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Simulations of Desert Biome Sites Using the General-Purpose Model

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SOUTH CURLEW VALLEY SIMULATION DATA INPUT FOR THE GENERAL DESERT BIOME MODEL

The information contained herein was gathered wherever possible from the data generated at the Curlew Valley site. When the necessary data were lacking, an attempt was made to gather them from the literature. If the above approaches were not successful, the remaining holes in the necessary data were estimated by field personnel associated with the particular process involved. The natural history and phenological information in Figures 1-4 was based on the latter information source since it was felt that these phenomena were specific for a given site.

Tables 1-8 for the shrub site and 9-16 for the grass site contain the data expressed in units compatible with the general Desert Biome model. Wherever applicable the mnemonic in the program associated with the data is presented at the top of the table of interest and is in capital letters enclosed by parentheses.

The simulation data presented in this report were based on the available data up to and including the information contained in the 1973 annual report (Balph et al., 1973). At this time no attempt was made to include the consumers in the simulation because it was felt that the data were insufficient to warrant generation of the complete data set; consequently, only the natural history information has been presented here.

Validation of the simulation results has not been attempted as yet since all available information was used in constructing the model. Following the field season of 1974, validation will be completed using the latest data, and modification of some of the assumptions used in structuring this data set may be warranted.

NOTES

1. Biomass values were obtained from RM 73-1 (Balph et al., 1973). The apportioning of the biomass was based on information contained in *The Handbook of Biological Data* (Spector, 1956) and on chemical analysis data (DSCODES A3UMM01, MM2A, MM2B). The information obtained from *The Handbook of Biological Data* (the data sets) was generally based on information which most closely fit the species in question, rather than the species itself.

2. The reserve and structural carbon values for leaves, stems and fruits were calculated based on an assumed value of 4% ash content. This assumed ash content was based on the apparent modal value of the available chemical supply analysis data (DSCODES A3UMM01, MM2A, MM2B).

3. CO_2 gas exchange data (DSCODE A3UBD02). Apportioning of photosynthate was based on information contained in RM 73-10 (Bamberg et al., 1973). In many cases the data were based on information which most closely fit the species in question rather than the species itself.

4. CO_2 gas exchange data were obtained from DSCODE A3UCG01 for the grass species. The carbon fixation was calculated assuming .69 g carbon fixed per g CO_2 absorbed by the photosynthetic organ. An average annual photoperiod of 12 hr per day was assumed. Grass photosynthate distributions were based on values obtained from Bamberg et al. (1973), using the species *Eurotia lanata* (known now as *Ceratoides lanata*) as the best estimate for grasses.

5. Seed germination allocation was assumed to be the same as the photosynthetic allocations with the exception of the photosynthetic allocation to fruits (for germination this was considered 0.0). The translocation rates for biomass from seed to organ are apportioned as above. For shrubs the total biomass was obtained from Wallace and Romney (1972; p. 330). For annuals and grasses the information was obtained from Spector (1956; p. 143), where corn was used as the nearest approximation to grasses and tomatoes were used as the nearest approximation to annuals.

The average plant tissue density was assumed to be near 1.0 or equal to H_2O, thus linear growth could be equaled with change in weight. Change in weight was assumed to be a cubic function of linear growth. The allometric relationships may be found in RM 73-4 (Whitford et al., 1973).

6. No mortality during dormancy was a simplifying assumption made while constructing the data set.

The basic data were obtained from RM 73-1 (Balph et al., 1973) with the exception of the following:

a. For annual plants, the entire standing crop was assumed to be in the litter compartments by the end of the current year.
b. Annual turnover of the perennial grasses was assumed to be ~ 70%.
c. *Euphorbia* and other plants of this general type were assumed to lose up to 60% of the above-ground vegetation biomass annually (J. Ludwig, pers. comm.).
d. Annual plants had a root:shoot ratio of .64 (S. Bamberg, pers. comm.)
e. Annual root turnover for perennials was assumed to be 0.6. This is a personal estimate only.

7. The nutrient apportioning was based on data from DSCODES A3UMM01, MM2A and MM2B.

8. It was assumed in the model that the basic dynamics of nitrogen, ash and carbon were similar with a constant fractional difference between them. Therefore, the transfer rates of nitrogen and ash were based on the nitrogen:carbon and ash:carbon ratios. The latter data were obtained from chemical analysis data (DSCODES A3UMM01, MM2A, MM2B) and from information contained in *The Handbook of Biological Data* (Spector, 1956). The handbook data generally fit the species in question most closely.

9. It was assumed that most of the seeds produced fell to the soil surface.

10. Many of the species included in this simulation were not being measured at the time of construction of this data set; consequently, the values presented herein are the best estimates of the field investigators and the author.

ACKNOWLEDGEMENTS

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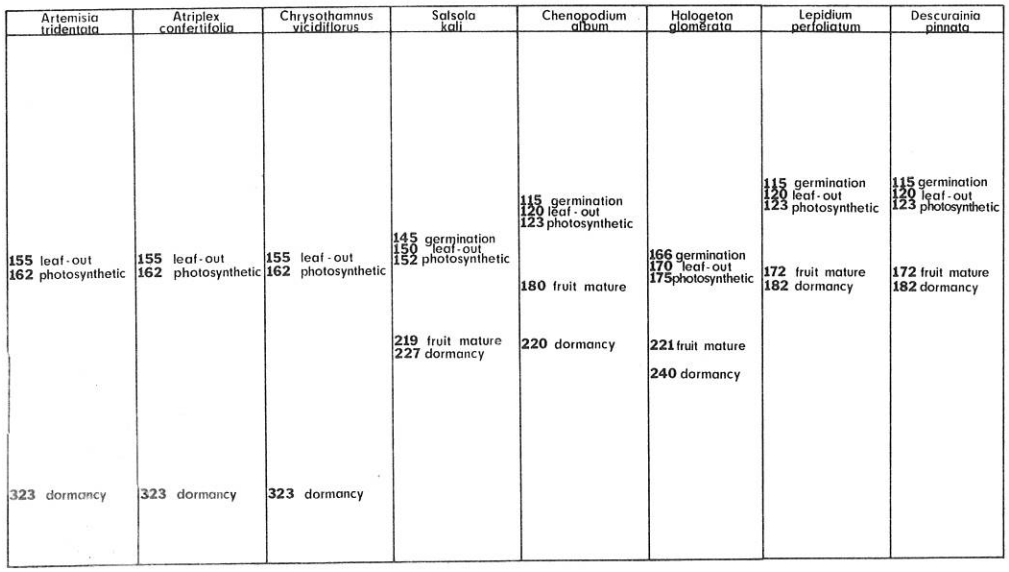

Figure 1

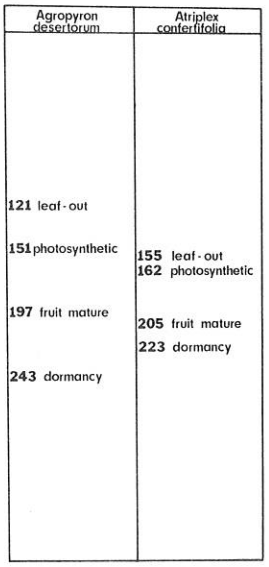

Figure 2

Figures 1 and 2. The Julian day on which a given phenological phenomenon occurs is given for each species for the shrub site (Fig. 1) and the grass site (Fig. 2). Example: under *Agropyron desertorum*, dormancy occurs on Julian day 243 which would be referred to as season number 4.

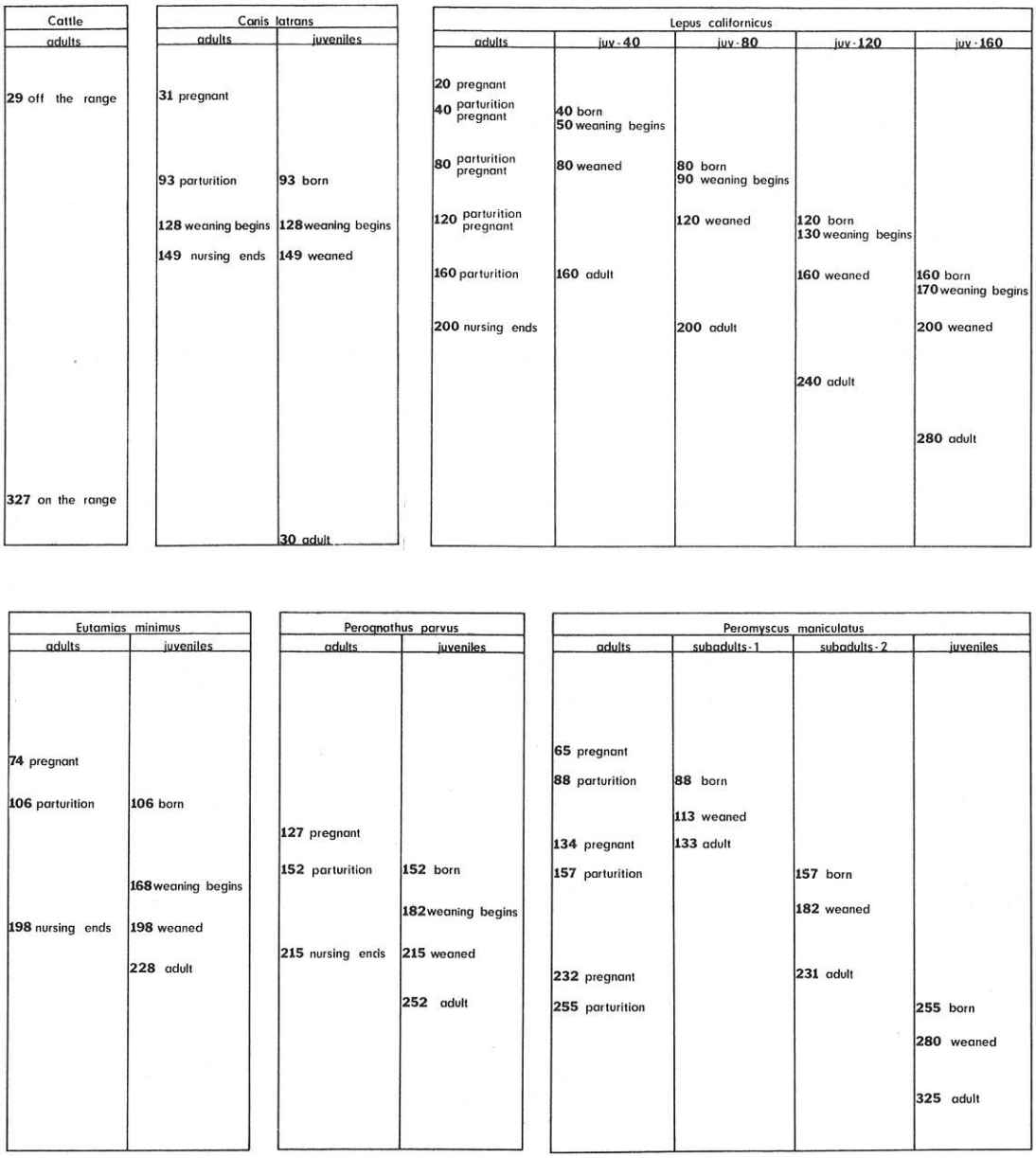

Figure 3. Curlew Valley South Shrub Site. The Julian day on which a given life history phenomenon occurs for a given cohort of a given species appears in the column headed by the age class of interest. For example, for adult *Lepus californicus* nursing ends on Julian day 200 and would be designated season number 6.

