) were preserved in a 10% solution of formaldehyde with the remainder being prepared as museum study skins. Stomachs were removed at the time of autopsy and preserved in 70% alcohol for further analysis. Pertinent data were recorded on data form NREL-60. All weights were taken to the nearest 0.1 g on O'Haus Triple Beam Dial-a-gram scales.

METHODS OF ANALYSIS

Estimates of population density were made using several methods. These permit comparisons since no density-estimator technique is wholly accurate. The methods of Zippin (1956, 1958) and Jolly (1965) were used to estimate the density and the variance of the estimate. In addition, the Method B grouping of Jolly and the minimum number of animals known to be alive on a trapping day were also used in estimating density.

Density estimates were converted into small mammal biomass estimates. This was done for each species and for all species together. Body weights obtained from specimens collected in the kill-trapping program were used in converting density figures into biomass estimates. Stomach weights were not subtracted from total body weight. Conversion of wet body weight to dry body weight followed the procedure of Golley (1960); i.e., wet weight was multiplied by 0.3.

STUDY AREAS

Jornada Site

The live-trap study plot was located in pasture no. 9 of the U.S. Department of Agriculture Jornada Experimental Range, Dona Ana County, New Mexico. The plot is in the exact position of the 1970 live-trap quadrat (Packard, 1971). The principal vegetation of the plot was described in that report. The snap-trap plot was abandoned in the 1971 study except for analysis of burrow systems of heteromyids. The principal change in vegetation on the live-trap plot was one of denudation resulting from the extended drought of 1970-71 coupled with light-grazing pressure. Specimens collected and sacrificed were obtained largely from pastures no. 2, 4, 5, 8, 9, and 12. These areas vary somewhat from one another. Pasture no. 4 particularly has sandy soil and extensive growth of mesquite (*Prosopis* sp.). Mammals were also collected from areas peripheral to the Jornada Range (chiefly to the west and southwest in the Dona Ana Mountains).

Pantex Site

The live-trap study plot was in the same position as that in the 1970 study. The snap-trap plot was abandoned as an intensive study site, but this and surrounding areas were sampled with snap traps in the 1971 study. Vegetation on the live-trap plot was less extensive in total ground cover than in 1970 owing to the extended drought in 1970-71. In July 1971 marked increases in precipitation occurred and blue grama (*Bouteloua gracilis*) and other grasses and forbs grew rapidly. By August, the third census sampling, the vegetation had become so luxuriant that it was difficult to locate trap station stakes (which stand 18 inches to 24 inches high). Thus, the vegetation

pattern changed markedly from one of sparseness in spring and early summer to extreme lushness and denseness in the late summer and early winter samples.

RESULTS OF CENSUS SAMPLING

Jornada Site

Sampling dates were May 18-22, June 22-26, August 16-20, and November 25-29. The following species were collected in the four sampling periods by (i) live-trapping: *Dipodomys ordii*, *Dipodomys spectabilis*, *Dipodomys merriami*, *Onychomys leucogaster*, *Spermophilus spilosoma*, *Neotoma micropus*, *Perognathus flavus*, *Perognathus penicillatus*, *Perognathus apache*; and (ii) snap-trapping and collecting program: *Lepus californicus*, *Sylvilagus auduboni*, *Dipodomys ordii*, *Dipodomys merriami*, *Dipodomys spectabilis*, *Spermophilus spilosoma*, *Neotoma micropus*, *Perognathus penicillatus*, *Onychomys leucogaster*, *Antrozous pallidus*, *Myotis californicus*, *Myotis thysanodes*, *Peromyscus eremicus*.

The most abundant rodent species were *D. ordii*, *D. spectabilis*, and *S. spilosoma* in the areas where black grama (*Bouteloua eripoda*) was dominant. *D. ordii* and *N. micropus* were most abundant in the mesquite-sandhills association. (For density estimates on the live-trap grid plot see Table 1).

Pantex Site

Sampling dates were May 18-22, June 23-27, August 16-20, and November 19-23. Species collected in the four sampling periods by (i) live-trapping: *Peromyscus maniculatus*, *Reithrodontomys montanus*, *Perognathus flavescens*, *Onychomys leucogaster*, *Perognathus hispidus*, *Reithrodontomys megalotis*; and (ii) snap-trapping and collecting program: *Peromyscus maniculatus*, *Onychomys leucogaster*, *Reithrodontomys montanus*, *Reithrodontomys megalotis*, *Mus musculus*, *Sigmodon hispidus*, *Perognathus flavus*, *Perognathus flavescens*.

Table 1. Density estimates of rodents on the live-trap grid plot, Jornada Site, 1971.

Species	May			June			August			November		
	Method			Method			Method			Method		
	B	Zippin	Minimum No. of Animals	B	Zippin	Minimum No. of Animals	B	Zippin	Minimum No. of Animals	B	Zippin	Minimum No. of Animals
<i>Dipodomys merriami</i>		1										
<i>Dipodomys ordii</i>	12	19	14	23	25	17	2		2	1		
<i>Dipodomys spectabilis</i>	4		4	5		4	2		2	3		4
<i>Neotoma micropus</i>		1			1							
<i>Onychomys leucogaster</i>		4										
<i>Perognathus apache</i>									1			
<i>Perognathus flavus</i>					1				1			
<i>Perognathus penicillatus</i>					1				1			
<i>Spermophilus spilosoma</i>		1			5							8

The most notable departure from the 1970 data in species composition in 1971 was the near absence of thirteen-lined ground squirrels (*Spermophilus tridecemlineatus*). *P. maniculatus* continued as the most abundant species (see Table 2 for density estimates on the live-trap grid).

RESULTS OF LAGOMORPH CENSUS

Jornada Site

Estimates of lagomorph populations were made and replicated as follows: May (5), July (5), August (4), and November (2). The density of black-tailed jackrabbits (*Lepus californicus*) and cottontails (*Sylvilagus auduboni*) observed per census was on a per acre basis. This figure was multiplied by the average weight in grams of jackrabbits and cottontails collected in the census sampling periods. As a result, biomass estimates were made first on a grams per acre basis and then were converted to grams per hectare (Tables 3-5).

Considerable variance resulted among individual census runs primarily as a result of the time of the run. A census conducted early in the morning or at dusk usually revealed more individuals as a result of their activity patterns. In spite of this, certain trends were evident. Populations of jackrabbits declined from spring into early summer, then markedly increased in the late summer and autumn. This is a result probably of recruitment to the population (primarily in the summer) as well as increased weight of individuals in the population resulting from the increase in the standing live crop of vegetation. As a result of some precipitation in July and August, additional new vegetation became available as forage and may have been one of the factors accounting for the increase in weight of the individuals (Fig. 3).

Table 2. Density estimates of rodents on the live-trap grid plot, Pantex Site, 1971.

Species	May		June		August		November	
	Method	Minimum No. of Animals	Method	Minimum No. of Animals	Method	Minimum No. of Animals	Method	Minimum No. of Animals
<i>Onychomys leucogaster</i>	B		Zippin		Zippin		Zippin	
			18	5	1	3	1	
<i>Perognathus flavescens</i>				2				
<i>Perognathus hispidus</i>				1				
<i>Peromyscus maniculatus</i>	B	24	Jolly	25	Jolly	27	Jolly	27
		42	34	28	6	9	21	12
<i>Reithrodontomys megalotis</i>								
<i>Reithrodontomys montanus</i>		3						1
<i>Spermophilus tridecemlineatus</i>		1						68

Table 3. Seasonal estimates of density and biomass of black-tailed jackrabbits on the Jornada and Pantex Sites.

Sample Period	Density	Biomass	
	no./acre	g/acre	g/ha
<i>Jornada Site</i>			
May	.0474	108.38	43.89
July	.0320	73.39	29.72
August	.0701	171.77	69.57
November	.0614	150.34	60.89
<i>Pantex Site</i>			
June	.0517	118.83	48.12
August	.0430	105.20	42.60
October	.0450	110.10	44.59

Table 4. Seasonal estimates of density and biomass of cottontail rabbits on the Jornada and Pantex Sites.

Sample Period	Density	Biomass	
	no./acre	g/acre	g/ha
<i>Jornada Site</i>			
May	.0174	12.38	5.01
July	.0151	9.98	4.04
August	.0129	8.50	3.44
November	.0081	6.48	2.62
<i>Pantex Site</i>			
June	.0239	15.77	6.39
August	.0210	5.73	2.32
October	.0150	11.9	4.82

Table 5. Seasonal estimates of biomass of lagomorphs (all species combined) and rodents.

Sample Period	Total Biomass of Lagomorphs (g/ha)	Lagomorph to Rodent Biomass (%)	Total Biomass of Rodents and Lagomorphs (g/ha wet wt)
<i>Jornada Site</i>			
May	48.90	.0756	695.90
June-July	33.76	.0384	911.86
August	73.00	.5367	202.50
November	63.51	.1274	535.01
----- <i>Pantex Site</i>			
June	54.51	.2328	288.61
August	44.92	.2973	196.02
October	49.41	.0294	1730.01

Pantex Site

Lagomorph populations on this study site responded somewhat differently to increased precipitation and aboveground growth of vegetation (Fig. 4-5, and Tables 3-5). Jackrabbits decreased slightly in biomass throughout the summer and showed a slight but not significant increase in the autumn; essentially the population remained quite static. However, the cottontail population (Table 4 and Fig. 5) increased notably in the autumn, perhaps in response to increased primary productivity in late summer.

An analysis of biomass data of the lagomorph populations on the respective study areas suggests that lagomorphs at Jornada may comprise as much as 50% of the total small mammal biomass in late summer, but at other times of the year may be rather insignificant. At Pantex lagomorph biomass comprised as much as 30% of the total rodent biomass in the summer (Table 5).

POPULATION DYNAMICS AND BIOMASS ASSAY

Jornada Site

Density estimates of rodents in the 1971 studies revealed populations considerably reduced from those in 1970 (Table 1 and Fig. 6-9). The most useful density estimator for most species was the Zippin method. Use of the other methods was limited because the assumptions of the procedures could not be met by the few numbers of rodents taken. When the density estimators were applied to all species, certain trends in the populations became evident. The rodent population in the spring was somewhat reduced from the autumn of 1970, but increased slightly in the early summer sample (perhaps as a result of the recruitment of young to the population on the part of heteromyids and

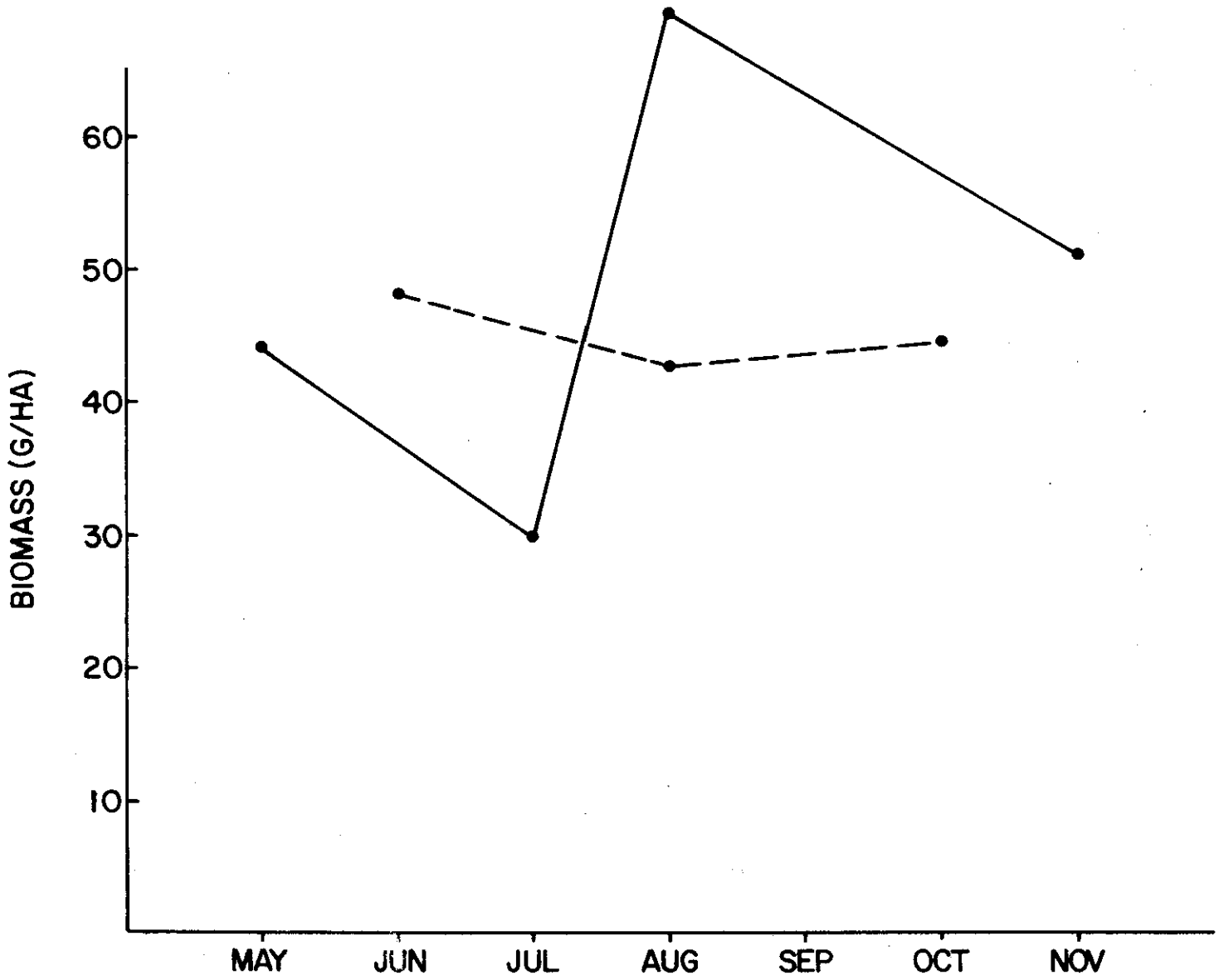


Fig. 4. Trends in biomass of black-tailed jackrabbits on the Jornada and Pantex Sites.