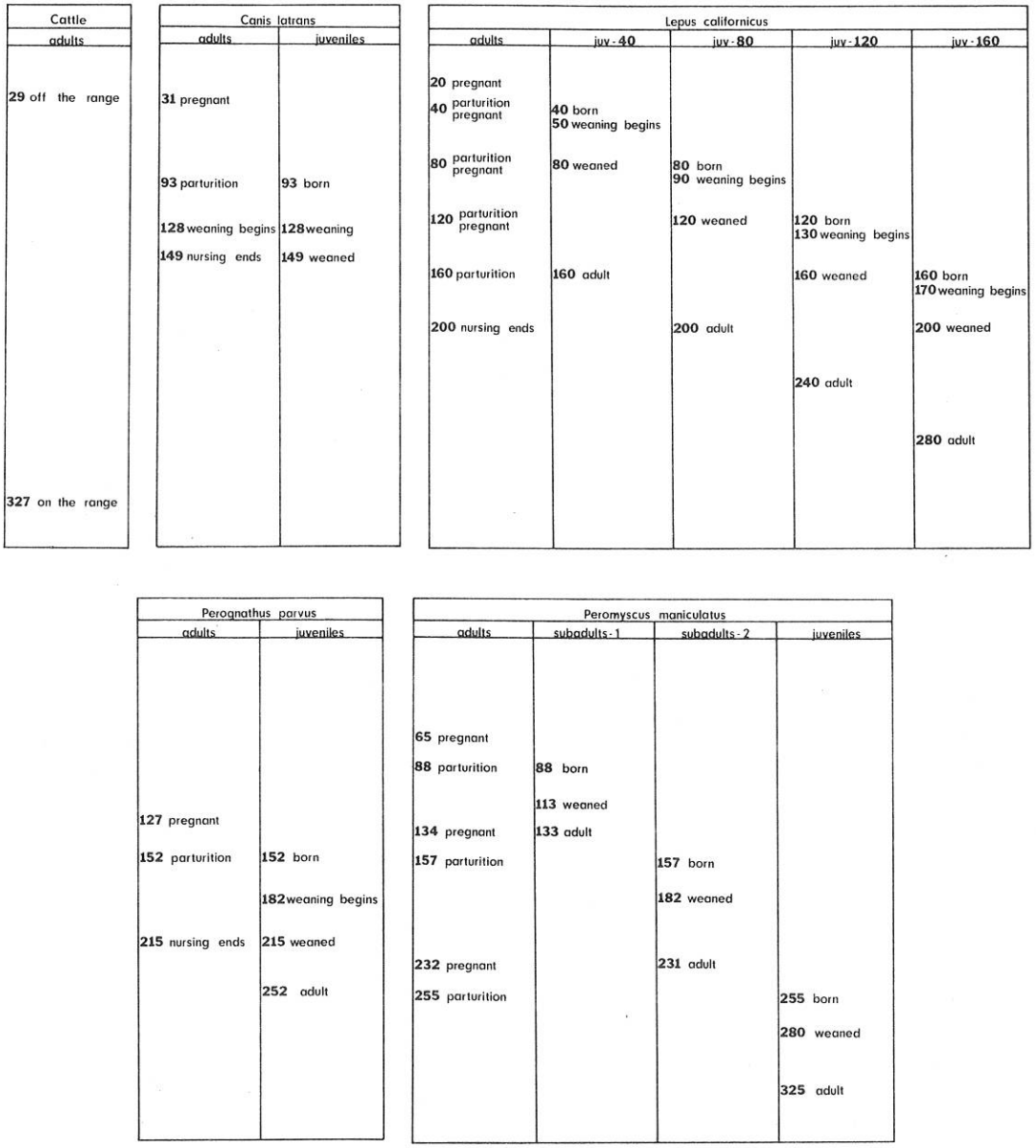

Figure 4. Curlew Valley South Grass Site. The Julian day on which a given life history phenomenon occurs for a given cohort of a given species appears in the column headed by the age class of interest. For example, for adult *Lepus californicus* nursing ends on Julian day 200 and would be designated season number 6.

Table 1. State variable initial condition values (g/ha), Curlew shrub site. Initial conditions date -- January 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Artemisia t.						
Leaves	3.90	9.62	32.11	1.25	5.20	RM 73-1; PC Mr. R.
Stems	2.28	16.91	51.91	0.73	7.60	Shinn; PC Dr. L. Klikoff;
Fruits	0.00	0.00	0.00	0.00	0.00	Note 1, 2, 7, 10
Roots	0.85	55.39	56.44	0.27	2.44	
Atriplex n.						
Leaves	3.90	9.62	32.11	1.25	5.20	
Stems	2.28	16.91	51.91	0.73	7.60	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.85	55.39	56.44	0.29	2.44	
Oxyacanthamnus n.						
Leaves	3.90	9.62	32.11	1.25	5.20	
Stems	2.28	16.91	51.91	0.73	7.60	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.85	55.39	56.44	0.29	2.44	
Caleaia s.						
Leaves	0.00	0.00	0.00	0.00	0.00	
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.00	0.00	0.00	0.00	0.00	

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Chenopodium a.						
Leaves	0.00	0.00	0.00	0.00	0.00	
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.00	0.00	0.00	0.00	0.00	
Halogeton g.						
Leaves	0.00	0.00	0.00	0.00	0.00	
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.00	0.00	0.00	0.00	0.00	
Lepidium sp.						
Leaves	0.00	0.00	0.00	0.00	0.00	
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.00	0.00	0.00	0.00	0.00	
Descurainia sp.						
Leaves	0.00	0.00	0.00	0.00	0.00	
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.00	0.00	0.00	0.00	0.00	

Table 2. Soil seed pool of the initial conditions (g/ha), Curlew shrub site. Initial conditions date --January 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Artemisia t.	97.68	207.20	674.80	31.26	118.40	RM 73-1; PC Mr. R. Shinn; PC Dr. L. Klikoff; Note 1, 7; Best guess C. Gist
Atriplex c.	97.68	207.20	674.80	31.26	118.40	
Chrysothamnus v.	97.68	207.20	674.80	31.26	118.40	
Salsola k.	60.00	160.00	460.00	20.00	80.00	
Chenopodium a.	60.00	160.00	460.00	20.00	20.00	
Halogeton g.	60.00	160.00	460.00	20.00	20.00	
Lepidium sp.	60.00	176.00	526.00	19.20	80.00	
Descurainia sp.	60.00	176.00	526.00	19.20	80.00	

Table 3. Allocation of photosynthate to various organs expressed as a function of the total (CHRBOF) for the Curlew shrub site

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Source
Artemisia t.				
Leaves	0.08500	0.21000	0.70500	Note 3
Stems	0.03200	0.23900	0.72900	
Fruits	0.07800	0.23000	0.69200	
Roots	0.00700	0.49100	0.50200	
Atriplex c.				
Leaves	0.08500	0.21000	0.70500	
Stems	0.03200	0.23900	0.72900	
Fruits	0.07800	0.23000	0.69200	
Roots	0.00700	0.49100	0.50200	
Chrysothamnus v.				
Leaves	0.08500	0.21000	0.70500	
Stems	0.03200	0.23900	0.72900	
Fruits	0.07800	0.23000	0.69200	
Roots	0.00700	0.49100	0.50200	
Salsola k.				
Leaves	0.08500	0.21000	0.70500	
Stems	0.03200	0.23900	0.72900	
Fruits	0.07800	0.23000	0.69200	
Roots	0.00700	0.49100	0.50200	
Chenopodium a.				
Leaves	0.08500	0.21000	0.70500	
Stems	0.03200	0.23900	0.72900	
Fruits	0.07800	0.23000	0.69200	
Roots	0.00700	0.49100	0.50200	
Halogeton g.				
Leaves	0.08500	0.21000	0.70500	
Stems	0.03200	0.23900	0.72900	
Fruits	0.07810	0.23000	0.69200	
Roots	0.00700	0.49100	0.50200	
Lepidium sp.				
Leaves	0.10500	0.22900	0.66600	
Fruits	0.10500	0.22200	0.67300	
Roots	0.04000	0.23100	0.72900	
Descurainia sp.				
Leaves	0.08500	0.21000	0.70500	
Stems	0.03200	0.23900	0.72900	
Fruits	0.07800	0.23000	0.69200	
Roots	0.00700	0.49100	0.50200	

Table 4. Allocation of seed carbon to specified organs of a given species during germination (GERM, GERMR) for the Curlew shrub site

Species	Leaves	Stem	Roots	Translocation rate (gm/gm/day)	Source
Artemisia t.	0.68000	0.28000	0.04000	0.00008	Note 5
Atriplex c.	0.68000	0.28000	0.04000	0.00008	
Chrysothamnus v.	0.68000	0.28000	0.04000	0.00008	
Salsola k.	0.68000	0.20000	0.12000	0.39000	
Chenopodium a.	0.68000	0.20000	0.12000	0.39000	
Halogeton g.	0.68000	0.20000	0.12000	0.39000	
Lepidium sp.	0.47000	0.28000	0.25000	0.39000	
Descurainia sp.	0.68000	0.20000	0.12000	0.39000	

Table 5. Apportioning of new photosynthate to each organ by phenological stage (PHENOF) for the Curlew shrub site. Phenological stages are defined in Figure 1

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Artemisia t.						
Leaves	0.68	0.68	0.50	0.08	0.00	Notes 3, 4
Stems	0.28	0.28	0.15	0.20	0.00	
Fruits	0.00	0.04	0.25	0.10	0.00	
Roots	0.04	0.00	0.10	0.62	0.00	
Atriplex c.						
Leaves	0.68	0.68	0.50	0.08	0.00	
Stems	0.28	0.28	0.15	0.20	0.00	
Fruits	0.00	0.04	0.25	0.10	0.00	
Roots	0.04	0.00	0.10	0.62	0.00	

Table 5, continued

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Chrysothamnus v.						
Leaves	0.68	0.68	0.50	0.08	0.00	
Stems	0.28	0.28	0.15	0.20	0.00	
Fruits	0.00	0.04	0.25	0.10	0.00	
Roots	0.04	0.00	0.10	0.62	0.00	
Salsola k.						
Leaves	0.90	0.90	0.55	0.25	0.00	
Stems	0.05	0.05	0.25	0.20	0.00	
Fruits	0.00	0.00	0.15	0.50	0.00	
Roots	0.05	0.05	0.05	0.05	0.00	
Chenopodium a.						
Leaves	0.90	0.90	0.55	0.25	0.00	
Stems	0.05	0.05	0.25	0.20	0.00	
Fruits	0.00	0.00	0.15	0.50	0.00	
Roots	0.05	0.05	0.05	0.05	0.00	
Halogeton g.						
Leaves	0.90	0.90	0.55	0.25	0.00	
Stems	0.05	0.05	0.25	0.20	0.00	
Fruits	0.00	0.00	0.15	0.50	0.00	
Roots	0.05	0.05	0.05	0.05	0.00	
Lepidium sp.						
Leaves	0.90	0.90	0.55	0.25	0.00	
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.15	0.50	0.00	
Roots	0.10	0.10	0.30	0.25	0.00	
Descurainia sp.						
Leaves	0.90	0.90	0.55	0.25	0.00	
Stems	0.05	0.05	0.25	0.20	0.00	
Fruits	0.00	0.00	0.15	0.50	0.00	
Roots	0.05	0.05	0.05	0.05	0.00	

Table 6. Photosynthetic rates by species for each phenological stage (PHRATE) for the Curlew shrub site (gC fixed/g C in photosynthetic organ/day)

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Artemisia t.	0.001	0.300	0.300	0.030	0.000	Notes 3, 4
Atriplex c.	0.001	0.300	0.300	0.030	0.000	
Chrysothamnus v.	0.001	0.300	0.300	0.750	0.000	
Salsola k.	0.026	0.800	3.200	0.750	0.000	
Chenopodium a.	0.026	0.800	3.200	0.750	0.000	
Halogeton g.	0.026	0.800	3.200	0.750	0.000	
Lepidium sp.	0.001	0.200	0.241	0.000	0.000	
Descurainia sp.	0.026	0.800	3.200	0.750	0.000	

Table 7. Nitrogen and ash transfer to each organ of a given species expressed as a ratio to carbon transferred (RATIO) for the Curlew shrub site

Species	Nitrogen	Ash	Source
Artemisia t.			
Leaves	0.063	0.099	RM 73-1; Note 8
Stems	0.017	0.103	
Fruits	0.039	0.098	
Roots	0.025	0.104	
Atriplex c.			
Leaves	0.063	0.099	
Stems	0.017	0.103	
Fruits	0.039	0.098	
Roots	0.025	0.104	
Chrysothamnus v.			
Leaves	0.063	0.099	
Stems	0.017	0.103	
Fruits	0.039	0.098	
Roots	0.025	0.104	
Salsola k.			
Leaves	0.027	0.113	
Stems	0.010	0.107	
Fruits	0.025	0.104	
Roots	0.012	0.115	
Chenopodium a.			
Leaves	0.027	0.113	
Stems	0.010	0.107	
Fruits	0.025	0.104	
Roots	0.012	0.115	
Halogeton g.			
Leaves	0.027	0.113	
Stems	0.010	0.107	
Fruits	0.025	0.104	
Roots	0.012	0.115	
Lepidium sp.			
Leaves	0.033	0.108	
Stems	0.000	0.000	
Fruits	0.033	0.127	
Roots	0.012	0.115	
Descurainia sp.			
Leaves	0.027	0.113	
Stems	0.010	0.107	
Fruits	0.025	0.104	
Roots	0.012	0.115	

Table 8. Mortality rates for each organ of each species during a given phenological stage (g dead/g organ/day) (RATLTD) for the Curlew shrub site

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Artemisia t.						Note 6; Best estimate of R. Shinn and C. S. Gist
Leaves	0.000	0.000	0.000	0.000	0.200	
Stems	0.000	0.000	0.000	0.000	0.008	
Fruits	0.000	0.000	0.000	0.000	0.010	
Roots	0.000	0.000	0.000	0.000	0.002	
Atriplex c.						
Leaves	0.000	0.000	0.000	0.000	0.200	
Stems	0.000	0.000	0.000	0.000	0.008	
Fruits	0.000	0.000	0.000	0.000	0.010	
Roots	0.000	0.000	0.000	0.000	0.002	
Chrysothamnus n.						
Leaves	0.000	0.000	0.000	0.000	0.200	
Stems	0.000	0.000	0.000	0.000	0.008	
Fruits	0.000	0.000	0.000	0.000	0.010	
Roots	0.000	0.000	0.000	0.000	0.002	
Salsola k.						
Leaves	0.000	0.010	0.000	0.010	0.010	
Stems	0.000	0.010	0.000	0.010	0.010	
Fruits	0.000	0.010	0.000	0.010	0.010	
Roots	0.000	0.001	0.000	0.001	0.001	
Chenopodium a.						
Leaves	0.000	0.010	0.000	0.010	0.010	
Stems	0.000	0.010	0.000	0.010	0.010	
Fruits	0.000	0.010	0.000	0.010	0.010	
Roots	0.000	0.001	0.000	0.001	0.001	
Halogeton g.						
Leaves	0.000	0.000	0.000	0.090	0.050	
Stems	0.000	0.000	0.000	0.020	0.020	
Fruits	0.000	0.000	0.000	0.020	0.020	
Roots	0.000	0.000	0.000	0.020	0.020	
Lepidium sp.						
Leaves	0.000	0.000	0.080	0.010	0.020	
Stems	0.000	0.000	0.010	0.000	0.020	
Fruits	0.000	0.000	0.010	0.000	0.020	
Roots	0.000	0.000	0.000	0.000	0.020	
Descurainia sp.						
Leaves	0.000	0.000	0.000	0.090	0.050	
Stems	0.000	0.000	0.000	0.020	0.020	
Fruits	0.000	0.000	0.000	0.020	0.020	
Roots	0.000	0.000	0.000	0.020	0.020	

Table 9. State variable initial condition values (g/ha for the Curlew grass site. Initial conditions date -- January 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Agropyron s.						RM 73-1; PC Mr. R. Shinn; Notes 1, 2, 7
Leaves	211.80	237.50	789.50	307.46	378.70	
Fruits	1.99	13.32	4.67	1.98	2.47	
Roots	4675.00	87975.00	28050.00	11050.00	14025.00	
Atriplex c.						
Leaves	1001.88	2489.50	4257.90	333.96	1335.00	
Stems	564.60	4328.60	13174.00	188.20	1929.05	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	70.09	616.43	219.39	14208.00	14499.00	

Table 10. Soil seed pool at the time of initial conditions (g/ha) for the Curlew grass site. Initial conditions date -- January 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Agropyron s.	3740.00	70380.00	22440.00	8840.00	1122.00	RM 73-1; PC Mr. R. Shinn; Notes 1, 7, 10
Atriplex c.	0.00	0.00	0.00	0.00	0.00	

Table 11. Allocation of photosynthate to various organs expressed as a fraction of the total for the Curlew grass site (CARBOF)

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Source
Agropyron s.				
Leaves	0.105	0.830	0.065	Note 3
Fruits	0.105	0.275	0.692	
Roots	0.040	0.231	0.729	
Atriplex c.				
Leaves	0.062	0.233	0.705	Note 3
Stems	0.038	0.233	0.729	
Fruits	0.117	0.191	0.692	
Roots	0.123	0.138	0.229	

Table 12. Allocation of seed carbon to specified organs of a given species during germination (GERM, GERMR) for the Curlew grass site

Species	Leaves	Stems	Roots	Translocation Rate (gm/gm/day)	Source
Agropyron s.	0.47000	0.00000	0.53000	0.90000	Note 5
Atriplex c.	0.68000	0.28000	0.04000	0.00008	Note 5

Table 13. Apportioning of new photosynthate to each organ by phenophase (PHENOF) for the Curlew grass site

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Agropyron s.						
Leaves	0.600	0.800	0.300	0.020	0.000	Notes 3, 4
Fruits	0.000	0.080	0.000	0.300	0.000	
Roots	0.400	0.120	0.700	0.680	0.000	
Atriplex c.						
Leaves	0.680	0.680	0.680	0.080	0.000	Notes 3, 4
Stems	0.280	0.280	0.280	0.200	0.000	
Fruits	0.000	0.040	0.000	0.040	0.000	
Roots	0.040	0.000	0.040	0.680	0.000	

Table 14. Photosynthetic rates by species for each phenophase for the Curlew grass site (PHRATE) expressed as g carbon fixed* (g carbon in photosynthetic tissue)$^{-1}$*(day)$^{-1}$

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Agropyron s.	0.400	0.900	19.000	0.010	0.000	Notes 3, 4
Atriplex c.	0.001	0.300	0.003	3.000	0.000	Notes 3, 4

Table 15. Mortality rate for each organ for each species during a given phenophase (g dead/g organ day), Curlew grass site

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Agropyron s.						
Leaves	0.000	0.000	0.080	0.010	0.020	Note 6; Best estimate of R. Shinn and C.S. Gist
Fruits	0.000	0.000	0.010	0.000	0.020	
Roots	0.000	0.000	0.010	0.000	0.020	
Atriplex c.						
Leaves	0.000	0.000	0.000	0.000	0.020	Note ; Best estimate of R. Shinn and C.S. Gist
Stems	0.000	0.000	0.000	0.000	0.008	
Fruits	0.000	0.000	0.000	0.000	0.010	
Roots	0.000	0.000	0.000	0.000	0.002	

Table 16. Nitrogen and ash transfer to each organ of a given species expressed as a ratio to carbon transfer. Curlew grass site (RATIO)

Species	Nitrogen	Ash	Source
Agropyron s.			
Leaves	0.190	0.009	RM 73-1; Note 8
Fruits	0.033	0.120	
Roots	0.012	0.114	
Atriplex c.			
Leaves	0.044	0.113	RM 73-1; Note 8
Stems	0.045	0.107	
Fruits	0.049	0.104	
Roots	0.039	0.115	

ROCK VALLEY SIMULATION DATA INPUT FOR THE GENERAL DESERT BIOME MODEL

The information contained herein was gathered wherever possible from the data generated at the Rock Valley site. When the necessary data from the site were not available, an attempt was made to gather the data from the literature. If the above approaches were not productive, then remaining holes in the necessary data were estimated by the field personnel associated with the particular process involved. The natural history and phenology information in Figures 1 and 2 was based on the latter information source since it was felt that these phenomena were specific for a given date.

Tables 1-34 contain the data expressed in units compatible with the general Desert Biome model. Wherever applicable the mnemonic in the program associated with the data is presented at the top of the table of interest and is in capital letters enclosed by parentheses.

The simulation data presented in this report were based on the available data up to and including the information contained in the 1973 annual report (Turner et al., 1973). At this time no attempt has been made to validate the simulation results since all available data were used in the construction of the model. Following the field season of 1974, validation will be completed using the latest data and modification of some of the assumptions used in structuring this data set may be warranted.

NOTES

1. Biomass values were obtained from RM 73-2 (Turner et al., 1973); the apportioning of the biomass was based on information from *The Handbook of Biological Data* (Spector, 1956) and from chemical analysis data (DSCODES A3UMM01, MM2A, MM2B). The information obtained from *The Handbook of Biological Data* (the data sets) was generally based on information which most closely fit the species in question, rather than the species itself.

Protein carbon is assumed to represent the mobile carbon pool.

2. The reserve and structural carbon values for leaves, stems and fruits were calculated based on an assumed value of 4% ash content. This assumed ash content was based on the apparent modal value of the available chemical supply analysis data (DSCODES A3UMM01, MM2A, MM2B).

3. CO_2 gas exchange data (DSCODE A3UBD02). Apportioning of photosynthate was based on information contained in RM 73-10 (Bamberg et al., 1973). In many cases the data were based on information which most closely fit the species in question rather than the species itself.

4. CO_2 gas exchange data were obtained from data set DSCODE A3UCG01 for the grass species. The carbon fixation was calculated assuming .69 g carbon fixed per g CO_2 absorbed by the photosynthetic organ. An average annual photoperiod of 12 hr per day was assumed. Grass photosynthate distributions were based on values obtained from Bamberg et al. (1973), using *Eurotia lanata* (now *Ceratoides lanata*) as the best estimate for grasses.

5. Seed germination allocation was assumed to be the same as the photosynthetic allocations with the exception of the photosynthetic allocation to fruits (for germination this was considered 0.0). The translocation rates for biomass from seed to organ are apportioned as above. For shrubs the total biomass was obtained from Wallace and Romney (1972; p. 330). For annuals and grasses the information was obtained from Spector (1956; p. 143), where corn was used as the nearest approximation to grasses and tomatoes were used as the nearest approximation to annuals.

The average plant tissue density was assumed to be near 1.0 or equal to H_2O, thus linear growth could be equaled with change in weight. Change in weight was assumed to be a cubic function of linear growth. The allometric relationships may be found in RM 73-4 (Whitford et al., 1973).

Seedling establishment was estimated by Dr. J. Ludwig.

6. No mortality during dormancy was a simplifying assumption made while constructing the data set.

The basic data were obtained from Turner et al. (1973), with the exception of the following:

a. For annual plants, the entire standing crop was assumed to be in the litter compartments by the end of the current year.
b. Annual turnover of the perennial grasses was assumed to be ~ 70%.
c. *Euphorbia* and other plants of this general type were assumed to lose up to 60% of the above-ground vegetation biomass annually (J. Ludwig, pers. comm.).
d. Annual plants had a root:shoot ratio of .64 (S. Bamberg, pers. comm.).
e. Annual root turnover for perennials was assumed to be 0.6. This is a personal estimate only.

7. The nutrient apportioning was based on data from DSCODES A3UMM01, MM2A and MM2B.

8. It was assumed in the model that the basic dynamics of nitrogen, ash and carbon were similar with a constant fractional difference between them. Therefore, the transfer rates of nitrogen and ash were based on the nitrogen:carbon and ash:carbon ratios. The latter data were obtained from chemical analysis data (DSCODES A3UMM01, MM2A, MM2B) and from information from *The Handbook of Biological Data* (Spector, 1956). The handbook data were most generally information which most closely fit the species in question.