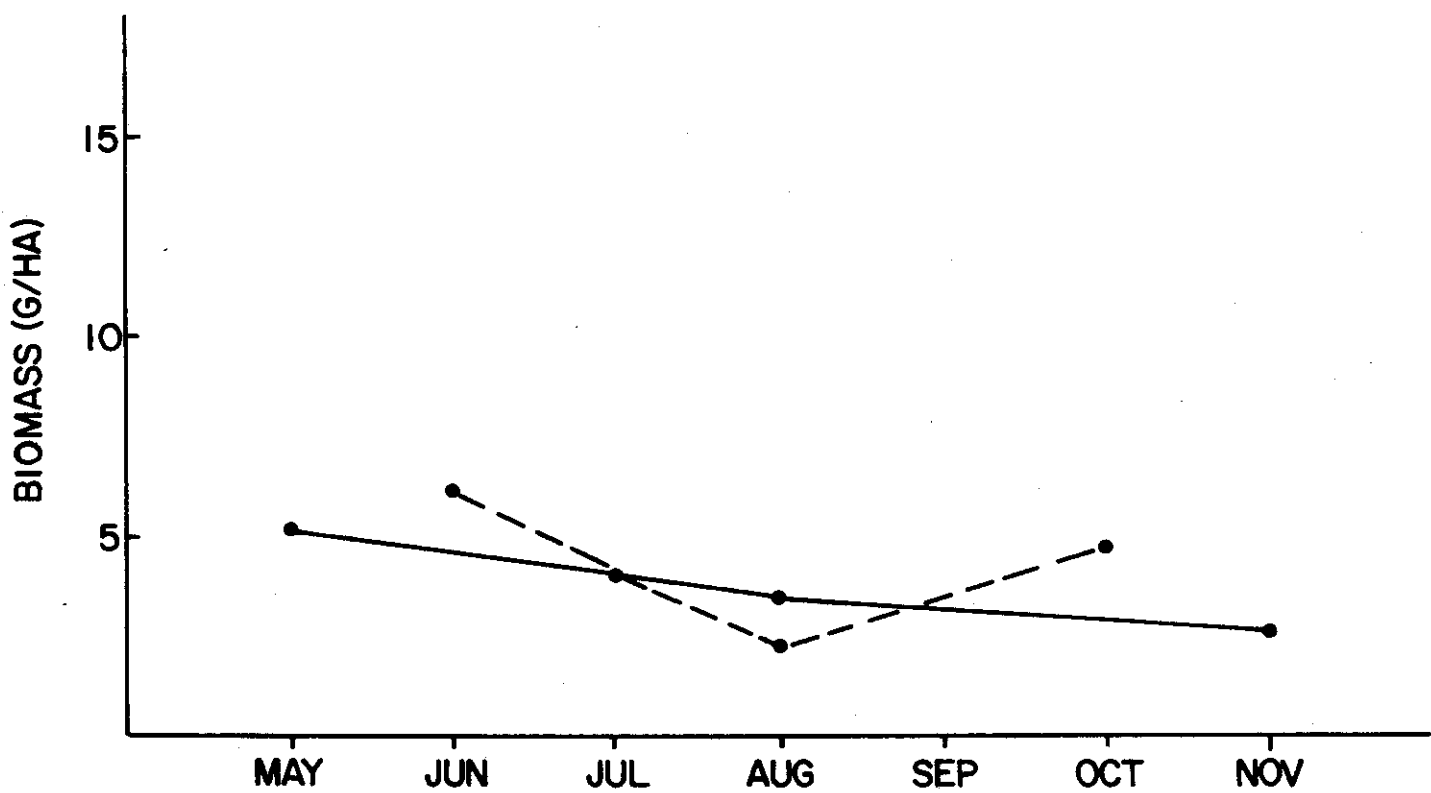


Fig. 5. Trends in biomass of cottontail rabbits on the Jornada and Pantex Sites.

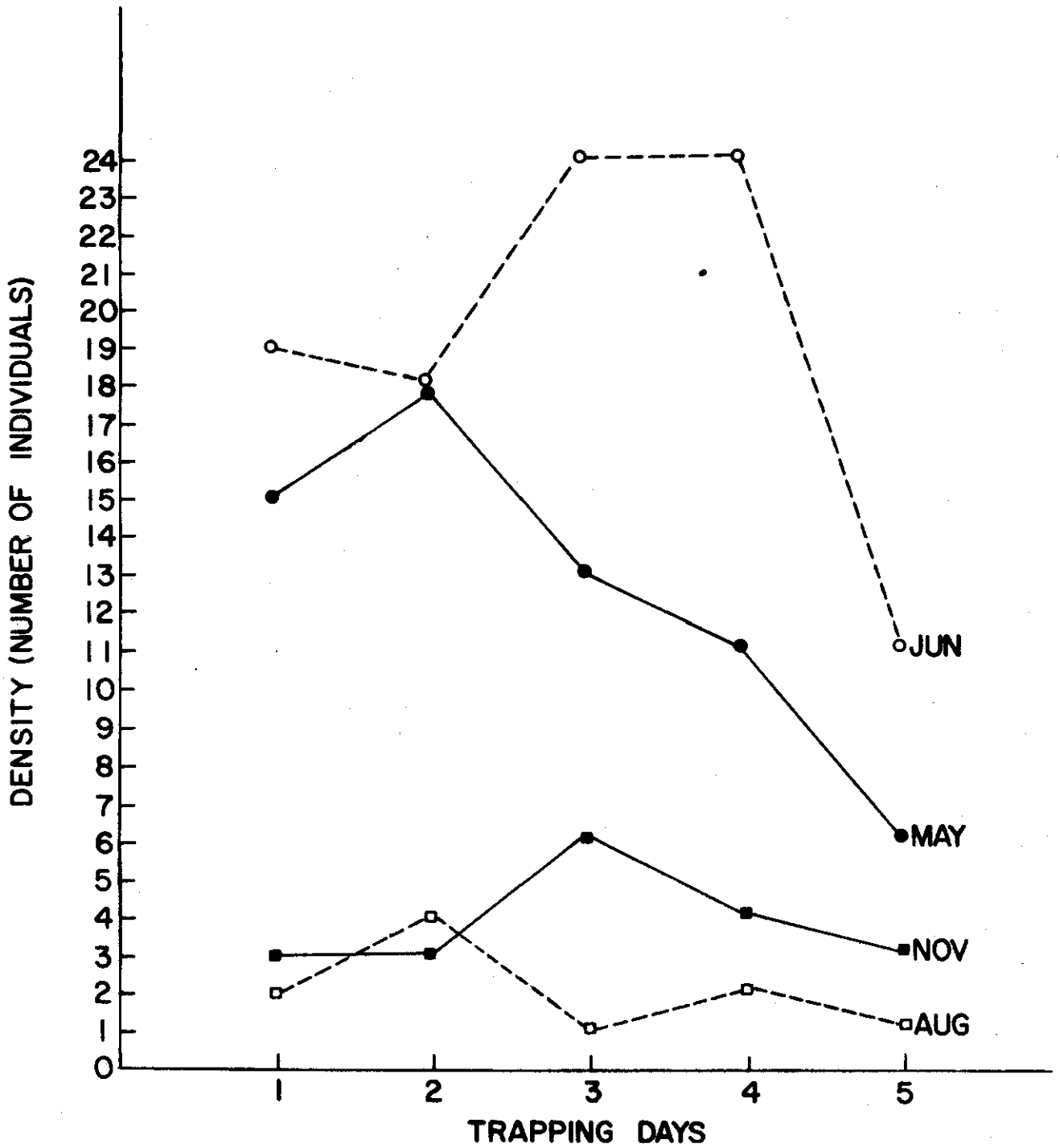


Fig. 6. Density estimates of rodents on the live-trap plot, Jornada Site, 1971, based on the Minimum-Numbers-Known-Alive method of estimation.

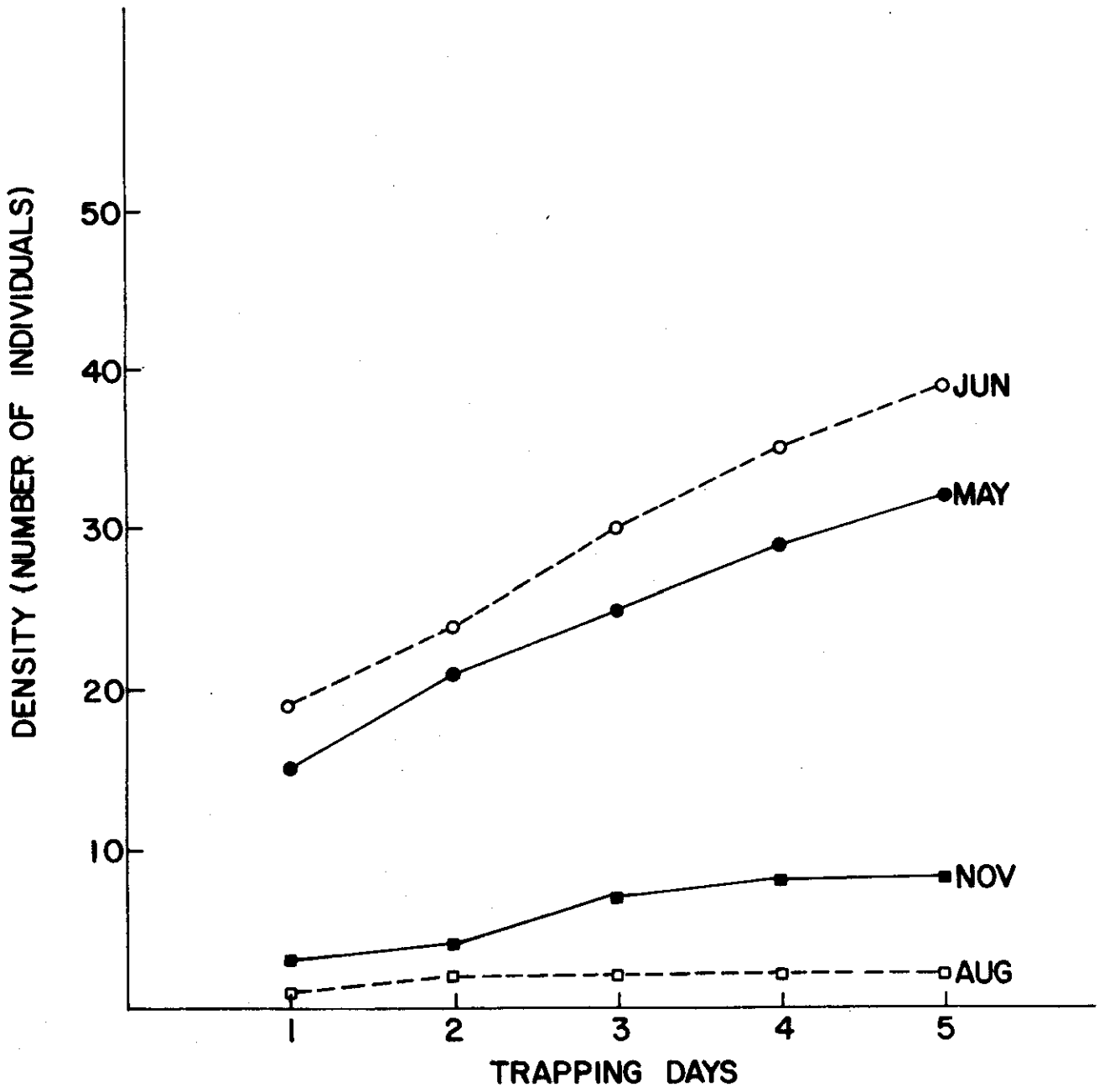


Fig. 7. Density estimates of rodents on the live-trap plot, Jornada Site, 1971, based on the Zippin method of estimation.

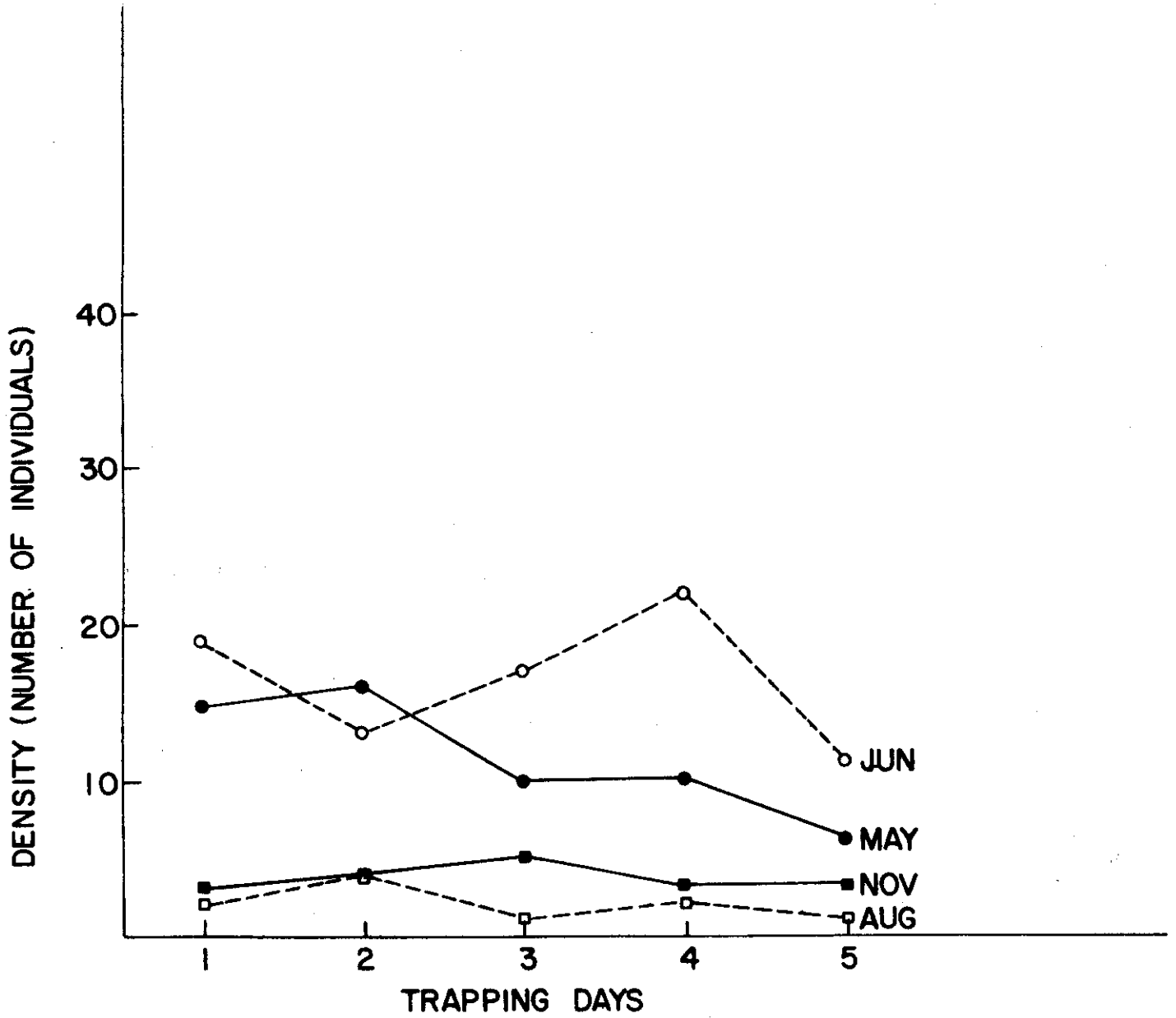


Fig. 8. Density estimates of rodents on the live-trap plot, Jornada Site, 1971, based on Method B estimation.

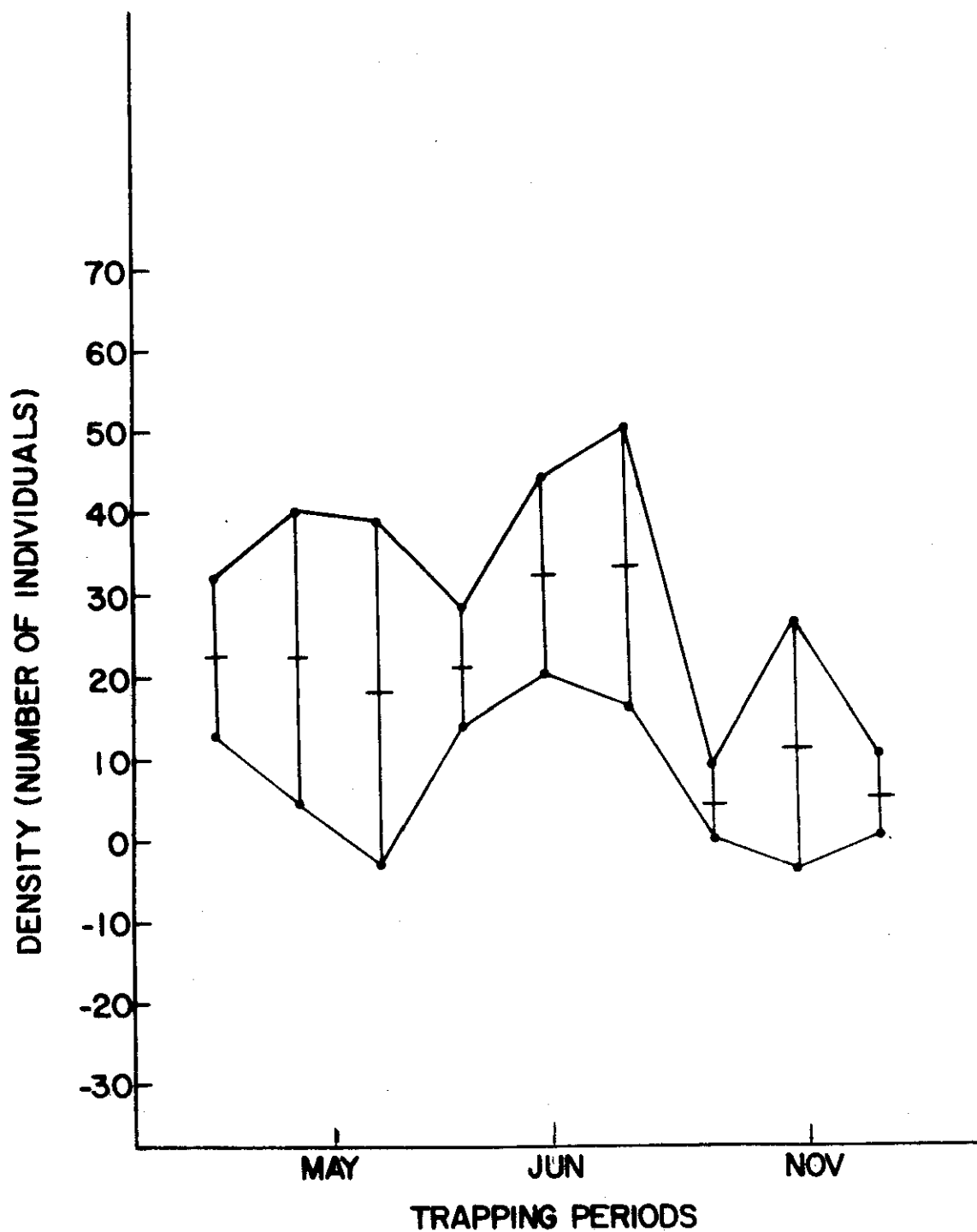


Fig. 9. Density estimates of rodents on the live-trap plot, Jornada Site, 1971, based on the Jolly method of estimation. Ranges indicated are 2/SE on either side of the mean.

the increasing activity of ground squirrels and pocket mice). The late summer sample produced few animals. This may have resulted from extreme food shortage and drought (less than 2 inches of precipitation was recorded on our study plot in a period of 16 months). When we initiated our population study in April 1970 on the live-trap plot, considerable aboveground herbage and seeds were available. These resources seemed gradually reduced by July 1971. In late July 1971 precipitation began, and approximately 6 inches was recorded on our plot by late August. This rainfall had a pronounced effect on the growth of black grama, causing it to set seed. Other species of grass and forbs grew markedly. When populations were sampled in November 1971, they were still extremely low. Although they were slightly greater in numbers than the August sample, the differences were not significant. Seemingly, this largely granivorous population of rodents had not had sufficient time to respond to the increased food supply.

In terms of biomass, Ord's kangaroo rat was the most significant species until November when the spotted ground squirrel and the banner-tailed kangaroo rat replaced it in importance (see Table 6 for biomass estimates by species). When all species were considered (Table 7), the greatly reduced biomass by late summer was evident. The late autumn-early winter sample shows a significant increase in biomass even though total numbers were not much greater. This resulted from the increase in ground squirrels and banner-tailed kangaroo rats; both are larger and heavier rodents than Ord's kangaroo rat. Biomass in 1971 as a percentage of 1970 was as follows: 21% as much in the spring (or 79% less), 36% in the summer, and 44% in the autumn (all percentages reflect wet weights in g/ha).

Table 7. Average small mammal (rodents) standing crop biomass density by site and date.

Sample Period	Wet Wt (g/ha)	Dry Wt (g/ha)	Dry Wt (g/m ²)
<i>Jornada Site</i>			
May	647	194.1	.019
June	878.1	263.4	.026
August	129.5	38.8	.004
November	498.5	149.5	.015
<i>Pantex Site</i>			
May	392.1	117.6	.012
June	234.1	70.3	.007
August	151.1	45.3	.004
November	1680.6	504.2	.050

Pantex Site

Population trends on the Pantex Site were similar to those at Jornada. All density estimators showed a population of rodents in the spring that was reduced in numbers from the autumn 1970 estimates (Fig. 10-13). The rodent population became extremely sparse in June as a long-extended drought persisted (less than 2 inches of precipitation was recorded on our study plot in the 15-month period where normally 20 inches of rain falls per annum). There was little aboveground herbage, and a severe food shortage seemed evident. In July precipitation increased markedly, and by August blue grama and other grasses and forbs on the area had grown considerably. The August sample was taken in almost continuous rainfall, and I think this may have reduced the live-trap catch (although not significantly). The November sample revealed an increased population (Fig. 10-13) suggesting that this largely cricetid-herbivorous population was responding to the increased food supply.

The Zippin method of population density estimation proved to be the most useful for individual species biomass estimates (Table 8). There was insufficient data for the other methods to provide estimates in all instances.

The deer mouse (*Peromyscus maniculatus*) was the most important species in terms of numbers and biomass. Biomass in 1971 expressed as a percentage of that in 1970 by seasons was: spring, 67%; summer, 16%; and autumn, 2600%.

The snap-trapping program was conducted primarily to obtain weight, reproductive, and food habit data. Because rodents were extremely scarce on both study areas, considerable trapping effort was required to obtain samples. The results of this program are summarized in Table 9. All lagomorphs were shot late in the afternoon or early evening.

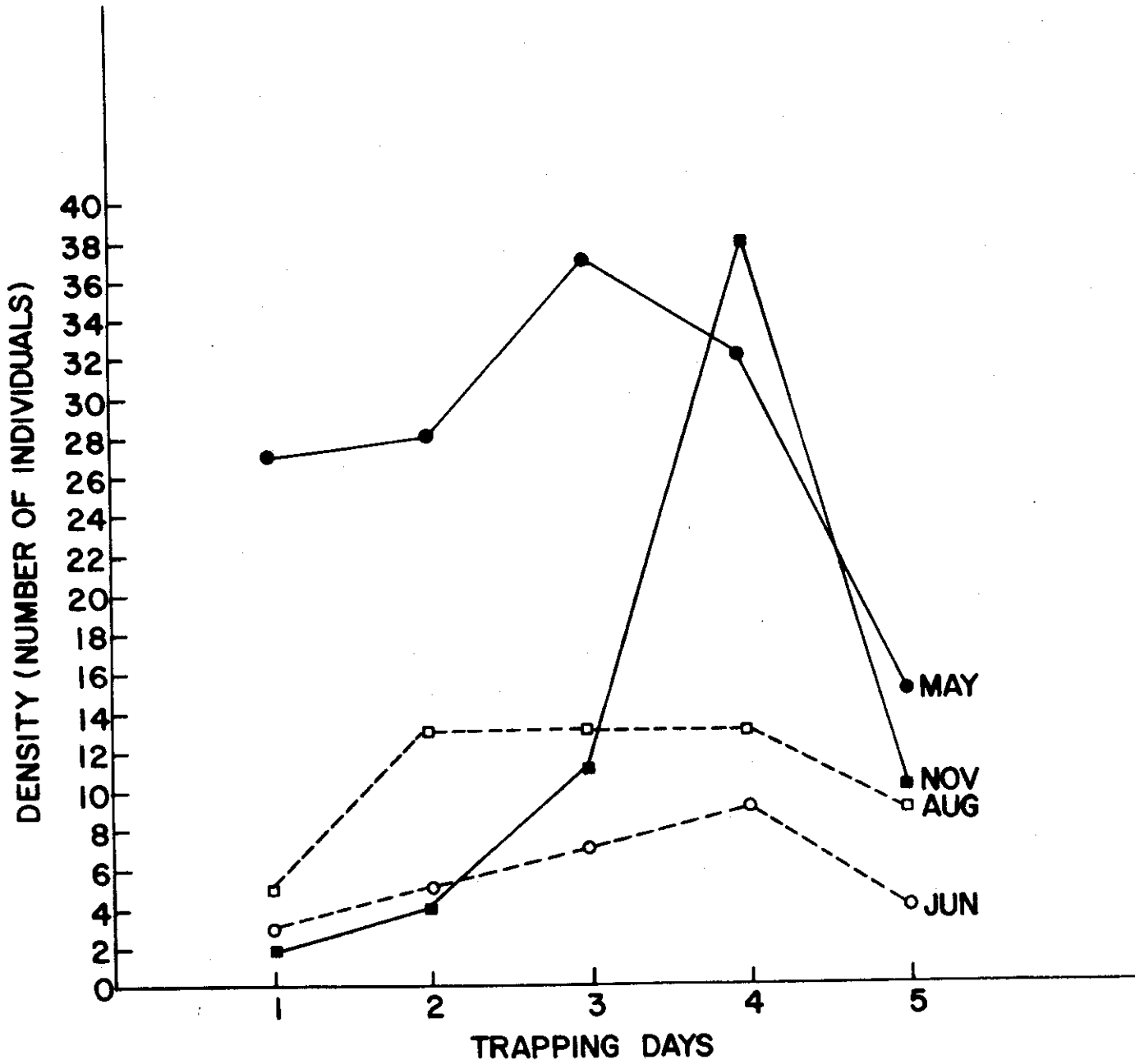


Fig. 10. Density estimates of rodents on the live-trap plot, Pantex Site, 1971, based on the Minimum-Numbers-Known-Alive method of estimation.

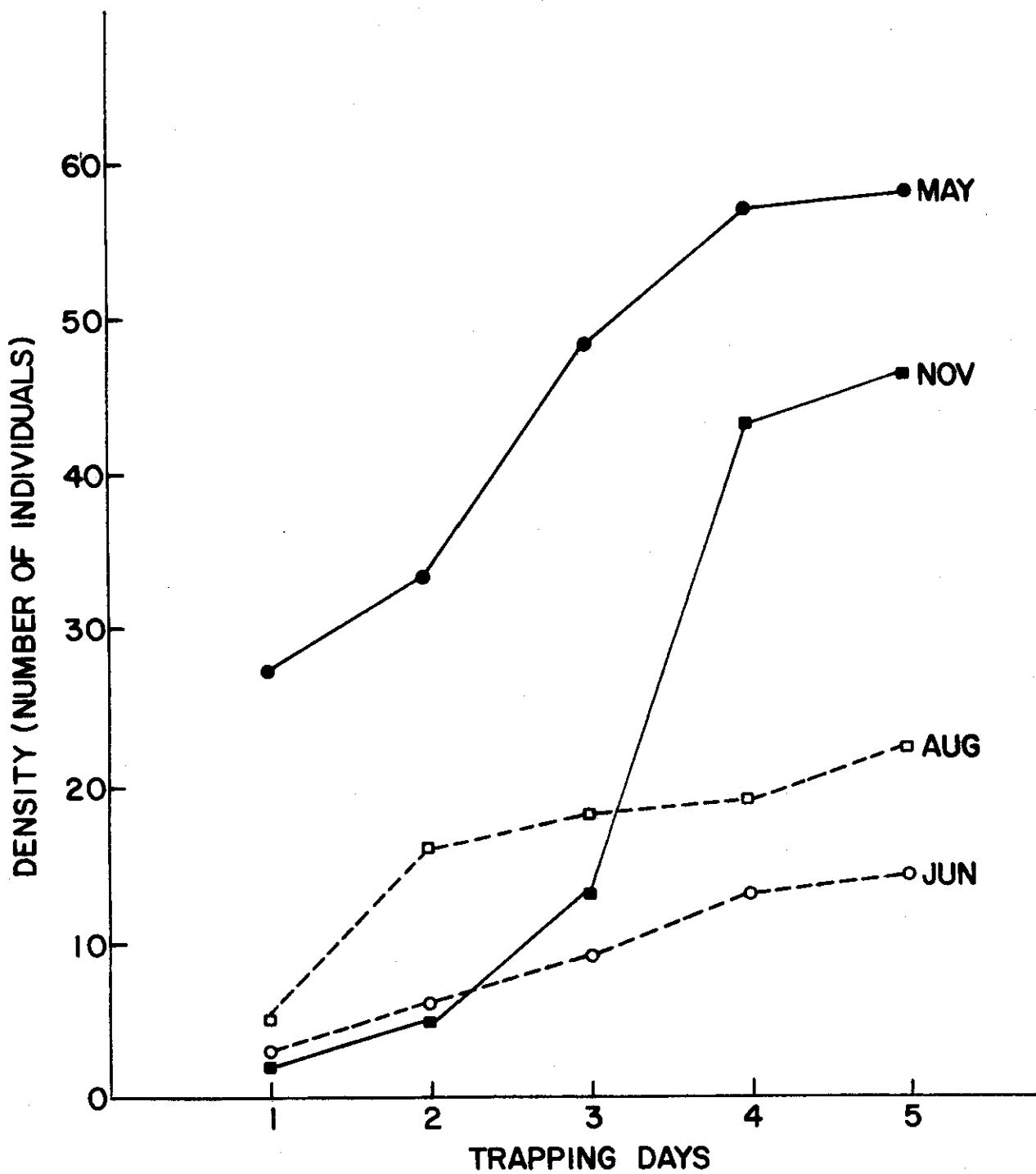


Fig. 11. Density estimates of rodents on the live-trap plot, Pantex Site, 1971, based on the Zippin method of estimation.