9. It was assumed that most of the seeds produced fell to the soil surface.

10. At the time of construction of this data set, no information existed for litter production of the shrubs in Rock Valley; consequently, litter production estimates were made based on the shrubs in the Jornada bajada site.

11. Many of the species included in this simulation were not being measured at the time of construction of this data set; consequently, the values presented herein are the best estimates of the field investigators and the author.

12. Basic biomass data were obtained from the appropriate memo report (Turner et al., 1973); the carbon, nitrogen and ash data were obtained from *The Handbook of Biological Data* (Spector, 1956) and *Biology Data Book, Volume I* (Altman, 1964). In the case of the handbook information the data used were most often of a related organism rather than the organism *per se*.

13. Assimilation data from *The Handbook of Biological Data* (Spector, 1956) and *Biology Data Book, Volume I* (Altman, 1964). The assimilation data used in the simulation were based on values given for the closest species found in the above references. Data were insufficient to calculate the changes in efficiency according to season and life stage; consequently, it was assumed that assimilation was constant for a given species across season and life stages.

14. Excreta distribution was based on natural history information of the species in question, and personal communication with the field personnel.

15. The respiration data were based on information contained in Klotz (1967) and Kleiber (1961).

16. The estimates for reproductive values were based on natural history information and personal communication from the field investigators. The *Lepus* reproduction estimates were for the most part based on Stoddard (1972).

17. Birth weights were based on information obtained from the site field personnel.

18. Maximum feeding rate values were based on best estimates of the site field personnel and the author.

19. Non-predatory mortality values were based on preliminary values obtained from the site field personnel.

20. The growth rate values were calculated using increase between the birth weight and the final adult weight. The increase was apportioned over the time period allocated for growth and assumes a constant growth rate.

21. The quantity of milk produced was based on estimates of the field personnel and the author.

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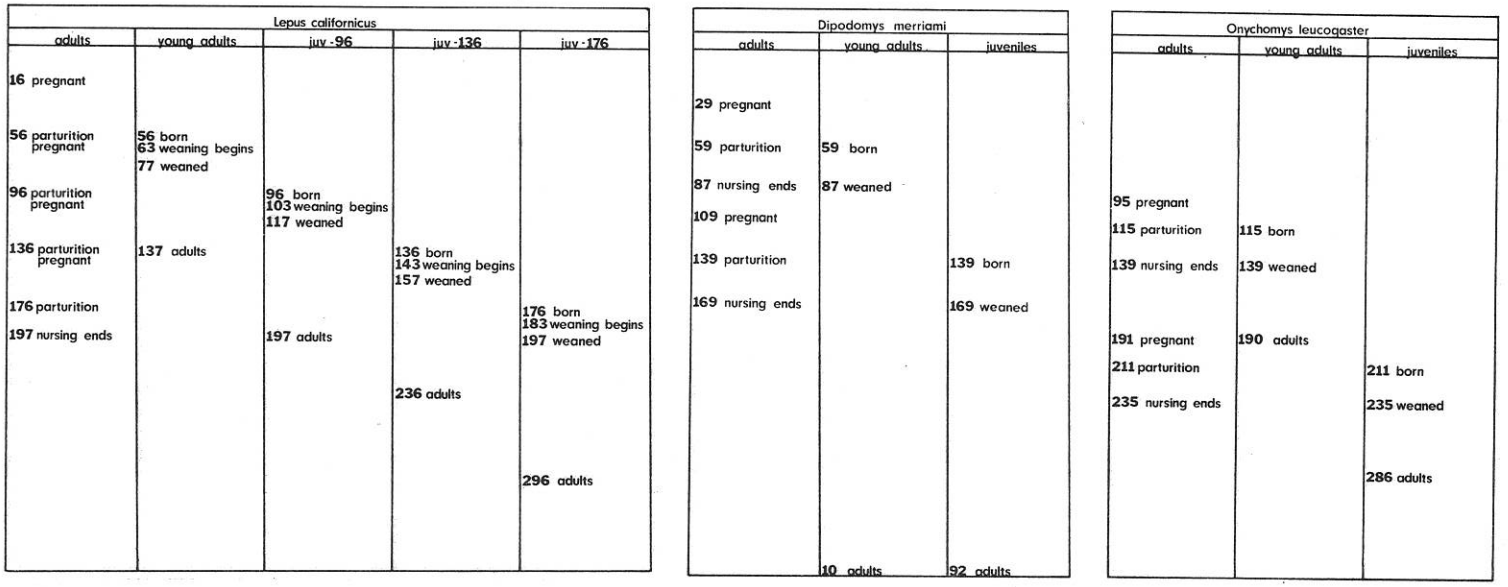

Figure 2. Rock Valley. The Julian day on which a given life history phenomenon occurs for a given cohort of a given species appears in the column headed by the age class of interest. For example, for adult *Lepus californicus* nursing ends on Julian day 197 and would be designated season number 6.

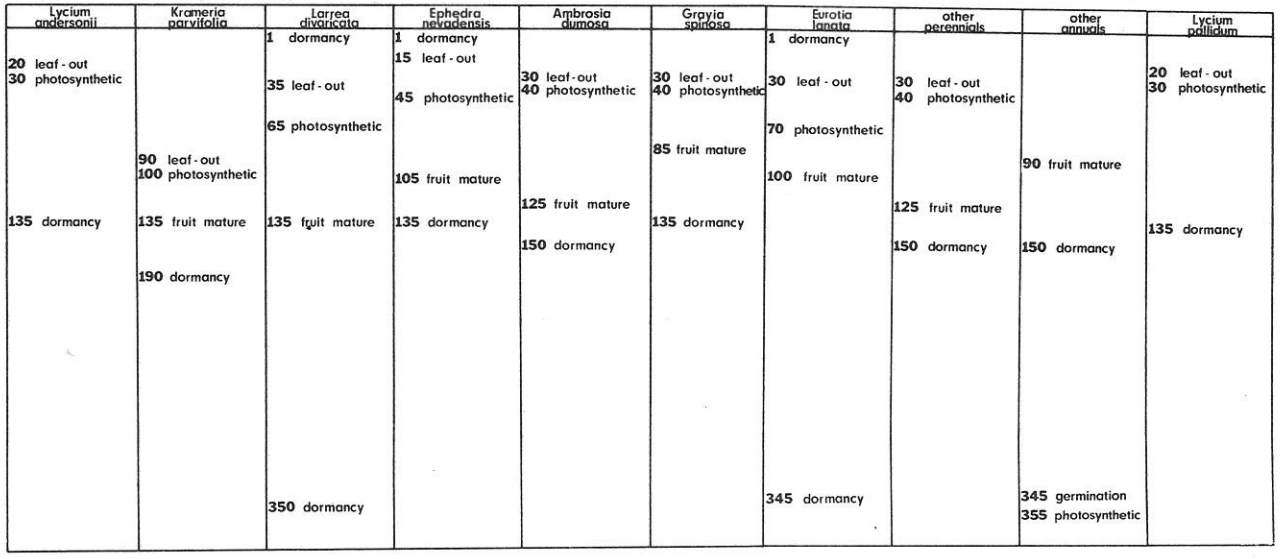

Figure 1. Rock Valley. The Julian day on which a given phenological phenomenon occurred is given for each species. Example: under *Lycium andersonii* dormancy occurs on Julian day 135, which would be referred to as season number 3.

Figure 2, continued

Table 1. State variable initial condition values (g/ha) Rock Valley vegetation site (Zone 20). Initial conditions date -- December 10, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Lycium a.						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	31588.0	22973.0	155072.0	10108.4	40433.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	2316.0	1684.0	11370.0	741.0	2964.0	
6-20 cm	15437.0	11227.0	75784.0	4940.0	19760.0	
20-70 cm	20843.0	15159.0	102323.0	6670.0	26680.0	
Krameria p.						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	18020.0	13105.0	88464.0	5766.0	23066.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	1318.0	959.0	6473.0	422.0	1688.0	
6-20 cm	2816.0	11264.0	8800.0	6400.0	43200.0	
20-70 cm	11887.0	8645.0	58356.0	3804.0	15216.0	
Larrea d.						
Leaves	781.0	1909.0	1562.0	250.0	800.0	RM 73-2; PC Dr. S. Bamberg; Note 1
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	15675.0	11400.0	76953.0	5016.0	20064.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	1143.0	832.0	5615.0	366.0	1464.0	
6-20 cm	7637.0	5554.0	37493.0	2444.0	9776.0	
20-70 cm	10306.0	7495.0	50594.0	3298.0	13192.0	
Ephedra n.						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1.
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	1752.0	7008.0	5475.0	3982.0	26880.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	401.0	292.0	1970.0	128.0	514.0	
6-20 cm	2687.0	1954.0	13193.0	860.0	3440.0	
20-70 cm	3606.0	2623.0	17703.0	1154.0	4616.0	
Ambrosia d.						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1.
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	3957.0	2878.0	19425.0	1266.0	5064.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	290.0	211.0	1424.0	93.0	371.0	
6-20 cm	1931.0	1404.0	9471.0	618.0	2472.0	
20-70 cm	2606.0	1895.0	12794.0	834.0	3336.0	
Grayia s.						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1.
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	1234.0	897.0	6057.0	359.0	1579.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	90.0	66.0	444.0	29.0	116.0	
6-20 cm	602.0	438.0	2958.0	193.0	771.0	
20-70 cm	814.0	592.0	3995.0	260.0	1042.0	
Lycium p.						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1.
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	1123.0	817.0	5513.0	359.0	1438.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	86.0	63.0	423.0	28.0	110.0	
6-20 cm	549.0	399.0	2694.0	176.0	702.0	
20-70 cm	741.0	539.0	3636.0	237.0	948.0	
Eurotia a.						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1.
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	206.0	150.0	1012.0	66.0	264.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	15.0	11.0	74.0	4.8	19.2	
6-20 cm	101.0	73.0	494.0	32.0	129.0	
20-70 cm	136.0	99.0	666.0	43.0	174.0	
Other perennials						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1.
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	103.0	75.0	506.0	33.0	132.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	8.0	5.0	37.0	2.0	10.0	
6-20 cm	50.0	37.0	247.0	16.0	64.0	
20-70 cm	68.0	49.0	333.0	22.0	87.0	
Annuals						
Leaves	0.0	0.0	0.0	0.0	0.0	RM 73-2; PC Dr. S. Bamberg; Note 1.
Young stems	0.0	0.0	0.0	0.0	0.0	
Old stems & bases	0.0	0.0	0.0	0.0	0.0	
Inflorescence	0.0	0.0	0.0	0.0	0.0	
Seeds	0.0	0.0	0.0	0.0	0.0	
Roots						
0-6 cm	0.0	0.0	0.0	0.0	0.0	
6-20 cm	0.0	0.0	0.0	0.0	0.0	
20-70 cm	0.0	0.0	0.0	0.0	0.0	

Table 2. Soil seed pool at the time of initial condition (g/ha) for Rock Valley vegetation site. Initial condition date -- December 10, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Lycium a.	90	144	33	30	30	RM 73-2; PC Dr. S. Bamberg; Note 1; Note 10
Krameria p.	210	336	76	70	70	
Larrea d.	240	384	87	80	80	
Ephedra n.	3000	4800	1091	1000	1000	
Ambrosia d.	30	48	11	10	10	
Grayia s.	30	48	11	10	10	
Lycium p.	30	48	11	10	10	
Eurotia a.	30	48	11	10	10	
Other perennials	30	48	11	10	10	
Annuals	30	48	11	10	10	

Table 3. Allocation of photosynthate to various organs expressed as a fraction of the total. Rock Valley vegetation site (CARBOF)