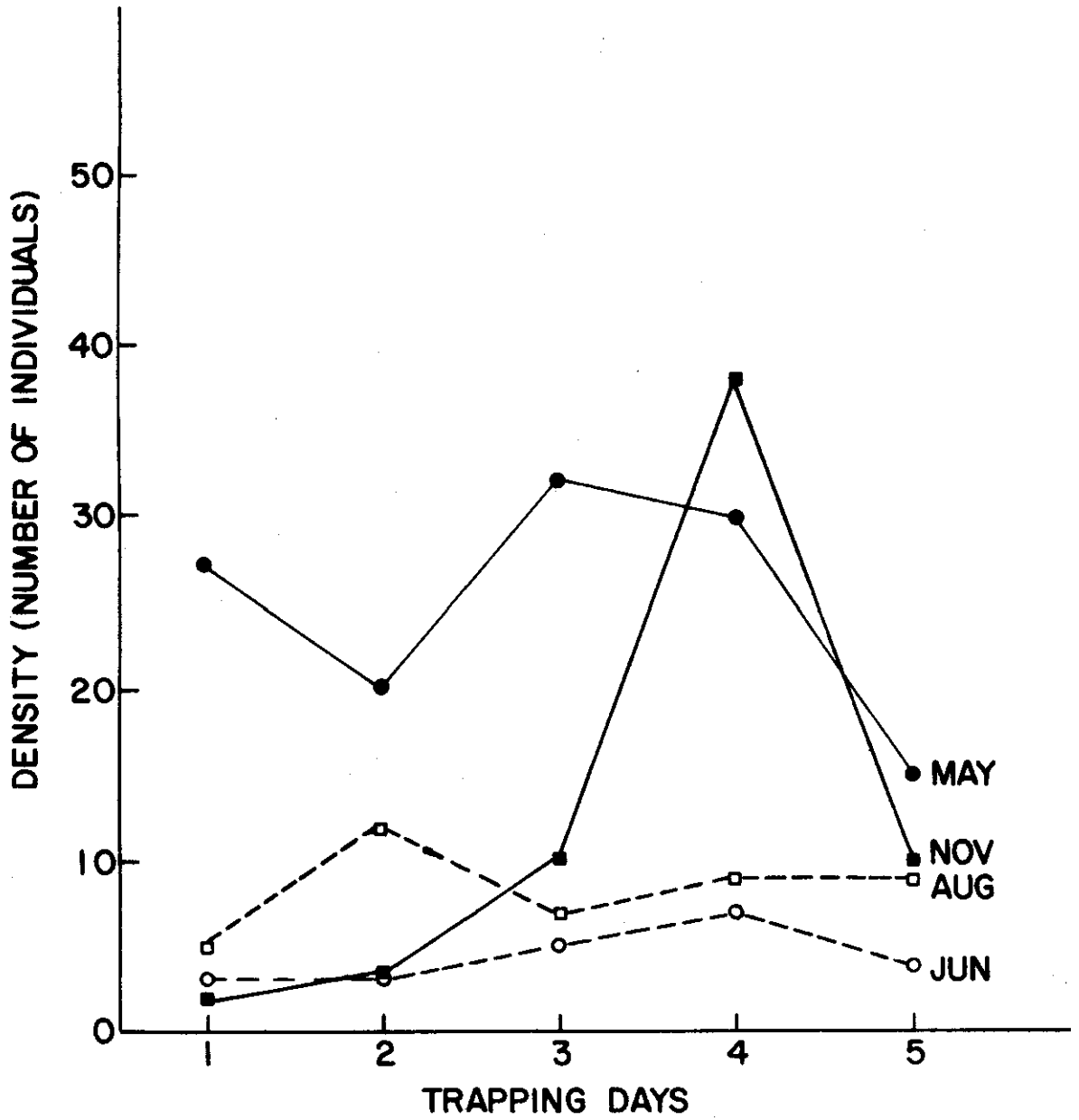


Fig. 12. Density estimates on the live-trap plot, Pantex Site, 1971, based on Method B estimation.

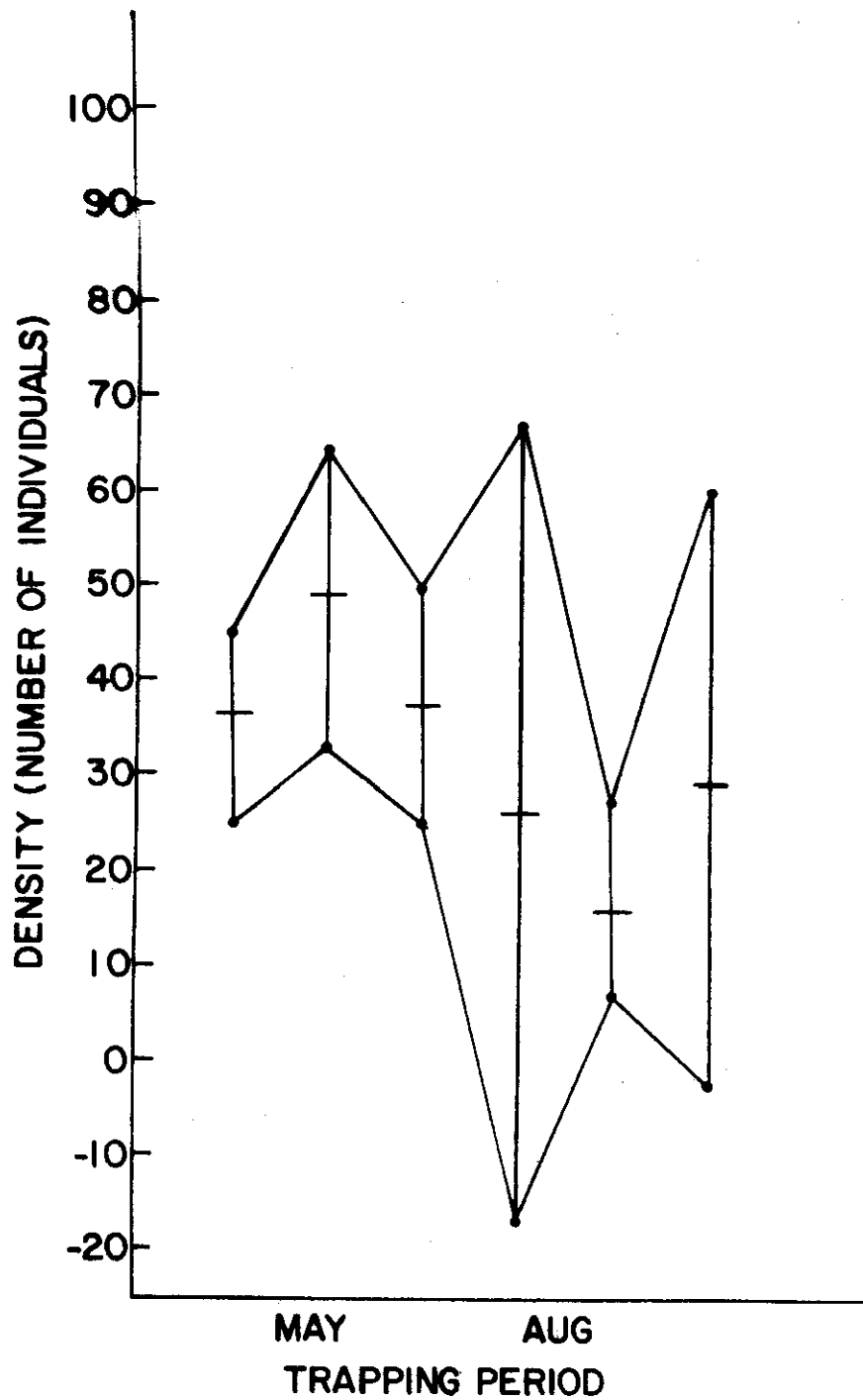


Fig. 13. Density estimates of rodents on live-trap plot, Pantex Site, 1971, based on the Jolly method of estimation. Ranges indicated are $2/SE$ on either side of the mean.

Table 8. Biomass of rodents (g/study area and g/ha) based on densities estimated from live-trap data, Pantex Site. The biomass (g/study area) is the total amount of gram weight of each species for a study area of 2.78 ha.

Species	May		June		August		November	
	Population	Biomass (g/study area)	Population	Biomass (g/study area)	Population	Biomass (g/study area)	Population	Biomass (g/study area)
<i>Onychomys leucogaster</i>			5	164	1	34	1	34
<i>Perognathus flavescens</i>	18	178	2	25	3	33		
<i>Perognathus hispidus</i>			1	50				
<i>Peroryzomys maniculatus</i>	42	768	25	408	21	384	213	4015
<i>Reithrodontomys megalotis</i>							1	12
<i>Reithrodontomys montanus</i>	3	30		10			69	577
<i>Spermophilus tridecemlineatus</i>	1	110		40				209

Table 9. Numbers of animals taken by sacrifice trapping.

Species	May	June	August	November
<i>Jornada Site^{a/}</i>				
<i>Dipodomys merriami</i>	1		5	
<i>Dipodomys ordii</i>	25	29	22	
<i>Dipodomys spectabilis</i>	5	6		
<i>Lepus californicus</i>	2		5	
<i>Neotoma micropus</i>		1	1	
<i>Onychomys leucogaster</i>	2	2		
<i>Perognathus penicillatus</i>		2	1	
<i>Spermophilus spilosoma</i>	11	23	8	
<i>Syvilagus auduboni</i>	1		1	6
Totals	47	63	43	6
<i>Pantex Site</i>				
<i>Mus musculus</i>		1		5
<i>Onychomys leucogaster</i>		2		2
<i>Perognathus flavescens</i>	1			
<i>Perognathus flavus</i>	1			
<i>Peromyscus maniculatus</i>	29	9	9	64
<i>Reithrodontomys megalotis</i>				7
<i>Reithrodontomys montanus</i>	2			1
<i>Sigmodon hispidus</i>				2
Totals	33	12	9	81

^{a/} In July Packard collected on the Jornada to obtain living animals for seed studies in the laboratory. Certain specimens, including lagomorphs, were prepared as museum study skins at that time.

SUMMARY

Population density and biomass of rodents were less on both study sites in 1971 when compared to 1970, with the exception of the late autumn sample at Pantex which revealed the greatest biomass on that site since the initiation of the study. It is thought that an extended drought on both study sites adversely affected the rodent populations. Increased precipitation in mid-to late summer on the Pantex Site resulted in an increase of aboveground standing crop. This increase seems closely related to the increase in rodent biomass in late autumn.

Biomass of lagomorphs was approximately 50% that of rodents at the Jornada Site in the summer and about 30% that of rodent biomass on the Pantex Site in spring and late summer. At other sampling times, biomass of lagomorphs was considerably less. An increase in cottontail biomass on the Pantex Site was detected in the autumn. This may also be a result of the increase of forage in mid-and late summer on that site.

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APPENDIX I

FIELD DATA

Jornada Small Mammal Live-trapping Data, 1970

Small mammal live-trapping data collected at the Jornada Site in 1970 constitute Grassland Biome data set A2U1008. Data were collected on Form NREL-10. A copy of the form and an example of the data follow.



GRASSLAND BIOME

U.S. INTERNATIONAL BIOLOGICAL PROGRAM

FIELD DATA SHEET - VERTEBRATE - LIVE TRAPPING

DATA TYPE	SITE	INITIALS	DATE			TREATMENT	REPLICATE	PLOT SIZE	GENUS	SPECIES	SUBSPECIES	CONDITION	MARK	NUMBER	MALE	FEMALE	WEIGHT	MOLT	LOCATION		PREVIOUS NO.
			Day	Mo	Yr														Row	Col	
1-2	3-4	5-7	8-9	10-11	12-13	14	15	16-18	19-22	23-24	25	27	29	31-34	36	38	40-44	46	48-49	51-52	57
<p>DATA TYPE</p> <p>01 Aboveground Biomass 02 Litter 03 Belowground Biomass 10 Vertebrate - Live Trapping 11 Vertebrate - Snap Trapping 12 Vertebrate - Collection 20 Avian Flush Census 21 Avian Road Count 22 Avian Road Count Summary 23 Avian Collection - Internal 24 Avian Collection - External 25 Avian Collection - Plumage 30 Invertebrate 40 Microbiology - Decomposition 41 Microbiology - Nitrogen 42 Microbiology - Biomass 43 Microbiology - Root Decomposition 44 Microbiology - Respiration</p> <p>SITE</p> <p>01 Ale 02 Bison 03 Bridger 04 Cottonwood 05 Dickinson 06 Hays 07 Hopland 08 Jornada 09 Osage 10 Pantex 11 Pawnee</p> <p>FEMALE</p> <p>0 Adult, vulva inactive 1 Subadult, vulva inactive 2 Juvenile, vulva inactive 3 Adult, vulva turgid 4 Subadult, vulva turgid 5 Juvenile, vulva turgid 6 Adult, vulva cornified 7 Subadult, vulva cornified 8 Juvenile, vulva cornified 9 Pregnant</p> <p>CONDITION</p> <p>0 Normal 1 Escaped 2 Torpid 3 Dead</p> <p>MOLT</p> <p>0 No evidence 1 Post-juvenile 2 Post-subadult 3 Adult (vernal) 4 Adult (autumnal) 5 Molt of unknown stage 6 Undetermined</p> <p>MALE</p> <p>0 Adult, non-breeding 1 Subadult, non-breeding 2 Juvenile, non-breeding 3 Adult breeding? 4 Subadult breeding? 5 Juvenile breeding? 6 Adult breeding 7 Subadult breeding 8 Juvenile breeding 9 Undetermined</p> <p>MARK</p> <p>0 Normal 1 Unmarked 2 Ear tag 3 Toe Clip 4 Ear tag and toe clip 5 Natural amputation</p>																					

+++ EXAMPLE OF DATA +++

		1			2			3			4			5			6		
		1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	
1008RLP301070232.74	DIOR	0	3	2432	6							4	1	1					
	DIOR	0	3	1019		3						4	7	1					
	DISP	0	3	2031		0						4	11	1					
	DISP	2	3	1014		0						0	12	2					
	DISP	0	3	1400		0						0	7	2					
	DIOR	0	3	3012	6							0	7	4					
	ONLE	0	3	2423	0							0	1	6					
	DIOR	0	1	3013		4						0	10	7					
	DIOR	0	3	2331	6							4	2	9					
	DIOR	1										0	7	3					
	DIOR	0	3	2430	6							4	10	9					
	DISP	0	3	2402		6						0	12	9					
	DIOR	0	3	1224		6						4	12	12					
	DIOR	0	3	1410	6							4	9	12					
	DIOR	3	3	2410		3						0	7	12					
	DIOR	0	3	2022		3						4	3	11					
	DIOR	0	3	1303	6							0	1	10					
	DIOR	0	3	2333	6							0	3	10					
1008RLP311070232.74	DIOR	2	3	1011		3						0	9	1					
	DISP	0	3	1014		0						0	12	2					
	DISP	2	3	1400		0						0	10	2					
	DIOR	0	3	2433	6							0	1	2					
	DISP	0	3	2002		0						0	8	3					
	DISP	1	3									0	12	3					
	DIOR	2	3	2331	6							4	1	6					
	DIOR	3	3	3013		3						4	10	7					
	DIOR	0	3	2313	6							4	12	7					
	DIOR	0	3	2440		3						4	2	9					
	DISP	0	3	2402		6						4	11	9					
	PFMA	0	1	3015		9						0	6	10					
	DIOR	0	3	2430	6							0	8	11					
	DIOR	3	3	2333	6							4	3	10					
	DIOR	0	1	3014	6							4	5	12					
	DIOR	3	3	1303	6							0	12	12					
1008RLP011170232.74	ONLE	0	3	2401	1							2	7	1					
	DISP	0	3	2031		0						0	11	1					
	SPSP	0	1	3020		1						0	4	2					
	DIOR	0	3	2433	6							4	2	3					
	DISP	3	3	2002		0						0	8	5					
	DISP	2	3	1014		0						0	11	5					
	ONLE	0	1	3021		0						0	1	6					
	ONLE	0	3	2423	0							0	3	7					
	SPSP	0	3	2445		0						4	12	10					
	PFMA	3	3	3015		0						0	6	10					
	DISP	0	3	2402		6						0	10	11					
	DIOR	3	3	2430	6							4	11	12					

1008RLP0211702	2.74	ONLE	0	1	3022	0	0	3	1
		ONLE	0	3	2301	0	0	10	1
		SPSP	0	3	3020	1	0	4	3
		DISP	0	3	1114	0	0	10	3
		DIOR	0	1	3023	6	0	2	10
		ONLE	0	1	3024	1	0	5	11
		DISP	0	1	2401	0	0	9	12
		NEAL	0	1	3025	1	0	1	12
1008RLP0311702	2.74	SPSP	0	3	3020	1	0	02	02
		ONLE	3	3	2301	0	0	07	01
		DIOR	3	1	3030	6	0	10	03
		ONLE	0	3	2421	0	0	04	03
		SPSP	0	1	3031	0	0	01	05
		DISP	0	3	1014	0	0	12	05
		SPSP	0	1	3032	1	0	02	07
		DIOR	2	1	3033	6	0	12	09
		DIOR	0	1	3034	6	0	12	12
		DIOR	0	3	1124	6	0	08	11
		DISP	0	3	2401	0	0	07	11
		ONLE	0	3	3021	0	0	02	11
		DIOR	0	3	3023	6	0	01	11
1008RLP0411702	2.74	ONLE	0	3	2423	0	0	3	5
		DISP	0	3	2122	3	0	5	6
		SPSP	0	3	2345	0	0	11	7
		ONLE	0	3	3022	0	0	6	8
		DION	0	3	2342	1	0	8	10
		DISP	0	3	2401	0	0	6	12
1008RLP0511702	2.74	SPSP	0	3	3020	1	0	03	01
		DIOR	0	1	4030	6	0	05	02
		SPSP	0	3	3031	0	0	02	03
		DIME	3	1	3040	0	0	07	03
		DISP	0	3	1014	0	0	12	05
		DISP	0	3	2002	3	0	10	07
		DISP	0	1	3044	0	0	11	08
		DIOR	0	1	3041	0	0	10	08
		SPSP	0	3	3031	0	0	03	08
		ONLE	0	3	3021	0	0	03	09
		DIOR	3	1	3042	0	0	08	11
		DISP	0	3	2401	0	0	07	11
		DIOR	3	1	3043	6	0	02	11
1008RLP0611702	2.74	DIOR	0	3	2433	6	0	03	01
		DIOR	0	3	3012	6	0	05	01
		ONLE	0	3	2421	0	0	07	01
		DISP	0	3	2312	6	0	08	01
		DISP	0	3	2031	0	0	12	01
		DISP	0	1	3100	6	0	11	02
		DIOR	0	3	1011	0	0	07	02
		SPSP	0	3	3032	1	0	01	02
		DISP	0	3	2402	3	0	04	04
		ONLE	0	3	3022	0	0	09	06
		DIOR	0	1	3101	0	0	01	08
		SPSP	0	3	3031	0	0	01	08
		SPSP	0	1	3102	6	0	07	08
		DIOR	3	3	3041	0	0	11	08

	DTSP	0	3	3400	0	0	7	11
	ONLE	3	3	3021	0	0	2	11
	DIOR	0	3	2021	0	0	2	10
	DIOR	3	3	2440	0	0	1	10
	NEMI	0	1	3103	0	0	1	11
1008RLP071170232.74	ONLF	0	3	2421	0	0	3	1
	DIOR	0	3	2133	6	0	5	1
	SPSP	0	3	3020	1	0	6	2
	SPSP	0	3	3032	1	0	5	2
	DIOR	0	3	4030	6	0	7	3
	DIOR	0	1	3104	6	0	3	4
	DIOR	0	1	3110	7	0	3	4
	ONLE	0	3	2423	1	0	9	6
	ONLF	0	3	3022	0	0	5	3
	SPSP	0	3	3031	1	0	2	4
	DISP	0	3	3044	0	0	11	10
	DIOR	0	3	1224	6	0	10	10
	DISP	2	3	2401	0	0	6	11
	DIOR	3	3	3023	6	0	1	11
	DIOR	0	3	1410	6	0	8	11
1008RLP0811702 2.74	DIOR	0	3	3034	6	0	11	12
	DIOR	3	3	2133	6	0	2	1
	ONLE	0	3	2421	0	0	6	2
	DIOR	0	3	4030	6	0	7	1
	SPSP	0	3	3020	1	0	3	1
	DISP	0	3	2312	6	0	8	2
	DIOR	2	3	3104	6	0	5	3
	DIOR	3	3	3110	6	0	3	4
	DISP	0	3	1014	0	0	11	5
	SPSP	0	3	3032	1	0	2	6
	SPSP	0	3	3031	1	0	1	8
	DISP	0	3	3044	0	0	12	10
	DISP	3	3	2401	1	0	7	10
	DIOR	0	3	3014	6	0	1	10
	SPSP	0	3	3102	0	0	7	11
	DIOR	2	3	1224	6	0	8	11
	DIOR	0	3	1410	7	0	8	12
	DIOR	3	3	2021	0	0	1	12

Jornada Small Mammal Snap-trap Grid Data, 1970

Small mammal snap-trap grid data collected at the Jornada Site in 1970 constitute Grassland Biome data set A2U1018. Data were collected on Forms NREL-12A, NREL-13, and NREL-14. Copies of these forms and an example of the data follow.

FIELD DATA SHEET - SNAP TRAP EFFORT

DATA TYPE	SITE	INITIALS	DATE			TREATMENT	REPLICATE	PLOT SIZE	TIME
			DAY	MO	YR				
1-2	3-4	5-7	8-9	10-11	12-13	14	15	16-19	21-24

DATA TYPE

- 01 Aboveground Biomass
- 02 Litter
- 03 Belowground Biomass
- 10 Vertebrate - Live Trapping
- 11 Vertebrate - Snap Trapping
- 12 Mammal - Collection
- 13 Snap Trap Effort
- 14 Mammal Reproductive
- 20 Avian Flush Census
- 21 Avian Road Count
- 22 Avian Road Count Summary
- 23 Avian Collection - Internal
- 24 Avian Collection - External
- 25 Avian Collection - Plumage
- 30 Invertebrate
- 40 Microbiology - Decomposition
- 41 Microbiology - Nitrogen
- 42 Microbiology - Biomass
- 43 Microbiology - Root Decomposition
- 44 Microbiology - Respiration

SITE

- 01 Aie
- 02 Bison
- 03 Bridger
- 04 Cottonwood
- 05 Dickinson
- 06 Hays
- 07 Hupland
- 08 Jornada
- 09 Osgo
- 10 Pentec
- 11 Pawnee

TREATMENT

- 1 Ungrazed
- 2 Lightly grazed
- 3 Moderately grazed
- 4 Heavily grazed
- 5 Grazed 1969, ungrazed 1970
- 6
- 7
- 8
- 9

TRAP STATUS

- 0 Set
- 1 Animal
- 2 Sprung-empty
- 3 Trap missing

	1	2	3	4	5	6	7	8	9	10	11	12													
	25	27	29	30	31	32	35	36	38	39	41	42	44	45	47	48	50	51	53	54	56	57	59	60	
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

+++ EXAMPLE OF DATA +++

1	2	3	4	5	6
1234567890123456789012345678901234567890123456789012345678901234567890					
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308DMS291070232.74	2500				
1308RPL301070232.74	0830	22		2	
1308RPL301070232.74	0830				3
1308RPL301070232.74	0830				2
1308RPL301070232.74	0830				
1308RPL301070232.74	0830				
1308RPL301070232.74	0830				
1308RPL301070232.74	0830	2			
1308RPL301070232.74	0830				
1308RPL301070232.74	0830		2		
1308RPL301070232.74	0830				2
1308RPL301070232.74	0830				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308DMS301070232.74	2500				
1308RPL311070232.74	0930			1	
1308RPL311070232.74	0930		2		
1308RPL311070232.74	0930			2	
1308RPL311070232.74	0930				2
1308RPL311070232.74	0930				
1308RPL311070232.74	0930				
1308RPL311070232.74	0930	21			
1308RPL311070232.74	0930				
1308RPL311070232.74	0930				
1308RPL311070232.74	0930				
1308RPL311070232.74	0930				

Jornada Small Mammal Off-grid Trapping Data, 1970

Small mammal off-grid trapping data collected at the Jornada Site in 1970 and 1971 constitute Grassland Biome data set A2U1028. Data were collected on Forms NREL-12A and NREL-14. Copies of these forms and an example of the data follow.



FIELD DATA SHEET - MAMMAL COLLECTION

DATA TYPE	SITE	INITIALS	DATE		TREATMENT	REPLICATE	PLOT SIZE	TRAP DAY	HOUR	GRID TRAP		GENUS	SPECIES	SUBSPECIES	SPECIMEN NUMBER	MARK	LENGTH	TAIL	FOOT	EAR	WEIGHT	MOLT	PARASITES	STOMACH WEIGHT	FOOD	EYE LENS	SPECIMEN	MAP REFERENCE																																																																								
			Day	Mo.						Yr.	Row																	Col	TWN	RNG	S																																																																					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

- MARK**
- 0 None
 - 01 Aboveground Biomass
 - 1 Snap-trap grid, unmarked
 - 2 Snap-trap grid, marked
 - 3 Live-trap grid, unmarked
 - 4 Live-trap grid, marked
 - 5 Other trapping
- MOLT**
- 0 No evidence
 - 1 Post-juvenile
 - 2 Post-subadult
 - 3 Adult (vernal)
 - 4 Adult (autumnal)
 - 5 Molt of unknown stage
 - 6 Undetermined
- PARASITES - EYE LENS**
- 0 Not saved
 - 1 Preserved
- SPECIMEN**
- 0 Not saved
 - 1 Skin
 - 2 Skull
 - 3 Skin and skull
 - 4 Skeleton
 - 5 Liquid preservative
- FOOD**
- 0 None
 - 1 Stomach only
 - 2 Cheek pouch only
 - 3 Both
- SITE**
- 01 Ale
 - 02 Bison
 - 03 Bridger
 - 04 Cottonwood
 - 05 Dickinson
 - 06 Hays
 - 07 Hoiland
 - 08 Jornada
 - 09 Osage
 - 10 Pantex
 - 11 Pawnee
- TREATMENT**
- 1 Ungrazed
 - 2 Lightly grazed
 - 3 Moderately grazed
 - 4 Heavily grazed
 - 5 Grazed 1969, ungrazed 1970
 - 6
 - 7
 - 8
 - 9



FIELD DATA SHEET - MAMMAL REPRODUCTIVE

DATA TYPE	SITE	INITIALS	DATE			TRAP DAY	HOUR	GRID TRAP		GENUS	SPECIES	SUBSPECIES	SPECIMEN NUMBER	MALE			FEMALE										
			Day	Mo.	Yr.			Row	Col					EXTERNAL	TESTES LN	TESTES WD	SEM VES	EXTERNAL	MAMMARY	PUBIC SEM	NORMAL EMBRYOS	EMBRYO LENGTH	RESORB	SCARS NEW	SCARS OLD	CORPORA LUTEA	TRACT WEIGHT
<p>MALE</p> <p>0 Adult, non-breeding 1 Subadult, non-breeding 2 Juvenile, non-breeding 3 Adult breeding ? 4 Subadult breeding ? 5 Juvenile breeding ? 6 Adult breeding 7 Subadult breeding 8 Juvenile breeding 9 Undetermined</p> <p>FEMALE</p> <p>0 Adult, vulva inactive 1 Subadult, vulva inactive 2 Juvenile, vulva inactive 3 Adult, vulva turgid 4 Subadult, vulva turgid 5 Juvenile, vulva turgid 6 Adult, vulva cornified 7 Subadult, vulva cornified 8 Juvenile, vulva cornified 9 Undetermined</p> <p>SEMINAL VESICLES</p> <p>0 No observation 1 Minute 2 Small 3 Well developed</p> <p>EPIDIDYMIUS</p> <p>0 No observation 1 Not convoluted 2 Slightly convoluted 3 Convoluted</p> <p>MAMMARY</p> <p>0 No observation 1 Small 2 Large 3 Lactating</p> <p>SOURCE</p> <p>1 Snap trap grid 2 Live trap grid 3 Other trap line 4 Misc. collection</p> <p>PUBLIC SYMPHASIS</p> <p>0 No observation 1 Closed 2 Slightly open 3 Open</p> <p>TREATMENT</p> <p>01 Aboveground Biomass 02 Litter 03 Belowground Biomass 10 Vertebrate - Live Trapping 11 Vertebrate - Snap Trapping 12 Mammal - Collection 13 Snap Trap Effort 14 Mammal Reproductive 20 Avian Flush Census 21 Avian Reed Count 22 Avian Reed Count Summary 23 Avian Collection - Internal 24 Avian Collection - External 25 Avian Collection - Plumage 30 Invertebrate 40 Microbiology-Decomposition 41 Microbiology-Nitrogen 42 Microbiology-Biomass 43 Microbiology-Root Decomposition 44 Microbiology-Respiration</p> <p>SITE</p> <p>01 Ale 02 Bison 03 Bridger 04 Cottonwood 05 Dickinson 06 Hays 07 Hopland 08 Jornada 09 Osage 10 Pecos 11 Pawnee</p> <p>TREATMENT</p> <p>1 Ungrazed 2 Lightly grazed 3 Moderately grazed 4 Heavily grazed 5 Grazed 1969, ungrazed 1970 6 7 8 9</p>																											

+++ EXAMPLE OF DATA +++

1		2		3		4		5		6		7	
12345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901
120RPLP	11702	2.74	210001212DIOR	JOR01454	190	84	36	14	49.40				115
120RPLP	11702	2.74	210000310DIOR	JOR01444	208	114	36	14	47.10				115
120RPLP	11702	2.74	210001007DIOR	JOR01434	222	126	35	12	40.30				115
120RPLP	11702	2.74	110000712DIOR	JOR01404	213	114	38	14	50.80				115
120RPLP	11702	2.74	510001003DIOR	JOR01944	231	124	36	13	47.90				115
120RPLP	11702	2.74	510000701ONLE	JOR01954	155	52	23	15	22.90				115
120RPLP	11702	2.74	310001112DIOR	JOR01984	0	0	38	15	48.10				115
120RPLP	11702	2.74	310000805DISP	JOR01994	0	0	54	18	104.60				115
120RPLP	11702	2.74	310000610PEMA	JOR02004	172	75	22	16	17.00				115
120RPLP	11702	2.74	710000811DIOR	JOR02023	239	135	37	12	48.60				115
120RPLP	11702	2.74	710000211DIOR	JOR02013	231	127	36	14	52.40				115
120RPLP	11702	2.74	710000703DIME	JOR02033	221	129	38	11	34.10				115
120RPLP	11702	2.74	810000211DIOR	JOR02124	161	55	23	14	27.40				115
120RPLP	11702	2.74	810001109DIOR	JOR02134	233	123	36	12	41.20				115
120RPLP	11702	2.74	810000110ONLE	JOR02144			36	12	29.60				115
120RPLP0811702	2.74	10100000304DIOR	JOR02084	226	119	31	10	41.80					115
120RPLP0811702	2.74	10100000201DIOR	JOR02094			36	13	44.00					115
120RPLP0811702	2.74	10100000710DISP	JOR02104			54	16	105.10					115
120RPLP0811702	2.74	10100000112DIOR	JOR02114	214	105	37	15	48.20					115
120RPLP0811702	2.74	9100000111DIOR	JOR02064			37	15	52.50					115
140RPLP	11702	2.74	210001212DIOR	JOR0145	6	10	633						2
140RPLP	11702	2.74	210000310DIOR	JOR0144	6	11	633						2
140RPLP	11702	2.74	210001007DIOR	JOR0143			610						02
140RPLP	11702	2.74	110000712DIOR	JOR0140			310						12
140RPLP	11702	2.74	510001003DIOR	JOR0194			6	0		11	11		12
140RPLP	11702	2.74	510000701ONLE	JOR0195	0	4	211						2
140RPLP	11702	2.74	310001112DIOR	JOR0198	6	9	533						2
140RPLP	11702	2.74	310000805DISP	JOR0199			010						02
140RPLP	11702	2.74	310000610PEMA	JOR0200			012			34			12
140RPLP	11702	2.74	710000811DIOR	JOR0202	6	7	332						2
140RPLP	11702	2.74	710000211DIOR	JOR0201	6	10	633						2
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140RPLP	11702	2.74	810000211DIOR	JOR0212			0						02
140RPLP	11702	2.74	810001109DIOR	JOR0213			0						02
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140RPLP0811702	2.74	10100000304DIOR	JOR0208			710							2
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140RPLP0811702	2.74	10100000710DISP	JOR0210			0							2
140RPLP0811702	2.74	10100000112DIOR	JOR0211			0							2
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120RPLP250671		4	SPSP	JOR02720	229	66	29	11	110.030				115195 2
120RPLP250671		4	SPSP	JOR02740	229	68	35	11	111.000				115205 2
120RPLP250671		4	SPSP	JOR02750	209	44	34	9	133.800				115205 1
120RPLP250671		4	DISP	JOR02890	313	170	55	16	120.130				115205 2
120RPLP250671		4	DIOR	JOR02900	234	128	37	12	38.830				115195 2
120RPLP250671		4	DIOR	JOR02910	263	149	39	14	49.130				115195 2
120RPLP250671		4	DIOR	JOR02924	215	115	36	12	31.030				115205 1
120RPLP250671		4	SPSP	JOR02930	222	72	35	7	122.130				115195 1
120RPLP250671		4	ONLE	JOR03020	135	44	22	18	22.300				115195 2