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Source
Lycium a.				
Leaves	0.1837	0.4489	0.3674	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1928	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Krameria p.				
Leaves	0.1837	0.4489	0.3674	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1928	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Larrea d.				
Leaves	0.1837	0.4489	0.3674	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1928	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Ephedra n.				
Leaves	0.1837	0.4489	0.3764	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1928	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Ambrosia d.				
Leaves	0.1837	0.4489	0.3764	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1928	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Grayia s.				
Leaves	0.1837	0.4489	0.3764	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1928	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Lycium p.				
Leaves	0.1837	0.4489	0.3764	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1928	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Eurotia a.				
Leaves	0.1837	0.4489	0.3764	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1982	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Other perennials				
Leaves	0.1837	0.4489	0.3764	Note 3, RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1982	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	
Annuals				
Leaves	0.1837	0.4487	0.3764	Note 3; RM 73-2
Young stems	0.1507	0.1096	0.7397	
Old stems & bases	0.1507	0.1096	0.7397	
Inflorescence	0.1620	0.1982	0.6452	
Seeds	0.3374	0.5399	0.1227	
Roots	0.1507	0.1096	0.7397	

Table 4. Allocation of seed reserve carbon to leaves, stems and roots during germination (GERM, GERMR) Rock Valley vegetation site

Species	Leaves	Stems	Roots	Translocation rate (gm/gm/day)	Source
Lycium a.	.370	.300	.330	0.015	Note 6
Krameria p.	.370	.300	.330	0.015	Note 6
Larrea d.	.370	.300	.330	0.015	Note 6
Ephedra n.	.370	.300	.330	0.015	Note 6
Ambrosia d.	.370	.300	.330	0.015	Note 6
Grayia s.	.370	.300	.330	0.015	Note 6
Lycium p.	.370	.300	.330	0.015	Note 6
Eurotia a.	.370	.300	.330	0.015	Note 6
Other perennials	.370	.300	.330	0.015	Note 6
Annuals	.370	.300	.330	0.015	Note 6

Table 5. Apportioning of new photosynthate to each organ by phenophase, Rock Valley (PHENOF)

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Sixth Phenophase	Seventh Phenophase	Eighth Phenophase	Source
Lycium a.									RM 73-2; Notes 3 & 4
Leaves	0.000	1.000	0.900	0.900	0.500	0.000	0.000	0.000	
Young stems	0.000	0.000	0.040	0.045	0.200	0.000	0.000	0.000	
Old stems & bases	0.000	0.000	0.010	0.010	0.100	0.000	0.000	0.000	
Inflorescence	0.000	0.000	0.010	0.005	0.000	0.000	0.000	0.000	
Seeds	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.000	0.004	0.004	0.020	0.000	0.000	0.000	
6-20 cm	0.000	0.000	0.016	0.016	0.080	0.000	0.000	0.000	
20-70 cm	0.000	0.000	0.020	0.020	0.100	0.000	0.000	0.000	
Krameria p.									RM 73-2; Notes 3 & 4
Leaves	0.000	0.575	0.575	0.500	0.000	0.000	0.000	0.000	
Young stems	0.000	0.110	0.110	0.200	0.000	0.000	0.000	0.000	
Old stems & bases	0.000	0.100	0.100	0.100	0.000	0.000	0.000	0.000	
Inflorescence	0.000	0.010	0.010	0.000	0.000	0.000	0.000	0.000	
Seeds	0.000	0.005	0.005	0.000	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.020	0.020	0.020	0.000	0.000	0.000	0.000	
6-20 cm	0.000	0.080	0.080	0.080	0.000	0.000	0.000	0.000	
20-70 cm	0.000	0.100	0.100	0.100	0.000	0.000	0.000	0.000	

Table 5, continued

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Sixth Phenophase	Seventh Phenophase	Eighth Phenophase	Source
Larrea d.									
Leaves	0.000	1.000	0.900	0.300	0.000	0.200	0.200	0.200	RM 73-2;
Young stems	0.000	0.000	0.040	0.200	0.000	0.200	0.200	0.200	Notes 3 & 4
Old stems & bases	0.000	0.000	0.010	0.100	0.000	0.200	0.200	0.200	
Inflorescence	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	
Seeds	0.000	0.000	0.006	0.200	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.000	0.004	0.020	0.000	0.040	0.040	0.040	
6-20 cm	0.000	0.000	0.016	0.080	0.000	0.160	0.160	0.160	
20-70 cm	0.000	0.000	0.020	0.100	0.000	0.200	0.200	0.200	
Ephedra n.									
Leaves	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	RM 73-2;
Young stems	0.000	0.200	0.100	0.000	0.000	0.000	0.000	0.000	Notes 3 & 4
Old stems & bases	0.000	0.150	0.100	0.000	0.000	0.000	0.000	0.000	
Inflorescence	0.000	0.050	0.000	0.000	0.000	0.000	0.000	0.000	
Seeds	0.000	0.400	0.000	0.000	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.020	0.020	0.000	0.000	0.000	0.000	0.000	
6-20 cm	0.000	0.080	0.080	0.000	0.000	0.000	0.000	0.000	
20-70 cm	0.000	0.100	0.100	0.000	0.000	0.000	0.000	0.000	
Ambrosia d.									
Leaves	0.000	1.000	0.900	0.485	0.000	0.000	0.000	0.000	RM 73-2;
Young stems	0.000	0.000	0.050	0.200	0.000	0.000	0.000	0.000	Notes 3 & 4
Old stems & bases	0.000	0.000	0.010	0.100	0.000	0.000	0.000	0.000	
Inflorescence	0.000	0.000	0.010	0.005	0.000	0.000	0.000	0.000	
Seeds	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.000	0.004	0.020	0.000	0.000	0.000	0.000	
6-20 cm	0.000	0.000	0.016	0.080	0.000	0.000	0.000	0.000	
20-70 cm	0.000	0.000	0.020	0.100	0.000	0.000	0.000	0.000	
Grayia s.									
Leaves	0.000	0.900	0.385	0.900	0.000	0.000	0.000	0.000	RM 73-2
Young stems	0.000	0.040	0.200	0.040	0.000	0.000	0.000	0.000	Notes 3 & 4
Old stems & bases	0.000	0.010	0.200	0.020	0.000	0.000	0.000	0.000	
Inflorescence	0.000	0.010	0.005	0.000	0.000	0.000	0.000	0.000	
Seeds	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.004	0.020	0.004	0.000	0.000	0.000	0.000	
6-20 cm	0.000	0.016	0.080	0.016	0.000	0.000	0.000	0.000	
20-70 cm	0.000	0.020	0.100	0.020	0.000	0.000	0.000	0.000	
Lycium p.									
Leaves	0.000	1.000	0.900	0.900	0.000	0.000	0.000	0.000	RM 73-2;
New stems	0.000	0.000	0.040	0.450	0.000	0.000	0.000	0.000	Notes 3 & 4
Old stems & bases	0.000	0.000	0.010	0.010	0.000	0.000	0.000	0.000	
Inflorescence	0.000	0.000	0.010	0.005	0.000	0.000	0.000	0.000	
Seeds	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.000	0.004	0.004	0.000	0.000	0.000	0.000	
6-20 cm	0.000	0.000	0.016	0.016	0.000	0.000	0.000	0.000	
20-70 cm	0.000	0.000	0.025	0.020	0.000	0.000	0.000	0.000	
Eurotia a.									
Leaves	0.000	0.000	0.900	0.590	0.000	0.000	0.000	0.000	RM 73-2;
New stems	0.000	0.000	0.040	0.100	0.000	0.000	0.000	0.000	Notes 3 & 4
Old stems & bases	0.000	0.000	0.010	0.100	0.000	0.000	0.000	0.000	
Inflorescence	0.000	0.000	0.010	0.005	0.000	0.000	0.000	0.000	
Seeds	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.000	0.004	0.020	0.000	0.000	0.000	0.000	
6-20 cm	0.000	0.000	0.016	0.080	0.000	0.000	0.000	0.000	
20-70 cm	0.000	0.000	0.020	0.100	0.000	0.000	0.000	0.000	
Other perennials									
Leaves	0.000	1.000	0.900	0.485	0.000	0.000	0.000	0.000	RM 73-2;
New stems	0.000	0.000	0.050	0.200	0.000	0.000	0.000	0.000	Notes 3 & 4
Old stems & bases	0.000	0.000	0.010	0.100	0.000	0.000	0.000	0.000	
Inflorescence	0.000	0.000	0.010	0.005	0.000	0.000	0.000	0.000	
Seeds	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	
Roots									
0-6 cm	0.000	0.000	0.004	0.020	0.000	0.000	0.000	0.000	
6-20 cm	0.000	0.000	0.016	0.080	0.000	0.000	0.000	0.000	
20-70 cm	0.000	0.000	0.020	0.100	0.000	0.000	0.000	0.000	
Annuals									
Leaves	0.000	0.000	0.420	0.320	0.250	0.100	0.000	0.000	RM 73-2;
Young stems	0.000	0.000	0.280	0.180	0.200	0.200	0.000	0.000	Notes 3 & 4
Old stems & bases	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Inflorescence	0.000	0.000	0.000	0.150	0.130	0.150	0.000	0.000	
Seeds	0.000	0.000	0.000	0.050	0.120	0.250	0.000	0.000	
Roots									
0-6 cm	0.000	0.000	0.180	0.180	0.180	0.180	0.000	0.000	
6-20 cm	0.000	0.000	0.105	0.105	0.105	0.105	0.000	0.000	
20-70 cm	0.000	0.000	0.105	0.105	0.015	0.095	0.000	0.000	

Table 7, continued

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Sixth Phenophase	Seventh Phenophase	Eighth Phenophase
Larrea d.								
Leaves	0.0100	0.0000	0.0000	0.0000	0.0100	0.0100	0.0001	0.0010
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Seeds	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Roots								
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Ephedra n.								
Leaves	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Seeds	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	
Roots								0.0001
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Ambrosia d.								0.0010
Leaves	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Seeds	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Roots								
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Grayia s.								
Leaves	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Seeds	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Roots								
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Lycium p.								
Leaves	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010
Seeds	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010
Roots								
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Eurotia a.								
Leaves	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Seeds	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0010
Roots								
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Other perennials								
Leaves	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010
Seeds	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010
Roots								
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
60-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Annuals								
Leaves	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0200
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0200
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0200
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0200
Seeds	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0200
Roots								
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0200
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0200
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0200

Table 6. Photosynthetic rate of each species during each phenophase (PHRATE), Rock Valley vegetation site (g carbon fixed g carbon in photosynthetic organ^{-1} day^{-1})

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Sixth Phenophase	Seventh Phenophase	Eighth Phenophase	Source
Lycium a.	0.000	0.360	0.001	0.001	0.000	0.000	0.000	0.000	RM 73-2; Notes 3, 4, 5
Krameria p.	0.000	0.550	0.550	0.020	0.000	0.000	0.000	0.000	
Larrea d.	0.000	0.240	0.020	0.010	0.010	0.100	0.010	0.010	
Ephedra n.	0.000	0.030	0.030	0.000	0.000	0.000	0.000	0.000	
Ambrosia d.	0.000	0.275	0.275	0.030	0.010	0.000	0.000	0.000	
Grayia s.	0.000	0.420	0.010	0.000	0.000	0.000	0.000	0.000	
Lycium p.	0.000	0.350	0.350	0.010	0.000	0.000	0.000	0.000	
Eurotia a.	0.000	0.300	0.300	0.010	0.000	0.000	0.000	0.000	
Other perennials	0.000	0.270	0.270	0.010	0.000	0.000	0.000	0.000	
Annuals	0.000	0.000	0.160	1.220	1.220	0.000	0.000	0.000	

Table 7. Mortality rates for each organ of a given species during each phenophase (RATLTD) Rock Valley vegetation site (g dead g organ^{-1} day^{-1})

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Sixth Phenophase	Seventh Phenophase	Eighth Phenophase	Source
Lycium a.									
Leaves	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010	Note 7
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	Note 11
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	
Inflorescence	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010	
Seeds	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0100	0.0010	
Roots									
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	
Krameria p.									
Leaves	0.0000	0.0000	0.0000	0.0000	0.0010	0.0100	0.0300	0.0010	
Young stems	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	
Old stems & bases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	
Inflorescence	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0100	0.0010	
Seeds	0.0000	0.0000	0.0000	0.0100	0.0100	0.0100	0.0100	0.0010	
Roots									
0-6 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	
6-20 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	
20-70 cm	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	

Table 8. Nitrogen and ash transfer to each organ of a given species expressed as a ratio to carbon transfer. Rock Valley vegetation site (RATIO)

Species	Nitrogen	Ash	Source
Lycium a.			
Leaves	0.0588	0.1881	Notes 8 and 9; RM 73-2
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	
Krameria p.			
Leaves	0.0588	0.1881	
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	
Larrea d.			
Leaves	0.0588	0.1881	
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	
Ephedra n.			
Leaves	0.0588	0.1881	
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	
Ambrosia d.			
Leaves	0.0588	0.1881	
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	
Grayia s.			
Leaves	0.0588	0.1881	
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	
Lycium p.			
Leaves	0.0588	0.1181	
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	

Table 8, continued

Species	Nitrogen	Ash	Source
Eurotia a.			
Leaves	0.0588	0.1881	
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	
Other perennials			
Leaves	0.0588	0.1881	
Young stems	0.0482	0.1929	
Old stems & bases	0.0482	0.1929	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0482	0.1929	
Annuals			
Leaves	0.0588	0.1881	
Young stems	0.0518	0.1885	
Old stems & bases	0.0518	0.1885	
Inflorescence	0.0518	0.1885	
Seeds	0.1125	0.1125	
Roots	0.0518	0.1885	

Table 9. Initial condition values (g/ha) Rock Valley animal. Initial conditions date -- December 10, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adults	4.33	13.87	3.44	1.89	3.28	RM 73-2; PC Dr. F. B. Turner, Mr. P. Medica, and Mr. B. Maza; Notes 12 and 13.
Juveniles	3.76	11.10	2.75	1.52	2.62	
Uta s.						
Adults	1.44	4.61	1.14	0.63	1.09	
Young adults	1.89	6.07	1.51	0.83	1.44	
Juveniles	2.34	7.49	1.86	1.02	1.77	
Crotophytus w.						
Adults	3.79	12.14	3.01	1.65	2.87	
Immature	0.00	0.00	0.00	0.00	0.00	
Juveniles	0.00	0.00	0.00	0.00	0.00	
Gopherus a.						
Adult	1.03	3.30	0.82	0.45	0.78	
Juveniles	2.47	7.92	1.96	1.08	1.87	
Young adults	8.85	28.36	7.04	3.87	6.71	
Ground Beetles						
Adult	0.55	1.75	0.43	0.24	0.41	
Larvae	2.73	8.73	8.75	1.19	2.07	
Egg	0.92	2.96	0.73	0.40	0.70	
Immature	2.73	8.73	8.75	1.19	2.07	
Herbivorous Insects						
Adults	1.23	3.94	0.98	0.54	0.93	
Immature	7.38	23.64	5.86	3.22	5.59	
Eggs	14.38	46.10	11.44	6.28	10.90	
Larvae	1.23	3.94	0.98	0.54	0.93	
Onychomys						
Adult	0.220	0.710	0.180	0.097	0.170	
Young adult	0.000	0.000	0.000	0.000	0.000	
Juvenile	0.000	0.000	0.000	0.000	0.000	
Dipodomys						
Adult	0.160	0.520	0.130	0.071	0.120	
Young adult	0.280	0.890	0.220	0.120	0.210	
Juvenile	0.280	0.910	0.230	0.120	0.220	
Lepus c.						
Adult	0.093	0.300	0.074	0.041	0.070	
Young adult	0.000	0.000	0.000	0.000	0.000	
First litter	0.000	0.000	0.000	0.000	0.000	
Second litter	0.000	0.000	0.000	0.000	0.000	
Third litter	0.000	0.000	0.000	0.000	0.000	

Table 10. Assimilation efficiencies by chemical constituent and cohort (g assimilated per g consumed). Rock Valley animal (COEFF). Season 1; seasons defined in Figure 2

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adults	0.85	0.90	0.15	0.85	0.17	Note 14
Juvenile	0.85	0.90	0.15	0.85	0.17	
Uta s.						
Adults	0.85	0.90	0.15	0.85	0.17	
Young adults	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Crotophytus w.						
Adults	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Gopherus a.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Herbivorous Insects						
Adults	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Onychomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Dipodomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
First litter	0.85	0.90	0.15	0.85	0.17	
Second litter	0.85	0.90	0.15	0.85	0.17	
Third litter	0.85	0.90	0.15	0.85	0.17	

Table 11. Assimilation efficiencies by chemical constituent and cohort (g assimilated per g consumed). Rock Valley animal (COEFF). Season 2; seasons defined in Figure 2

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adults	0.85	0.90	0.15	0.85	0.17	Note 14
Juvenile	0.85	0.90	0.15	0.85	0.17	
Uta s.						
Adults	0.85	0.90	0.15	0.85	0.17	
Young adults	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Crotophytus w.						
Adults	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Gopherus a.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Herbivorous Insects						
Adults	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Onychomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Dipodomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
First litter	0.85	0.90	0.15	0.85	0.17	
Second litter	0.85	0.90	0.15	0.85	0.17	
Third litter	0.85	0.90	0.15	0.85	0.17	

Table 12. Assimilation efficiencies by chemical constituent and cohort (g assimilated per g consumed). Rock Valley animal (COEFF). Season 3; seasons defined in Figure 2

Species	Mobile Carbon	Reserve Carbon	Sturctural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adults	0.85	0.90	0.15	0.85	0.17	Note 14
Juvenile	0.85	0.90	0.15	0.85	0.17	
Uta s.						
Adults	0.85	0.90	0.15	0.85	0.17	
Young adults	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Crotophytus w.						
Adults	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Gopherus a.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Yound adult	--	--	--	--	--	
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Herbivorous Insects						
Adults	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Onychomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Dipodomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
First litter	0.85	0.90	0.15	0.85	0.17	
Second litter	0.85	0.90	0.15	0.85	0.17	
Third litter	0.85	0.90	0.15	0.85	0.17	

Table 13. Assimilation efficiencies by chemical constituent and cohort (g assimilated per g consumed). Rock Valley animal (COEFF). Season 4; seasons defined in Figure 2

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adults	--	--	--	--	--	Note 14
Juvenile	0.85	0.90	0.15	0.85	0.17	
Uta s.						
Adults	0.85	0.90	0.15	0.85	0.17	
Young adults	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Crotophytus w.						
Adults	0.85	0.90	0.15	0.85	0.17	
Immature	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Gopherus a.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	

Table 13, continued

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Immature	--	--	--	--	--	
Herbivorous Insects						
Adults	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Onychomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Dipodomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
First litter	--	--	--	--	--	
Second litter	--	--	--	--	--	
Third litter	--	--	--	--	--	

Table 14. Assimilation efficiencies by chemical constituent and cohort (g assimilated per g consumed). Rock Valley animal (COEFF). Season 5; seasons defined in Figure 2

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						Note 14
Adults	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Uta s.						
Adults	0.85	0.90	0.15	0.85	0.17	
Young adults	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Crotophytus w.						
Adults	--	--	--	--	--	
Immature	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Gopherus a.						
Adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Young adult	--	--	--	--	--	
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Larvae	--	--	--	--	--	
Egg	--	--	--	--	--	
Immature	--	--	--	--	--	
Herbivorous Insects						
Adults	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Larvae	--	--	--	--	--	
Onychomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Dipodomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
First litter	--	--	--	--	--	
Second litter	--	--	--	--	--	
Third litter	--	--	--	--	--	

Table 15. Assimilation efficiencies by chemical constituent and cohort (g assimilated per g consumed). Rock Valley animal (COEFF). Season 6; seasons defined in Figure 2

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						Note 14
Adults	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Uta s.						
Adults	--	--	--	--	--	
Young adults	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Crotophytus w.						
Adults	--	--	--	--	--	
Immature	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Gopherus a.						
Adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Young adult	--	--	--	--	--	
Ground Beetles						
Adult	--	--	--	--	--	
Larvae	--	--	--	--	--	
Egg	--	--	--	--	--	
Immature	--	--	--	--	--	
Herbivorous Insects						
Adults	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Larvae	--	--	--	--	--	
Onychomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Dipodomys						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
First litter	--	--	--	--	--	
Second litter	--	--	--	--	--	
Third litter	--	--	--	--	--	

Table 16. Fractional distribution in the soil of excreta by species. Rock Valley animal (TERRE). Season 1; seasons defined in Figure 2

Species	Soil Surface	Soil Sub-surface	Source
Onemidophorus t.			
Adults	1.0	0.0	Note 15; PC Mr. B. Maza, Mr. P. Medica, Dr. E. Sleeper and Mr. D. Thomas
Juvenile	---	---	
Uta s.			
Adults	1.0	0.0	
Young adults	---	---	
Juvenile	---	---	
Crotophytus w.			
Adults	1.0	0.0	
Immature	2.0	1.0	
Juvenile	0.0	1.0	
Gopherus a.			
Adult	1.0	0.0	
Juvenile	---	---	
Young adult	1.0	0.0	
Ground Beetles			
Adult	1.0	0.0	
Larvae	---	---	
Egg	---	---	
Immature	0.0	1.0	
Herbivorous Insects			
Adults	1.0	0.0	
Immature	---	---	
Eggs	---	---	
Larvae	1.0	0.0	
Onychomys			
Adult	1.0	0.0	
Young adult	0.0	1.0	
Juvenile	0.0	1.0	
Dipodomys			
Adult	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Lepus c.			
Adult	1.0	0.0	
Young adult	1.0	0.0	
First litter	1.0	0.0	
Second litter	1.0	0.0	
Third litter	1.0	0.0	

Table 17. Fractional distribution in the soil of excreta by species. Rock Valley animal (TERRE). Season 2; season defined in Figure 2

Species	Soil Surface	Soil Sub-surface	Source
Onemidophorus t.			
Adults	1.0	0.0	Note 15; PC Mr. B. Maza, Mr. P. Medica, Dr. E. Sleeper, and Mr. D. Thomas
Juvenile	0.0	1.0	
Uta s.			
Adults	1.0	0.0	
Young adults	0.0	1.0	
Juvenile	0.0	1.0	
Crotophytus w.			
Adults	1.0	0.0	
Immature	1.0	0.0	
Juvenile	1.0	0.0	
Gopherus a.			
Adult	1.0	0.0	
Juvenile	0.0	1.0	
Young adult	0.0	1.0	
Ground Beetles			
Adults	1.0	0.0	
Larvae	0.0	1.0	
Egg	0.0	1.0	
Immature	1.0	0.0	
Herbivorous Insects			
Adults	1.0	0.0	
Immature	1.0	0.0	
Eggs	0.0	1.0	
Larvae	1.0	0.0	
Onychomys			
Adult	1.0	0.0	
Young adult	1.0	0.0	
Juvenile	1.0	0.0	
Dipodomys			
Adult	1.0	0.0	
Young adult	0.0	1.0	
Juvenile	0.0	1.0	
Lepus c.			
Adult	1.0	0.0	
Young adult	1.0	0.0	
First litter	1.0	0.0	
Second litter	1.0	0.0	
Third litter	1.0	0.0	

Table 18. Fractional distribution in the soil of excreta by species. Rock Valley animal (TERRE). Season 3; season defined in Figure 2