1208RPLP250671	4	SPSP	JOR03030	226	67	35	7109.530	115195	28
1208RPLP250671	4	DISP	JOR03040	333188	53	15112.630	115195	28	
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1208RPLP250671	4	SPSP	JOR03470	226	75	34	8119.200	115205	18
1208RPLP250671	4	SPSP	JOR03480	208	60	35	9 98.230	115205	18
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1208RPLP250671	4	NEMJ	JOR03520	306135	36	25243.000	115195	28	
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1208RPLP240671	3	DISP	JOR03420	357210	54	16126.430	115205	18	
1208RPLP240671	3	ONLE	JOR03430	144	51	27	17 26.500	115195	28
1208RPLP240671	3	DIOR	JOR03450	255134	41	14 53.230	115205	18	
1208RPLP240671	3	DISP	JOR03580	350200	54	17101.330	115205	18	
1208RPLP240671	3	DIOR	JOR03590	246140	39	14 55.030	115205	18	
1208RPLP240671	3	DISP	JOR03600	357210	56	16124.300	115205	18	
1208RPLP240671	3	PEPE	JOR03610	165	91	22	8 13.630	115195	28
1208RPLP240671	3	PEPE	JOR03620	164	87	23	8 14.300	115195	28
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1208RPLP230671	2	SPSP	JOR03540	232	80	35	8107.330	115195	28
1208RPLP230671	2	SPSP	JOR03550	216	73	35	10102.000	115195	28
1208RPLP230671	2	SPSP	JOR03560	225	73	34	10101.830	115195	28
1208RPLP230671	2	SPSP	JOR03570	218	73	35	9102.400	115195	28
1208RPLP2206712	1	SPSP	JOR02650	236	74	35	10145.300	115	
1208RPLP2206712	1	SPSP	JOR02660	228	72	33	10108.300	115	
1208RPLP2206712	1	SPSP	JOR02670	221	67	32	10 87.000	115	
1208RPLP2206712	1	SPSP	JOR02680	233	73	35	9120.000	103	
1208RPLP2206712	1	DIOR	JOR02690	235131	37	11 36.930	115		
1208RPLP2206712	1	DIOR	JOR02700	228125	37	12 30.430	115		
1208RPLP2206712	1	DISP	JOR02710	359201	54	17137.930	103205	18	
1208RPLP2206712	1	SPSP	JOR02730	217	61	34	10114.200	115195	28
1208RPLP2206712	1	DIOR	JOR02760	248137	34	14 53.400	115205	18	
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1208RPLP2206712	1	DIOR	JOR02780	241132	38	13 48.100	115205	18	
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1208RPLP2206712	1	DIOR	JOR02810	224124	39	16 44.630	115205	18	
1208RPLP2206712	1	DIOR	JOR02820	230126	37	13 50.430	115205	18	
1208RPLP2206712	1	DIOR	JOR02830	242133	38	13 46.430	115205	18	
1208RPLP2206712	1	DIOR	JOR02840	224120	39	14 48.230	115205	18	
1208RPLP2206712	1	DIOR	JOR02850	239132	36	13 48.800	115205	18	
1208RPLP2206712	1	DIOR	JOR02860	227121	38	13 49.600	115205	18	
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1208RPLP2206712	1	DIOR	JOR02880	230129	38	14 48.630	115205	18	
1208RPLP2206712	1	DIOR	JOR02940	229122	37	13 46.230	115195	28	
1208RPLP2206712	1	DIOR	JOR02950	234125	38	13 47.430	115195	28	
1208RPLP2206712	1	DIOR	JOR02960	208114	34	12 35.500	115195	28	
1208RPLP220671	1	DIOR	JOR02970	241131	36	14 56.200	115195	28	
1208RPLP220671	1	DIOR	JOR02980	240129	37	14 52.430	115195	28	
1208RPLP220671	1	DIOR	JOR02990	233126	38	13 54.730	115195	28	
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1208RPLP2106712	0	SPSP	JOR02640	222	64	32	8103.030	103	
1408RPLP250671	4	SPSP	JOR0272	60201033					4
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1408RPLP250671	4	DIOR	JOR0290 60100623			4
1408RPLP250671	4	DIOR	JOR0291 60100733			4
1408RPLP250671	4	712DIOR	JOR0292 60070412			2
1408RPLP250671	4	SPSP	JOR0293 60171033			4
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1408RPLP250671	4	DIOR	JOR0344	01100	00002000	04
1408RPLP250671	4	SPSP	JOR0346 60171033			4
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1408RPLP250671	4	SPSP	JOR0348	01100	00000000	03
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1408RPLP250671	4	SPSP	JOR0351	01100	00230000	53
1408RPLP250671	4	NEMI	JOR0352	02312046	00000002	03
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1408RPLP240671	3	ONLE	JOR0343 6151033			3
1408RPLP240671	3	DIOR	JOR0345 60100622			3
1408RPLP240671	3	DISP	JOR0358 60120711			3
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1408RPLP240671	3	DISP	JOR0360	01100	00000100	03
1408RPLP240671	3	PEPE	JOR0361 60070433			3
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1408RPLP230671	2	SPSP	JOR0353 60181133			3
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1408RPLP230671	2	SPSP	JOR0355 60181133			3
1408RPLP230671	2	SPSP	JOR0356 60191233			3
1408RPLP230671	2	SPSP	JOR0357 60180933			3
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1408RPLP2206712	1	SPSP	JOR0266	02140	00000010	4
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1408RPLP2206712	1	DIOR	JOR0269 00060411			4
1408RPLP2206712	1	DIOR	JOR0270	01100	00000000	04
1408RPLP2206712	1	DISP	JOR0271 00090512			4
1408RPLP2206712	1	SPSP	JOR0273 60201133			4
1408RPLP2206712	1	DIOR	JOR0276 60080512			4
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1408RPLP2106712	0	SPSP	JOR0264 60190933			4

Jornada Small Mammal Live-trapping Data, 1971

Small mammal live-trapping data collected at the Jornada Site in 1971 constitute Grassland Biome data set A2U10B8. Data were collected on Form NREL-10. A copy of this form and an example of the data follow.



GRASSLAND BIOME

U.S. INTERNATIONAL BIOLOGICAL PROGRAM

FIELD DATA SHEET - VERTEBRATE - LIVE TRAPPING

DATA TYPE	SITE	INITIALS	DATE			TREATMENT	REPLICATE	PLOT SIZE	GENUS	SPECIES	SUBSPECIES	CONDITION	MARK	NUMBER	MALE	FEMALE	WEIGHT	MOLT	LOCATION		PREVIOUS NO.	
			Day	Mo	Yr														Row	Col		
1-2	3-4	5-7	8-9	10-11	12-13	14	15	16-17	18-19	20-21	22-24	25	27	28	30-34	36	38	40-44	46	48-49	50-52	53

DATA TYPE

- 01 Aboveground Biomass
- 02 Litter
- 03 Belowground Biomass
- 10 Vertebrate - Live Trapping
- 11 Vertebrate - Snap Trapping
- 12 Vertebrate - Collection
- 20 Avian Flush Census
- 21 Avian Road Count
- 22 Avian Road Count Summary
- 23 Avian Collection - Internal
- 24 Avian Collection - External
- 25 Avian Collection - Plumage
- 30 Invertebrate
- 40 Microbiology - Decomposition
- 41 Microbiology - Nitrogen
- 42 Microbiology - Biomass
- 43 Microbiology - Root Decomposition
- 44 Microbiology - Respiration

SITE

- 01 Ale
- 02 Bison
- 03 Bridger
- 04 Cottonwood
- 05 Dickinson
- 06 Hays
- 07 Hopland
- 08 Jornada
- 09 Osage
- 10 Pantex
- 11 Pawnee

FEMALE

- 0 Adult, vulva inactive
- 1 Subadult, vulva inactive
- 2 Juvenile, vulva inactive
- 3 Adult, vulva turgid
- 4 Subadult, vulva turgid
- 5 Juvenile, vulva turgid
- 6 Adult, vulva cornified
- 7 Subadult, vulva cornified
- 8 Juvenile, vulva cornified
- 9 Pregnant

CONDITION

- 0 Ungrazed
- 1 Lightly grazed
- 2 Moderately grazed
- 3 Heavily grazed
- 4 Grazed 1969, ungrazed 1970
- 0 Normal
- 1 Escaped
- 2 Torpid
- 3 Dead

MOLT

- 0 No evidence
- 1 Post-juvenile
- 2 Post-subadult
- 3 Adult (vernal)
- 4 Adult (autumnal)
- 5 Molt of unknown stage
- 6 Undetermined

MALE

- 0 Adult, non-breeding
- 1 Subadult, non-breeding
- 2 Juvenile, non-breeding
- 3 Adult breeding ?
- 4 Subadult breeding ?
- 5 Juvenile breeding ?
- 6 Adult breeding
- 7 Subadult breeding
- 8 Juvenile breeding
- 9 Undetermined

MARK

- 0 Normal
- 1 Unmarked
- 2 Ear tag
- 3 Toe Clip
- 4 Ear tag and toe clip
- 5 Natural amputation

*** EXAMPLE OF DATA ***

1		2		3		4		5	
12345678901234567890123456789012345678901234567890123456789012345									
1008RLP2206712	2.70	DIOR	0	3	0034	0		3	01 01
1008RLP2206712	2.70	DIOR	0	3	0101	6		0	02 01
1008RLP2206712	2.70	DIOR	0	3	1011		0	0	07 02
1008RLP2206712	2.70	DIOR	0	3	0012	6		3	05 02
1008RLP2206712	2.70	DIOR	1					0	01 02
1008RLP2206712	2.70	DIOR	0	3	4030	6		0	05 04
1008RLP2206712	2.70	DIOR	0	1	0042		0	3	08 04
1008RLP2206712	2.70	DISP	0	1	0043	0		0	09 04
1008RLP2206712	2.70	DIOR	0	3	0032	6		3	12 05
1008RLP2206712	2.70	PEFL	0	1	0044		0	3	10 05
1008RLP2206712	2.70	DIOR	0	3	1101	6		3	04 06
1008RLP2206712	2.70	DIOR	0	3	3104		0	0	03 06
1008RLP2206712	2.70	DIOR	0	1	0102	6		0	01 06
1008RLP2206712	2.70	SPSP	1						12 09
1008RLP2206712	2.70	DISP	0	3	3044		0	0	12 10
1008RLP2206712	2.70	DIOR	0	3	3033	6		0	11 09
1008RLP2206712	2.70	DISP	0	3	2332	0		0	02 09
1008RLP2206712	2.70	SPSP	0	3	2330		0	0	01 11
1008RLP2206712	2.70	DIOR	0	3	3014	6		3	01 12
1008RLP2206712	2.70	DIOR	0	3	0024	6		3	05 12
1008RLP2206712	2.70	DIOR	0	3	1224		0	3	08 12
1008RLP2206712	2.70	DIOR	1			6		3	11 12
1008RLP230671		DIOR	0	3	0101	6		3	01 01
1008RLP230671		DIOR	0	3	4030	6		3	06 01
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1008RLP230671		DISP	0	3	2312	0		3	09 03
1008RLP230671		DISP	0	3	0043	0		3	09 04
1008RLP230671		DIOR	0	3	2444	6		3	01 04
1008RLP230671		DIOR	0	3	0032	6		0	12 07
1008RLP230671		DIOR	0	3	0102	6		3	01 07
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1008RLP230671		DISP	0	3	3044		0	3	12 11
1008RLP230671		DI	1						12 12
1008RLP230671		DIOR	0	3	0024	6		3	05 12
1008RLP230671		DIOR	0	3	0033		0	3	02 12
1008RLP230671		DIOR	0	1	0103	6		3	01 12
1008RLP240671		DIOR	0	3	0101	6		3	02 01
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1008RLP240671		DIOR	0	3	2313	6		3	12 06

1008RLP240671		DIOR	0	3	0032	0				0	12	07
1008RLP240671		DIOR	0	3	3033	6				3	09	07
1008RLP240671		DISP	0	3	3044		0			3	12	10
1008RLP240671		SPSP	0	3	2345		0			0	12	11
1008RLP240671		DIOR	0	3	3034	6				3	11	12
1008RLP240671		NEMI	0	3	2415		0			0	08	11
1008RLP240671		DIOR	0	3	0024	7				3	05	12
1008RLP240671		DIOR	0	1	0110		0			3	05	12
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1008RLP2506712	2.76	DIOR	0	3	0011	3				3	12	01
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1008RLP2506712	2.76	SPSP	0	3	1233	6				3	06	03
1008RLP2506712	2.76	DIOR	0	3	2444	6				0	01	04
1008RLP2506712	2.76	DISP	0	3	2312	0				3	05	05
1008RLP2506712	2.76	PEFL	0	3	0044		0			0	10	05
1008RLP2506712	2.76	DIOR	0	3	0102	6				3	02	07
1008RLP2506712	2.76	NEMI	0	3	2415		0			0	07	08
1008RLP2506712	2.76	DIOR	0	3	0032	6				3	12	07
1008RLP2506712	2.76	SPSP	0	3	2345		9			0	09	09
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1008RLP2506712	2.76	DIOR	0	3	0103	6				3	01	12
1008RLP2506712	2.76	DIOR	0	3	0033		0			3	03	12
1008RLP2506712	2.76	DIOR	3	3	0024	6				3	07	12
1008RLP2506712	2.76	PEPE	0	1	0111	6				0	09	12
1008RLP2506712	2.76	DIOR	0	3	1224		0			0	10	12
1008RLP2506712	2.76	SPSP	0	1	0052		9			0	11	12
1008RLP2506712	2.76	DISP	0	3	3044		0			3	11	11
1008RLP2506712	2.76	DIOR	0	3	3034	6				3	12	12
1008RLP2606712	2.76	DIOR	0	3	1011		0			3	09	01
1008RLP2606712	2.76	SPSP	0	1	0053	6				0	11	01
1008RLP2606712	2.76	SPSP	0	1	0054	6				0	04	03
1008RLP2606712	2.76	DISP	0	3	0043	0				3	08	04
1008RLP2606712	2.76	DISP	0	1	0112	0				3	01	08
1008RLP2606712	2.76	DISP	0	3	3044		0			0	12	10
1008RLP2606712	2.76	DIOR	0	3	3034	6				3	11	12
1008RLP2606712	2.76	DISP	0	3	0041	6				3	09	12
1008RLP2606712	2.76	PEPE	0	3	0111	6				0	09	12
1008RLP2606712	2.76	DIOR	0	3	0110		0			0	05	12
1008RLP2606712	2.76	DIOR	0	3	0033		0			0	01	12

Pantex Small Mammal Live-trapping data, 1970

Small mammal live-trapping data collected at the Pantex Site in 1970 constitute Grassland Biome data set A2U100A. Data were collected on Form NREL-10. A copy of the form and an example of the data follow.