Species	Soil Surface	Soil Sub-surface	Source
Onemidophorus t.			
Adults	0.0	1.0	Note 15; PC Mr. B. Maza, Mr. P. Medica, Dr. E. Sleeper and Mr. D. Thomas
Juvenile	1.0	0.0	
Uta s.			
Adults	1.0	0.0	
Young adults	1.0	0.0	
Juvenile	1.0	0.0	
Crotophytus w.			
Adults	1.0	0.0	
Immature	---	---	
Juvenile	---	---	
Gopherus a.			
Adult	0.0	1.0	
Juvenile	1.0	0.0	
Young adult	---	---	
Ground Beetles			
Adult	1.0	0.0	
Larvae	0.0	1.0	
Egg	0.0	1.0	
Immature	0.0	1.0	
Herbivorous Insects			
Adults	---	---	
Immature	1.0	0.0	
Eggs	---	---	
Larvae	1.0	0.0	

Table 18, continued

Species	Soil Surface	Soil Sub-surface	Source
Onychomys			
Adult	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Dipodomys			
Adult	1.0	0.0	
Young adult	1.0	0.0	
Juvenile	1.0	0.0	
Lepus c.			
Adult	1.0	0.0	
Young adult	1.0	0.0	
First litter	---	---	
Second litter	1.0	0.0	
Third litter	1.0	0.0	

Table 19. Fractional distribution in the soil of excreta by species. Rock Valley animal (TERRE). Season 4; season defined in Figure 2

Species	Soil Surface	Soil Sub-surface	Source
Onemidophorus t.			
Adults	---	---	Note 15; PC Mr. B. Maza;
Juvenile	0.0	1.0	Mr. P. Medica, Dr. E. Sleener, and Mr. D. Thomas
Uta s.			
Adults	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Crotophytus w.			
Adults	0.0	1.0	
Immature	---	---	
Juvenile	---	---	
Gopherus a.			
Adult	---	---	
Juvenile	0.0	1.0	
Young adult	---	---	
Ground Beetles			
Adult	1.0	0.0	
Larvae	1.0	0.0	
Egg	1.0	0.0	
Immature	---	---	
Herbivorous Insects			
Adults	---	---	
Immature	1.0	0.0	
Eggs	---	---	
Larvae	1.0	1.0	
Onychomys			
Adult	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Dipodomys			
Adult	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Lepus c.			
Adult	1.0	0.0	
Young adult	---	---	
First litter	---	---	
Second litter	---	---	
Third litter	---	---	

Table 20. Fractional distribution in the soil of excreta by species. Rock Valley animal (TERRE). Season 5; season defined in Figure 2

Species	Soil Surface	Soil Sub-surface	Source
Onemidophorus t.			Note 15; PC Mr. B. Maza,
Adults	---	---	Mr. P. Medica, Dr. E.
Juvenile	---	---	Sleeper, and Mr. D. Thomas
Uta s.			
Adults	0.5	0.5	
Young adults	---	---	
Juvenile	---	---	
Crotophytus w.			
Adults	---	---	
Immature	---	---	
Juvenile	---	---	
Gopherus a.			
Adult	---	---	
Juvenile	---	---	
Young adult	---	---	
Ground Beetles			
Adult	0.0	1.0	
Larvae	---	---	
Egg	---	---	
Immature	---	---	
Herbivorous Insects			
Adult	---	---	
Immature	0.0	1.0	
Eggs	---	---	
Larvae	---	---	
Onychomys			
Adult	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Dipodomys			
Adult	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Lepus c.			
Adult	1.0	0.0	
Young adult	---	---	
First litter	---	---	
Second litter	---	---	
Third litter	---	---	

Table 21. Fractional distribution in the soil of excreta by species. Rock Valley animal (TERRE). Season 6; season defined in Figure 2

Species	Soil Surface	Soil Sub-surface	Source
Onemidophorus t.			
Adults	---	---	Note 15; PC Mr. B. Maza,
Juvenile	---	---	Mr. P. Medica, Dr. E. Sleeper, and Mr. D. Thomas
Uta s.			
Adults	---	---	
Young adults	---	---	
Juvenile	---	---	
Crotophytus w.			
Adults	---	---	
Immature	---	---	
Juvenile	---	---	
Gopherus a.			
Adult	---	---	
Juvenile	---	---	
Young adult	---	---	
Ground Beetles			
Adult	---	---	
Larvae	---	---	
Egg	---	---	
Immature	---	---	
Herbivorous Insects			
Adults	---	---	
Immature	0.0	1.0	
Eggs	---	---	
Larvae	---	---	
Onychomys			
Adult	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Dipodomys			
Adult	1.0	0.0	
Young adult	---	---	
Juvenile	---	---	
Lepus c.			
Adult	1.0	0.0	
Young adult	---	---	
First litter	---	---	
Second litter	---	---	
Third litter	---	---	

Table 22. Maximum respiration rate by season for each cohort. Rock Valley animal (g respired carbon) day^{-1} (g body protein C 2/3)$^{-1}$ (RA)

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							
Adult	0.01	0.01	0.00	--	--	--	Note 16
Juvenile	0.00	0.01	0.01	0.00	--	--	
Uta s.							
Adult	0.01	0.01	0.01	0.01	0.01	--	
Young adult	0.00	0.51	0.01	--	--	--	
Juvenile	0.00	0.01	0.01	--	--	--	
Crotophytus w.							
Adult	0.01	0.01	0.01	0.00	--	--	
Immature	0.01	0.01	0.00	--	--	--	
Juvenile	0.01	0.01	0.00	--	--	--	
Gopherus a.							
Adult	0.01	0.01	0.00	--	--	--	
Juvenile	0.00	0.01	0.00	0.01	--	--	
Yound adult	0.01	0.00	--	--	--	--	
Ground Beetles							
Adult	0.01	0.01	0.01	0.01	0.00	--	
Larvae	0.00	0.01	0.01	0.01	0.00	--	
Egg	0.00	0.01	0.01	0.01	--	--	
Immature	0.01	0.01	0.00	--	--	--	
Herbivorous Insects							
Adult	0.01	0.01	--	--	--	--	
Immature	0.00	0.01	0.01	0.01	0.01	0.00	
Egg	0.00	0.00	--	--	--	--	
Larvae	0.01	0.01	0.01	0.01	--	--	
Onychomys							
Adult	0.01	0.01	0.01	0.01	0.01	0.01	
Young adult	0.01	0.01	0.00	--	--	--	
Juvenile	0.01	0.01	0.00	--	--	--	
Dipodomys							
Adult	0.01	0.01	0.01	0.01	0.01	0.01	
Young adult	0.00	0.01	0.01	--	--	--	
Juvenile	0.00	0.01	0.01	--	--	--	
Lepus c.							
Adult	0.01	0.01	0.01	0.01	0.01	0.01	
Young adult	0.01	0.01	0.01	0.00	--	--	
First litter	0.00	0.01	0.01	0.00	--	--	
Second litter	0.01	0.01	0.01	0.00	--	--	
Third litter	0.01	0.01	0.01	0.00	--	--	

Table 23. Maximum respiration rate by season for cohort as related to total body carbon (g carbon respired) day^{-1} (g C 2/3 in total body)$^{-1}$, Rock Valley animal

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							
Adult	0.10	0.10	0.10	--	--	--	Note 16
Juvenile	0.00	0.10	0.10	0.01	--	--	
Uta s.							
Adult	0.10	0.10	0.10	0.10	0.08		
Young adult	0.00	0.10	0.10	--	--	--	
Juvenile	0.00	0.10	0.10	--	--		
Crotophytus w.							
Adult	0.10	0.10	0.10	0.01	--	--	
Immature	0.10	0.10	0.00	--	--	--	
Juvenile	0.10	0.10	0.00	--	--	--	
Gopherus a.							
Adult	0.10	0.10	0.01	--	--	--	
Juvenile	0.00	0.10	0.10	0.01	--	--	
Young adult	0.10	0.01	--	--	--	--	
Ground Beetles							
Adult	0.10	0.10	0.10	0.10	0.01	--	
Larvae	0.00	0.10	0.10	0.10	0.01	--	
Egg	0.00	0.10	0.10	0.08	--	--	
Immature	0.10	0.10	0.01	--	--	--	
Herbivorous Insects							
Adult	0.10	0.10	--	--	--	--	
Immature	0.00	0.10	0.10	0.01	0.01	0.01	
Egg	0.00	0.01	--	--	--	--	
Larvae	0.10	0.10	0.10	0.10	--	--	
Onychomys							
Adult	0.10	0.10	0.10	0.10	0.10	0.08	
Young adult	0.10	0.10	0.00	--	--	--	
Juvenile	0.10	0.10	0.00	--	--	--	
Dipodomys							
Adult	0.10	0.10	0.10	0.10	0.10	0.10	
Young adult	0.00	0.10	0.10	--	--	--	
Juvenile	0.00	0.10	0.10	--	--	--	
Lepus c.							
Adult	0.10	0.10	0.10	0.10	0.10	0.10	
Young adult	0.10	0.10	0.10	0.00	--	--	
First litter	0.10	0.10	0.10	0.00	--	--	
Second litter	0.10	0.10	0.10	0.00	--	--	
Third litter	0.10	0.10	0.10	0.00	--	--	

Table 24. Number of young produced during a given season by species. Rock Valley animal (young per individual) (BIRTHN). Season as defined in Figure 2

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							
Adult	--	1.50	--	--	--	--	Note 17; PC Dr. F. B. Turner, Mr. P. Medica, Mr. B. Maza, Mr. D. Thomas
Uta s.							
Adult	--	1.80	1.80	1.80	--	--	
Crotophytus w.							
Adult	--	3.60	3.60	--	--	--	
Gopherus a.							
Adult	--	3.00	--	--	--	--	
Ground Beetles							
Adult	--	200.00	--	200.00	--	--	
Herbivorous Insects							
Adult	--	400.00	400.00	400.00	--	--	
Onychomys							
Adult	--	2.50	--	--	2.50	--	
Dipodomys							
Adult	--	1.75	--	--	1.75	--	
Lepus c.							
Adult	--	1.00	2.00	3.00	2.00	--	

Table 25. Birth weight of offspring for each season, species and chemical constituent (g/ha) (BIRTHW), Rock Valley animal. Season 2; seasons as defined in Figure 2

Species	Protein Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	0.055000	0.178000	0.044000	0.024000	0.042000	Note 18; PC Dr. F. B. Turner, Mr. P. Medica, Mr. B. Maza, Mr. D. Thomas
Uta s.	0.009000	0.030000	0.007000	0.004000	0.007000	
Crotophytus w.	0.148000	0.473000	0.117000	0.064000	0.112000	
Gopherus a.	0.277000	0.887000	0.220000	0.121000	0.210000	
Ground Beetles	0.002900	0.009200	0.002300	0.001300	0.002200	
Herbivorous Insects	0.000430	0.001400	0.000340	0.000190	0.000330	
Onychomys	0.092000	0.296000	0.073000	0.040000	0.070000	
Dipodomys	0.257000	0.841000	0.205000	0.113000	0.195000	
Lepus c.	5.533000	17.732000	4.398000	2.417000	41.19400	

Table 26. Birth weight of offspring for each season, species and chemical constituent (g/ha) (BIRTHW), Rock Valley animal. Season 3; seasons as defined in Figure 2

Species	Protein Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	---	---	---	---	---	Note 18; PC Dr. F. B. Turner, Mr. B. Maza, Mr. P. Medica, Mr. D. Thomas
Uta s.	0.00900	0.03000	0.00700	0.00400	0.00700	
Crotophytus w.	0.14800	0.47300	0.11700	0.06400	0.11200	
Gopherus a.	---	---	---	---	---	
Ground Beetles	---	---	---	---	---	
Herbivorous Insects	0.00043	0.00140	0.00034	0.00019	0.00033	
Onychomys	---	---	---	---	---	
Dipodomys	---	---	---	---	---	
Lepus c.	5.53300	17.73200	4.39800	2.41700	4.19400	

Table 27. Birth weight of offspring for each season, species and chemical constituent (g/ha) (BIRTHW), Rock Valley animal. Season 4; seasons as defined in Figure 2