GRASSLAND BIOME

U.S. INTERNATIONAL BIOLOGICAL PROGRAM

FIELD DATA SHEET - VERTEBRATE - LIVE TRAPPING

DATA TYPE	SITE	INITIALS	DATE			TREATMENT	REPLICATE	PLOT SIZE	GENUS	SPECIES	SUBSPECIES	CONDITION	MARK	NUMBER	MALE	FEMALE	WEIGHT	MOLT	LOCATION		PREVIOUS NO.																																																																																																	
			Day	Mo	Yr														Row	Col																																																																																																		
1-2	3-4	5-7	8-9	10-11	12-13	14	15	16-17	21-22	23-24	25	27	29	31-34	36	38	40-44	46	48-49	51-52																																																																																																		
<p>DATA TYPE</p> <p>01 Aboveground Biomass 02 Litter 03 Belowground Biomass 10 Vertebrate - Live Trapping 11 Vertebrate - Snap Trapping 12 Vertebrate - Collection 20 Avian Flush Census 21 Avian Road Count 22 Avian Road Count Summary 23 Avian Collection - Internal 24 Avian Collection - External 25 Avian Collection - Plumage 30 Invertebrate 40 Microbiology - Decomposition 41 Microbiology - Nitrogen 42 Microbiology - Biomass 43 Microbiology - Root Decomposition 44 Microbiology - Respiration</p> <p>SITE</p> <table border="0"> <tr><td>01</td><td>Ale</td><td>0</td><td>Adult, vulva inactive</td></tr> <tr><td>02</td><td>Bison</td><td>1</td><td>Subadult, vulva inactive</td></tr> <tr><td>03</td><td>Bridger</td><td>2</td><td>Juvenile, vulva inactive</td></tr> <tr><td>04</td><td>Cottonwood</td><td>3</td><td>Adult, vulva turgid</td></tr> <tr><td>05</td><td>Dickinson</td><td>4</td><td>Subadult, vulva turgid</td></tr> <tr><td>06</td><td>Hays</td><td>5</td><td>Juvenile, vulva turgid</td></tr> <tr><td>07</td><td>Hopland</td><td>6</td><td>Adult, vulva cornified</td></tr> <tr><td>08</td><td>Jornada</td><td>7</td><td>Subadult, vulva cornified</td></tr> <tr><td>09</td><td>Osage</td><td>8</td><td>Juvenile, vulva cornified</td></tr> <tr><td>10</td><td>Pantex</td><td>9</td><td>Pregnant</td></tr> <tr><td>11</td><td>Pawnee</td><td></td><td></td></tr> </table> <p>TREATMENT</p> <table border="0"> <tr><td>0</td><td>Normal</td></tr> <tr><td>1</td><td>Escaped</td></tr> <tr><td>2</td><td>Torpid</td></tr> <tr><td>3</td><td>Dead</td></tr> </table> <p>MOLT</p> <table border="0"> <tr><td>0</td><td>No evidence</td></tr> <tr><td>1</td><td>Post-juvenile</td></tr> <tr><td>2</td><td>Post-subadult</td></tr> <tr><td>3</td><td>Adult (vernal)</td></tr> <tr><td>4</td><td>Adult (autumnal)</td></tr> <tr><td>5</td><td>Molt of unknown stage</td></tr> <tr><td>6</td><td>Undetermined</td></tr> </table> <p>MALE</p> <table border="0"> <tr><td>0</td><td>Adult, non-breeding</td></tr> <tr><td>1</td><td>Subadult, non-breeding</td></tr> <tr><td>2</td><td>Juvenile, non-breeding</td></tr> <tr><td>3</td><td>Adult breeding ?</td></tr> <tr><td>4</td><td>Subadult breeding ?</td></tr> <tr><td>5</td><td>Juvenile breeding ?</td></tr> <tr><td>6</td><td>Adult breeding</td></tr> <tr><td>7</td><td>Subadult breeding</td></tr> <tr><td>8</td><td>Juvenile breeding</td></tr> <tr><td>9</td><td>Undetermined</td></tr> </table> <p>MARK</p> <table border="0"> <tr><td>0</td><td>Normal</td></tr> <tr><td>1</td><td>Unmarked</td></tr> <tr><td>2</td><td>Ear tag</td></tr> <tr><td>3</td><td>Toe Clip</td></tr> <tr><td>4</td><td>Ear tag and toe clip</td></tr> <tr><td>5</td><td>Natural amputation</td></tr> </table>																					01	Ale	0	Adult, vulva inactive	02	Bison	1	Subadult, vulva inactive	03	Bridger	2	Juvenile, vulva inactive	04	Cottonwood	3	Adult, vulva turgid	05	Dickinson	4	Subadult, vulva turgid	06	Hays	5	Juvenile, vulva turgid	07	Hopland	6	Adult, vulva cornified	08	Jornada	7	Subadult, vulva cornified	09	Osage	8	Juvenile, vulva cornified	10	Pantex	9	Pregnant	11	Pawnee			0	Normal	1	Escaped	2	Torpid	3	Dead	0	No evidence	1	Post-juvenile	2	Post-subadult	3	Adult (vernal)	4	Adult (autumnal)	5	Molt of unknown stage	6	Undetermined	0	Adult, non-breeding	1	Subadult, non-breeding	2	Juvenile, non-breeding	3	Adult breeding ?	4	Subadult breeding ?	5	Juvenile breeding ?	6	Adult breeding	7	Subadult breeding	8	Juvenile breeding	9	Undetermined	0	Normal	1	Unmarked	2	Ear tag	3	Toe Clip	4	Ear tag and toe clip	5	Natural amputation
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9	Undetermined																																																																																																																					
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5	Natural amputation																																																																																																																					

+++ EXAMPLE OF DATA +++

1		2		3		4		5		6	
1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890
1010RLP1205705	2.74	PEFLC	0 3 1000	0				0	3	2	
		PEMA	0 3 1100	0				0	2	3	
		PEMA	0 3 1200	0				0	12	5	
		PEFLC	0 3 1300	0				0	2	6	
		PEFLC	0 3 1400	6				0	7	6	
		REMO	0 3 1010	0				0	8	9	
		PEMA	0 3 1020	6				0	5	0	
		REMO	0 3 1030	0				0	1	10	
		PEFLC	0 3 1040	0				0	5	10	
		SYAU	0 1						10	11	
		PEFLC	0 3 1002	0				0	2	12	
		REMO	0 3 1004	0				0	4	12	
1010RLP1305705	2.74	ONLF	0 3 1003	0				0	3	12	
		PEMA	0 3 1100	0				0	4	4	
		PEFLC	0 3 1400	0				0	9	6	
		PEMA	0 3 1005	0				0	12	12	
1010RWW1405705	2.74	PEFLC	0 3 1040	0				0	5	10	
		PEMA	0 3 1100	0				0	4	4	
		PEFLC	0 3 2000	3				0	2	5	
		PEFLC	0 3 1300	1				0	1	6	
		PEFLC	0 3 3000	0				0	1	3	
		REMO	0 3 4000	0				0	1	9	
		PEFLC	0 3 0100	0				0	2	11	
		PEFLC	0 3 1002	0				0	3	11	
1010RWW1505705	2.74	PEFLC	0 3 0200	0				0	2	1	
		REMO	0 3 0300	0				0	1	3	
		REMO	0 3 0400	1				0	1	3	
		PEFLC	0 3 1300	0				0	1	4	
		PEFLC	0 3 1000	0				0	3	3	
		PEMA	0 3 1100	0				0	4	4	
		REMO	0 3 0010	0				0	1	4	
		PEFLC	0 3 3000	0				0	2	2	
		PEMA	0 3 1020	0				0	3	7	
		SYAU	0 1						11	7	
		REMO	0 1 0020	0				0	5	12	
1010RWW1605705	2.74	REMO	0 3 0002	0				0	12	1	
		PEMA	0 3 1200	0				0	12	6	
		REMO	0 3 4000	0				0	2	6	
		PEMA	0 3 1020	0				0	1	2	
		PEFLC	0 3 2000	0				0	2	2	
		REMO	0 3 1010	0				0	10	7	
		REMO	0 3 1000	0				0	1	10	
1010RLP1705705	2.74	PEFLC	0 3 0003	3				0	2	1	
1010RWW1805705	2.74	PEFLC	0 3 0004	0				0	10	1	

Pantex Small Mammal Snap-trap Grid Data, 1970

Small mammal snap-trap grid data collected at the Pantex Site in 1970 constitute Grassland Biome data set A2U101A. Data were collected on Forms NREL-12A, NREL-13, and NREL-14. Copies of these forms and an example of the data follow.



GRASSLAND BIOME

U.S. INTERNATIONAL BIOLOGICAL PROGRAM

FIELD DATA SHEET - MAMMAL COLLECTION

DATA TYPE	SITE	INITIALS	DATE		TRAP DAY	HOUR	GRID TRAP	GENUS	SPECIES	SUBSPECIES	SPECIMEN NUMBER	MARK	LENGTH	TAIL	FOOT	EAR	WEIGHT	MOLT	PARASITES	STOMACH WEIGHT	FOOD	EYE LENS	SPECIMEN	MAP REFERENCE						
			Day	Mo.																				Yr.	Col	Row	TWN	RNG	S	
			10	11	12-13	14	15	16-19	20-22	23-26	27-29	30-31	32-33	34	35	36-42	43	44-47	48-50	51-53	54-56	57-61	62-63	64-66	67-68	69	70-72	73-75		

- MARK**
- 0 None
 - 1 Snap-trap grid, unmarked
 - 2 Snap-trap grid, marked
 - 3 Live-trap grid, unmarked
 - 4 Live-trap grid, marked
 - 5 Other trapping
- MOLT**
- 0 No evidence
 - 1 Post-juvenile
 - 2 Post-subadult
 - 3 Adult (vernal)
 - 4 Adult (autumnal)
 - 5 Molt of unknown stage
 - 6 Undetermined
- PARASITES - EYE LENS**
- 0 Not saved
 - 1 Preserved
- SPECIMEN**
- 0 Not saved
 - 1 Skin
 - 2 Skull
 - 3 Skin and skull
 - 4 Skeleton
 - 5 Liquid preservative
- FOOD**
- 0 None
 - 1 Stomach only
 - 2 Cheek pouch only
 - 3 Both
- SITE**
- 01 Aie
 - 02 Bison
 - 03 Bridger
 - 04 Cottonwood
 - 05 Dickinson
 - 06 Hays
 - 07 Hopland
 - 08 Jornada
 - 09 Oage
 - 10 Pantex
 - 11 Pawnee
- TREATMENT**
- 1 Ungrazed
 - 2 Lightly grazed
 - 3 Moderately grazed
 - 4 Heavily grazed
 - 5 Grazed 1969, ungrazed 1970
 - 6
 - 7
 - 8
 - 9

FIELD DATA SHEET - SNAP TRAP EFFORT

DATA TYPE	SITE	INITIALS	DATE			TREATMENT	REPLICATE	PLOT SIZE	TIME
			DAY	MO	YR				
1-2	3-4	5-7	8-9	10-11	12-13	14	15	16-19	21-24

DATA TYPE

- 01 Aboveground Biomass
- 02 Litter
- 03 Belowground Biomass
- 10 Vertebrate - Live Trapping
- 11 Vertebrate - Snap Trapping
- 12 Mammal - Collection
- 13 Snap Trap Effort
- 14 Mammal Reproductive
- 20 Avian Flush Census
- 21 Avian Road Count
- 22 Avian Road Count Summary
- 23 Avian Collection - Internal
- 24 Avian Collection - External
- 25 Avian Collection - Plumage
- 30 Invertebrate
- 40 Microbiology - Decomposition
- 41 Microbiology - Nitrogen
- 42 Microbiology - Biomass
- 43 Microbiology - Root Decomposition
- 44 Microbiology - Respiration

SITE

- 01 Alf
- 02 Bison
- 03 Bridger
- 04 Cottonwood
- 05 Dickinson
- 06 Hays
- 07 Hoptland
- 08 Jornada
- 09 Oauge
- 10 Pantex
- 11 Pawnee

TREATMENT

- 1 Ungrazed
- 2 Lightly grazed
- 3 Moderately grazed
- 4 Heavily grazed
- 5 Grazed 1969, ungrazed 1970
- 6
- 7
- 8
- 9

TRAP STATUS

- 0 Set
- 1 Animal
- 2 Sprung-empty
- 3 Trap missing

	1	2	3	4	5	6	7	8	9	10	11	12												
	27	29	30	32	33	35	36	38	39	41	42	44	45	47	48	50	51	53	54	56	57	59	60	
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

FIELD DATA SHEET - MAMMAL REPRODUCTIVE

DATE		Day		Mo.	Yr.
INITIALS	SITE				
DATA TYPE	REPLICATE				
TREATMENT					
PLOT SIZE					
TRAP DAY					
HOUR		Col		Row	
GRID TRAP		GENUS			
		SPECIES			
		SUBSPECIES			
SPECIMEN NUMBER		SEX			
		EXTERNAL			
TESTES		LN		WD	
EPIDID		SEM VES			
MALE		MAMMARY			
		EXTERNAL			
RESORB		L	R	L	R
SCARS NEW		L	R	L	R
SCARS OLD		L	R	L	R
CORPORA LUTEA		L	R	L	R
CORPORA		L	R	L	R
TRACT WEIGHT		CORP ALB			
		SPEC SOURCE			

MALE	DATA TYPE
0	Adult, non-breeding
1	Subadult, non-breeding
2	Juvenile, non-breeding
3	Adult breeding ?
4	Subadult breeding ?
5	Juvenile breeding ?
6	Adult breeding
7	Subadult breeding
8	Juvenile breeding
9	Undetermined
FEMALE	DATA TYPE
0	Adult, vulva inactive
1	Subadult, vulva inactive
2	Juvenile, vulva inactive
3	Adult, vulva tergid
4	Subadult, vulva tergid
5	Juvenile, vulva tergid
6	Adult, vulva cornified
7	Subadult, vulva cornified
8	Juvenile, vulva cornified
9	Undetermined
SEMINAL VESICLES	SITE
0	No observation
1	Minute
2	Small
3	Well developed
EPIDIDYMUS	01 Ale
0	No observation
1	Not convoluted
2	Slightly convoluted
3	Convoluted
MAMMARY	02 Bison
0	No observation
1	Small
2	Large
3	Lactating
SOURCE	03 Bridger
1	Snap trap grid
2	Live trap grid
3	Other trap line
4	Misc. collection
PUBLIC SYMPHASIS	04 Cottonwood
0	No observation
1	Closed
2	Slightly open
3	Open
	05 Dickinson
	06 Hays
	07 Haplond
	08 Jornada
	09 Oaage
	10 Pantex
	11 Pawnee
	TREATMENT
	1 Ungrazed
	2 Lightly grazed
	3 Moderately grazed
	4 Heavily grazed
	5 Grazed 1969,
	6 ungrazed 1970
	7
	8
	9

Pantex Small Mammal Off-grid Trapping Data, 1970

Small mammal off-grid trapping data collected at the Pantex Site in 1971 constitute Grassland Biome data set A2U102A. Data were collected on Forms NREL-12A and NREL-14. Copies of these forms and an example of the data follow.



GRASSLANE BIOME

U.S. INTERNATIONAL BIOLOGICAL PROGRAM

FIELD DATA SHEET - MAMMAL COLLECTION

DATA TYPE	INITIALS		DATE		TREATMENT	REPLICATE	PLOT SIZE	TRAP DAY	HOUR	GRID TRAP	GENUS	SPECIES	SUBSPECIES	SPECIMEN NUMBER	MARK	LENGTH	TAIL	FOOT	EAR	WEIGHT	MOLT	PARASITES	STOMACH WEIGHT	FOOD	EYE LENS	SPECIMEN	MAP REFERENCE										
1	3	4	5	7	9-9	10-11	13	14	15	16-19	21	22	23-26	27-28	29	30	31	32	33	34	35	36-42	43	44-47	48-50	51-53	54-56	57-61	62	63	64-66	67	68	69	70-72	73-75	76-77
MARK	<p>0 None 1 Snap-trap grid, unmarked 2 Snap-trap grid, marked 3 Live-trap grid, unmarked 4 Live-trap grid, marked 5 Other trapping</p> <p>MOLT 0 No evidence 1 Post-juvenile 2 Post-subadult 3 Adult (vernal) 4 Adult (summer) 5 Molt of unknown stage 6 Undetermined</p> <p>PARASITES - EYE LENS 0 Not saved 1 Preserved</p> <p>SPECIMEN 0 Not saved 1 Skin 2 Skull 3 Skin and skull 4 Skeleton 5 Liquid preservative</p> <p>FOOD 0 None 1 Stomach only 2 Cheek pouch only 3 Both</p> <p>SITE 01 Aie 02 Bison 03 Bridger 04 Cottonwood 05 Dickinson 06 Hays 07 Hopton 08 Jornada 09 Osage 10 Pantex 11 Pawnee</p> <p>TREATMENT 1 Ungrazed 2 Lightly grazed 3 Moderately grazed 4 Heavily grazed 5 Grazed 1969, ungrazed 1970 6 7 8 9</p>																																				



GRASSLAND BIOME

U.S. INTERNATIONAL BIOLOGICAL PROGRAM

FIELD DATA SHEET - MAMMAL REPRODUCTIVE

DATE	INITIALS		SITE	DATA TYPE	REPLICATE	PLOT SIZE	TRAP DAY	HOUR	GRID TRAP	Col	Row	GENUS	SPECIES	SUBSPECIES	SPECIMEN NUMBER	MALE		FEMALE											
	Day	No.														Yr.	EXTERNAL	TESTES	LN	WD	SEM VES	EXTERNAL	MAMMARY	PUBIC SEM	NORMAL EMBRYOS	L	R	EMBRYO LENGTH	RESORB
<p>MALE</p> <ul style="list-style-type: none"> 0 Adult, non-breeding 1 Subadult, non-breeding 2 Juvenile, non-breeding 3 Adult breeding ? 4 Subadult breeding ? 5 Juvenile breeding ? 6 Adult breeding 7 Subadult breeding 8 Juvenile breeding 9 Undetermined 																													
<p>DATA TYPE</p> <ul style="list-style-type: none"> 01 Aboveground Biomass 02 Litter 03 Belowground Biomass 10 Vertebrate - Live Trapping 11 Vertebrate - Snap Trapping 12 Mammal - Collection 13 Snap Trap Effort 14 Mammal Reproductive 20 Avian Flush Census 21 Avian Road Count 22 Avian Road Count Summary 23 Avian Collection - Internal 24 Avian Collection - External 25 Avian Collection - Plumage 30 Invertebrate 40 Microbiology-Decomposition 41 Microbiology-Nitrogen 42 Microbiology-Biomass 43 Microbiology-Root Decomposition 44 Microbiology-Respiration 																													
<p>SEMINAL VESICLES</p> <ul style="list-style-type: none"> 0 No observation 1 Minute 2 Small 3 Well developed 																													
<p>EPIDIDYMS</p> <ul style="list-style-type: none"> 0 No observation 1 Not convoluted 2 Slightly convoluted 3 Convoluted 																													
<p>MAMMARY</p> <ul style="list-style-type: none"> 0 No observation 1 Small 2 Large 3 Lactating 																													
<p>SOURCE</p> <ul style="list-style-type: none"> 1 Snap trap grid 2 Live trap grid 3 Other trap line 4 Misc. collection 																													
<p>PUBLIC SYMPHASIS</p> <ul style="list-style-type: none"> 0 No observation 1 Closed 2 Slightly open 3 Open 																													
<p>TREATMENT</p> <ul style="list-style-type: none"> 0 No observation 1 Ungrazed 2 Lightly grazed 3 Moderately grazed 4 Heavily grazed 5 Grazed 1969 6 ungrazed 1970 																													
<p>SITE</p> <ul style="list-style-type: none"> 01 Ale 02 Bison 03 Bridger 04 Cottonwood 05 Dickinson 06 Hays 07 Hepland 08 Jornada 09 Osage 10 Pantex 11 Pawnee 																													

+++ EXAMPLE OF DATA +++

1	2	3	4	5	6	7			
12345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901			
1210TRM19057150									
1210TRM19057150		PEMA	PAN01205	135	53	19	14	18.230	103
1210TRM19057150		PEMA	PAN01215	135	54	18	15	16.700	103
1210TRM19057150		PEMA	PAN01225	135	54	19	14	18.200	103
1210TRM19057150		PEMA	PAN01235	146	60	20	14	20.400	103
1210TRM19057150		PEMA	PAN01245	145	57	18	15	20.630	103
1210TRM19057150		PEMA	PAN01255	143	57	18	15	21.000	103
1210TRM19057150		PEMA	PAN01265	114	49	18	14	11.100	103
1210TRM19057150		PEMA	PAN01275	154	59	18	15	25.900	103
1210TRM19057150		PEMA	PAN01285	148	64	19	15	19.500	103
1210TRM19057150		PEMA	PAN01295	147	58	18	14	17.800	103
1210TRM19057150		PEMA	PAN01305	120	53	15	13	10.100	103
1210TRM19057150		PEFL	CPAN01315	125	59	16	09	09.800	103
1210TRM19057150		PEMA	PAN01325	133	50	17	14	16.500	103
1210TRM19057150		PEMA	PAN01335	136	55	17	14	16.400	103
1210TRM19057150		PEMA	PAN01345	151	59	19	14	22.400	103
1210TRM19057150		PEMA	PAN01355	091	11	19	16	16.300	105
1210TRM20057150		PEMA	PAN01365	115	45	17	14	10.520	103
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1210TRM20057150		PEMA	PAN01385	130	50	18	13	16.420	103
1210TRM20057150		PEMA	PAN01395	135	55	16	14	18.200	103
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1210TRM20057150		PEMA	PAN01435	144	59	17	14	28.400	103
1210TRM20057150		PEMA	PAN01445	113	48	15	12	10.130	103
1210TRM20057150		PEMA	PAN01455	114	48	16	14	09.800	103
1210TRM20057150		PEMA	PAN01465	123	44	17	12	13.190	103
1210TRM20057150		PEMA	PAN01475	132	57	17	12	16.520	103
1210TRM20057150		PEMA	PAN01485	136	53	18	13	16.800	103
1210TRM20057150		PEMA	PAN01495	142	61	18	14	20.700	103
1210TRM20057150		PEMA	PAN01505	141	63	18	14	17.200	103
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1210TRM190571		PEFL	PAN01535	140	56	18	14	15.7 0	005
1410TRM20057150		PEMA	PAN0120	60090533					3
1410TRM20057150		PEMA	PAN0121	60080533					3
1410TRM20057150		PEMA	PAN0122	60080532					3
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1410TRM20057150		PEMA	PAN0127			01200		0022000400003	
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1410TRM20057150		PEFL	PAN0131	00050433					3
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PEMA	PAN0133	30070432				3
PEMA	PAN0134	60120633				3
PEMA	PAN0135	60100633				3
PEMA	PAN0136	10060211				3
PEMA	PAN0137	60130633				3
PEMA	PAN0138	00070423				3
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PEMA	PAN0142		01200	0012002200003		3
PEMA	PAN0143		02222020000000227.503			3
PEMA	PAN0144	00020113				3
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PEMA	PAN0150		022310020000003200003			3
PEMA	PAN0151	60110633				3
PEFL	PAN0153		1	3000		3

Pantex Small Mammal Live-trapping Data, 1971

Small mammal live-trapping data collected at the Pantex Site in 1971 constitute Grassland Biome data set A2U10BA. Data were collected on Form NREL-10. A copy of the form and an example of the data follow.



GRASSLAND BIOME

U.S. INTERNATIONAL BIOLOGICAL PROGRAM

FIELD DATA SHEET - VERTEBRATE - LIVE TRAPPING

DATA TYPE	SITE	INITIALS	DATE			TREATMENT	REPLICATE	PLOT SIZE	GENUS	SPECIES	SUBSPECIES	CONDITION	MARK	NUMBER	MALE	FEMALE	WEIGHT	LOCATION		PREVIOUS NO.																																																																			
			Day	Mo	Yr													Row	Col																																																																				
1-2	3-4	5-7	8-9	10-11	12	13	14-15	16-17	18-19	20-21	22-23	24-25	26-27	28-29	30-31	32-33	34-35	36-37	38-39	40-41	42-43	44-45	46-47	48-49	50-51	52-53																																																													
<p>DATA TYPE</p> <ul style="list-style-type: none"> 01 Aboveground Biomass 02 Litter 03 Belowground Biomass 10 Vertebrate - Live Trapping 11 Vertebrate - Snap Trapping 12 Vertebrate - Collection 20 Avian Flush Census 21 Avian Road Count 22 Avian Road Count Summary 23 Avian Collection - Internal 24 Avian Collection - External 25 Avian Collection - Plumage 30 Invertebrate 40 Microbiology - Decomposition 41 Microbiology - Nitrogen 42 Microbiology - Biomass 43 Microbiology - Root Decomposition 44 Microbiology - Respiration <p>SITE</p> <table border="0"> <tr> <td>01 Ale</td> <td>0 Adult, vulva inactive</td> </tr> <tr> <td>02 Bison</td> <td>1 Subadult, vulva inactive</td> </tr> <tr> <td>03 Bridger</td> <td>2 Juvenile, vulva inactive</td> </tr> <tr> <td>04 Cottonwood</td> <td>3 Adult, vulva turgid</td> </tr> <tr> <td>05 Dickinson</td> <td>4 Subadult, vulva turgid</td> </tr> <tr> <td>06 Hays</td> <td>5 Juvenile, vulva turgid</td> </tr> <tr> <td>07 Hoptland</td> <td>6 Adult, vulva cornified</td> </tr> <tr> <td>08 Jornada</td> <td>7 Subadult, vulva cornified</td> </tr> <tr> <td>09 Osage</td> <td>8 Juvenile, vulva cornified</td> </tr> <tr> <td>10 Pantex</td> <td>9 Pregnant</td> </tr> <tr> <td>11 Pawnee</td> <td></td> </tr> </table> <p>TREATMENT</p> <table border="0"> <tr> <td>1 Ungrazed</td> <td>0 Normal</td> </tr> <tr> <td>2 Lightly grazed</td> <td>1 Escaped</td> </tr> <tr> <td>3 Moderately grazed</td> <td>2 Torpid</td> </tr> <tr> <td>4 Heavily grazed</td> <td>3 Dead</td> </tr> </table> <p>MOLT</p> <table border="0"> <tr> <td>5 Grazed 1969, ungrazed 1970</td> <td>0 No evidence</td> </tr> <tr> <td>6</td> <td>1 Post-juvenile</td> </tr> <tr> <td>7</td> <td>2 Post-subadult</td> </tr> <tr> <td>8</td> <td>3 Adult (vernal)</td> </tr> <tr> <td>9</td> <td>4 Adult (autumnal)</td> </tr> <tr> <td></td> <td>5 Molt of unknown stage</td> </tr> <tr> <td></td> <td>6 Undetermined</td> </tr> </table> <p>MALE</p> <table border="0"> <tr> <td>0 Adult, non-breeding</td> <td></td> </tr> <tr> <td>1 Subadult, non-breeding</td> <td></td> </tr> <tr> <td>2 Juvenile, non-breeding</td> <td></td> </tr> <tr> <td>3 Adult breeding ?</td> <td>MARK</td> </tr> <tr> <td>4 Subadult breeding ?</td> <td>0 Normal</td> </tr> <tr> <td>5 Juvenile breeding ?</td> <td>1 Unmarked</td> </tr> <tr> <td>6 Adult breeding</td> <td>2 Ear tag</td> </tr> <tr> <td>7 Subadult breeding</td> <td>3 Toe Clip</td> </tr> <tr> <td>8 Juvenile breeding</td> <td>4 Ear tag and toe clip</td> </tr> <tr> <td>9 Undetermined</td> <td>5 Natural amputation</td> </tr> </table>																								01 Ale	0 Adult, vulva inactive	02 Bison	1 Subadult, vulva inactive	03 Bridger	2 Juvenile, vulva inactive	04 Cottonwood	3 Adult, vulva turgid	05 Dickinson	4 Subadult, vulva turgid	06 Hays	5 Juvenile, vulva turgid	07 Hoptland	6 Adult, vulva cornified	08 Jornada	7 Subadult, vulva cornified	09 Osage	8 Juvenile, vulva cornified	10 Pantex	9 Pregnant	11 Pawnee		1 Ungrazed	0 Normal	2 Lightly grazed	1 Escaped	3 Moderately grazed	2 Torpid	4 Heavily grazed	3 Dead	5 Grazed 1969, ungrazed 1970	0 No evidence	6	1 Post-juvenile	7	2 Post-subadult	8	3 Adult (vernal)	9	4 Adult (autumnal)		5 Molt of unknown stage		6 Undetermined	0 Adult, non-breeding		1 Subadult, non-breeding		2 Juvenile, non-breeding		3 Adult breeding ?	MARK	4 Subadult breeding ?	0 Normal	5 Juvenile breeding ?	1 Unmarked	6 Adult breeding	2 Ear tag	7 Subadult breeding	3 Toe Clip	8 Juvenile breeding	4 Ear tag and toe clip	9 Undetermined	5 Natural amputation
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1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890
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1010TRM191171142.74	PEMA	0	3	0454	0			2	11	03	
1010RWW201171142.74	PEMA	0	3	1001	0			0	04	03	
1010PWW201171142.74	PEMA	0	3	1011	0			0	10	07	
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1010TRM211171142.74	PEMA	0	3	0103	0			0	12	07	
1010TRM211171142.74	PEMA	0	3	1022	0			2	06	09	
1010TRM211171142.74	PEMA	0	3	1023	3			0	02	12	
1010TRM211171142.74	PEMA	0	3	1012	0			0	02	12	
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1010RWW221171142.74	REMO	0	3	1050	0			0	02	07	
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1010RWW221171142.74	PEMA	0	3	1053	0			0	05	08	
1010RWW221171142.74	PEMA	0	3	1054	0			0	06	07	
1010RWW221171142.74	REMO	0	3	1055	0			0	09	08	
1010RWW221171142.74	PEMA	0	3	0403	0			0	12	07	
1010RWW221171142.74	PEMA	0	3	1101	0			0	12	08	
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1010RWW221171142.74	PEMA	3	1		0			0	01	09	
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1010RWW221171142.74	PEMA	2	3	1012	0			0	02	12	