Species	Protein Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	---	---	---	---	---	Note 18; PC Dr. F. B. Turner, Mr. P. Medica, Mr. B. Maza and Mr. D. Thomas
Uta s.	0.0090	0.0300	0.0070	0.0040	0.0070	
Crotophytus w.	---	---	---	---	---	
Gopherus a.	---	---	---	---	---	
Ground Beetles	0.0029	0.0092	0.0023	0.0013	0.0022	
Herbivorous Insects	---	---	---	---	---	
Onychomys	---	---	---	---	---	
Dipodomys	---	---	---	---	---	
Lepus c.	5.5330	17.7320	4.3980	2.4170	4.1940	

Table 28. Birth weight of offspring for each season, species and chemical constituent (g/ha) (BIRTHW), Rock Valley animal. Season 5; seasons as defined in Figure 2

Species	Protein Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	---	---	---	---	---	Note 18; PC Dr. F. B. Turner, Mr. B. Maza, Mr. P. Medica, and Mr. D. Thomas
Uta s.	---	---	---	---	---	
Crotophytus w.	---	---	---	---	---	
Gopherus a.	---	---	---	---	---	
Ground Beetles	---	---	---	---	---	
Herbivorous Insects	0.00043	0.00140	0.00034	0.00019	0.00033	
Onychomys	0.09200	0.29600	0.07300	0.04000	0.07000	
Dipodomys	0.25700	0.84100	0.20500	0.11300	0.19500	
Lepus c.	5.53300	17.73200	4.39800	2.41700	4.19400	

Table 29. Maximum feed rate by season for each cohort [(g consumed)(g body weight)$^{-1}$ day^{-1}] (A). Rock Valley animal. Season as defined in Figure 2

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							
Adult	0.130	0.120	0.000	---	---	---	Note 19; PC Mr. B. Maza, Mr. P. Medica, Dr. D. Thomas
Juvenile	---	---	0.140	---	---	---	
Uta s.							
Adult	0.176	0.176	0.160	0.100	---	---	
Young adult	---	---	---	0.240	---	---	
Juvenile	---	---	0.240	---	---	---	
Crotophytus w.							
Adult	0.130	0.130	0.120	---	---	---	
Immature	---	0.160	---	---	---	---	
Juvenile	---	0.160	---	---	---	---	
Gopherus a.							
Adult	0.088	0.080	---	---	---	---	
Juvenile	---	---	0.110	---	---	---	
Young adult	0.080	---	---	---	---	---	
Ground Beetles							
Adult	0.440	0.400	0.440	0.400	---	---	
Larvae	0.500	0.400	---	---	---	---	
Egg	---	---	---	---	---	---	
Immature	0.500	0.400					

Table 29, continued

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Herbivorous Insects							
Adult	0.440	0.400	---	---	---	---	
Immature	---	---	0.500	0.440	0.400	---	
Egg	---	---	---	---	---	---	
Larvae	0.500	0.440	0.400	0.400	---	---	
Onychomys							
Adult	0.1100	0.1400	0.1000	0.1100	0.1400	0.0900	
Young adult	0.1400	0.1400	---	---	---	---	
Juvenile	0.1400	0.1400	---	---	---	---	
Dipodomys							
Adult	0.1000	0.1270	0.0918	0.1000	0.127	0.0918	
Young adult	---	0.1800	0.1100	---	---	---	
Juvenile		0.1800	0.1100	---	---	---	
Lepus c.							
Adult	0.0880	0.0900	0.0900	0.0900	0.0880	0.0800	
Young adult	0.1100	0.1100	0.0800	---	---	---	
First litter	0.1100	0.1100	0.0800	---	---	---	
Second litter	0.1100	0.1100	0.0800	---	---	---	
Third litter	0.1100	0.1100	0.0800	---	---	---	

Table 30. Fraction of the population which suffers non-predatory mortality by season and cohort (DEATH). Rock Valley animal. Seasons as defined in Figure 2

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 20; Mr. B. Maza, Mr. P. Medica, Mr. D. Thomas
Adults	0.002820	0.002820	0.002630	--	--	--	
Juvenile	0.000000	0.000589	0.010080	0.008740	--	--	
Uta s.							
Adult	0.000540	0.000540	0.000540	0.000540	0.000540	--	
Young adult	0.000000	0.000000	0.000970	--	--	--	
Juvenile	0.000000	0.000000	0.001370	--	--	--	
Crotophytus c.							
Adult	0.000290	0.000290	0.000290	--	--	--	
Immature	0.000630	0.008620	0.000000	--	--	--	
Juvenile	0.00680	0.014490	0.000000	--	--	--	
Gopherus a.							
Adult	0.001030	0.001030	0.000000	--	--	--	
Juvenile	0.000000	0.000670	0.020200	0.000000	--	--	
Young adult	0.011500	0.000000	--	--	--	--	
Ground Beetles							
Adult	0.000640	0.000640	0.000640	0.000640	0.001960	--	
Larvae	0.000000	0.010500	0.017100	0.002570	0.001960	--	
Egg	0.000000	0.010500	0.001670	0.001670	--	--	
Immature	0.006130	0.000990	0.002540	--	--	--	
Herbivorous Insects							
Adult	0.018700	0.018700	--	--	--	--	
Immature	0.000000	0.087600	0.005850	0.005850	0.005850	0.005480	
Egg	0.000000	0.003190	--	--	--	--	
Larvae	0.004580	0.004580	0.004580	0.035500	--	--	
Onychomys							
Adult	0.001400	0.001400	0.001400	0.001400	0.001400	0.001400	
Young adult	0.004380	0.009970	0.000000	--	--	--	
Juvenile	0.004380	0.009970	0.000000	--	--	--	
Dipodomys							
Adult	0.000210	0.000210	0.000210	0.000210	0.000210	0.000210	
Young adult	0.000000	0.000210	0.000210	--	--	--	
Juvenile	0.000000	0.000210	0.000210	--	--	--	
Lepus c.							
Adult	0.004530	0.004530	0.004530	0.004530	0.004530	0.004530	
Young adult	0.004530	0.004530	0.004530	--	--	--	
First litter	0.004530	0.004530	0.004530	--	--	--	
Second litter	0.004530	0.004530	0.004530	--	--	--	
Third litter	0.004530	0.004530	0.004530	--	--	--	

Table 31. Protein increment for each cohort by season [(g protein increment)(g protein in total body)$^{-1}$ day^{-1}]. (GROW). Rock Valley animal. Seasons as defined in Figure 2

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 21
Adult	0.00316	---	---	---	---	---	
Juvenile	---	---	0.10000	---	---	---	
Uta s.							
Adult	0.00146	0.00333	0.00312	0.02140	0.02370	---	
Young adult	---	---	0.02140	---	---	---	
Juvenile	---	---	0.02370	---	---	---	
Crotophytus c.							
Adult	0.00469	0.01077					
Immature	---	0.11000	---	---	---	---	
Juvenile	---	0.18300	---	---	---	---	
Gopherus a.							
Adult	0.000160	---	---	---	---	---	
Juvenile	---	---	0.16600	---	---	---	
Young adult	---	---	---	---	---	---	
Ground Beetles							
Adult	0.06260	---	0.62600	---	---	---	
Larvae	---	---	0.05240	---	---	---	
Egg	---	---	0.01380	0.01380	---	---	
Immature	0.01380	---	---	---	---	---	
Herbivorous Insects							
Adult	0.17778	---	---		---	---	
Immature	---	---	0.03000	0.17778	---	---	
Egg	---	---	---	---	---	---	
Larvae	0.03000	---	0.17779	---	---	---	
Onychomys							
Adult	0.11620	---	0.11620	---	---	---	
Young adult	0.08500	0.08500	---	---	---	---	
Juvenile	0.08500	0.08500	---	---	---	---	
Dipodomys							
Adult	0.00813	---	---	0.008130	---	---	
Young adult	---	0.01900	0.01900	---	---	---	
Juvenile	---	0.01900	0.01900	---	---	---	
Lepus c.							
Adult	0.10066	0.11954	0.13090	0.11959	---	---	
Young adult	0.12700	0.12700	0.12700	---	---	---	
First litter	0.10340	0.10340	0.10340	---	---	---	
Second litter	0.10340	0.10340	0.10340	---	---	---	
Third litter	0.08780	0.08780	0.08780	---	---	---	

Table 32. Reserve carbon increment for each cohort by season [(g reserve carbon incremented)(g total body protein carbon)$^{-1}$ day^{-1}] (GROW). Rock Valley animal. Seasons as defined in Figure 2

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 21
Adult	0.01012	---	---	---	---	---	
Juvenile	---	---	0.00000	---	---	---	
Uta s.							
Adult	0.02890	0.01070	0.00999	---	---	---	
Young adult	---	---	0.00000	---	---	---	
Juvenile	---	---	0.00000	---	---	---	
Crotophytus c.							
Adult	0.01502	0.03450	---	---	---	---	
Immature	---	0.00000	---	---	---	---	
Juvenile	---	0.00000	---	---	---	---	
Gopherus a.							
Adult	0.00051	---	---	---	---	---	
Juvenile	---	---	0.00000	---	---	---	
Young adult	---	---	---	---	---	---	
Ground Beetles							
Adult	0.20050	---	0.20050	---	---	---	
Larvae	---	---	0.00000	---	---	---	
Egg	---	---	0.00000	0.00000	---	---	
Immature	0.00000	---	---	---	---	---	
Herbivorous Insects							
Adult	0.56940	---	---	---	---	---	
Immature	---	---	0.00000	0.56940	---	---	
Egg	---	---	---	---	---	---	
Larvae	0.00000	0.56940	---	---	---	---	
Onychomys							
Adult	0.37200	---	0.37200	---	---	---	
Young adult	0.00000	0.00000	---	---	---	---	
Juvenile	0.00000	0.00000	---	---	---	---	
Dipodomys							
Adult	0.02610	---	---	0.02610	---	---	
Young adult	---	0.00000	0.00000	---	---	---	
Juvenile	---	0.00000	0.00000	---	---	---	
Lepus c.							
Adult	0.32240	0.38300	0.41930	0.38300	---	---	
Young adult	0.00000	0.00000	0.00000	---	---	---	
First litter	0.00000	0.00000	0.00000	---	---	---	
Second litter	0.00000	0.00000	0.00000	---	---	---	
Third litter	0.00000	0.00000	0.00000	---	---	---	

Table 33. Structural carbon increment for each cohort by season [(g structural carbon incremented)(g total body protein)$^{-1}$ day^{-1}] (GROW). Seasons as defined in Figure 2

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 21
Adult	0.00252	--	--	--	--	--	
Juvenile	--	--	0.02600	--	--	--	
Uta s.							
Adult	0.00164	0.00265	0.00248	--	--	--	
Young adult	--	--	0.00680	--	--	--	
Juvenile	--	--	0.00740	--	--	--	
Crotophytus c.							
Adult	0.00373	0.00857	--	--	--	--	
Immature	--	0.02660	--	--	--	--	
Juvenile	--	0.04400	--	--	--	--	
Gopherus a.							
Adult	0.00013	--	--	--	--	--	
Juvenile	--	--	0.03660	--	--	--	
Young adult	--	--	--	--	--	--	
Ground Beetles							
Adult	0.04980	--	0.04980	--	--	--	
Larvae	--	--	0.01900	--	--	--	
Egg	--	--	0.00540	0.00540	--	--	
Immature	0.00540	--	--	--	--	--	
Herbivorous Insects							
Adults	0.14150	--	--	--	--	--	
Immature	--	--	0.01500	0.14150	--	--	
Eggs	--	--	--	--	--	--	
Larvae	0.01500	0.14150	--	--	--	--	
Onychomys							
Adult	0.00920	--	0.00920	--	--	--	
Young adult	0.02100	0.02100	--	--	--	--	
Juvenile	0.02100	0.02100	--	--	--	--	
Dipodomys							
Adult	0.00647	--	--	0.00647	--	--	
Young adult	--	0.00500	0.00500	--	--	--	
Juvenile	--	0.00500	0.00500	--	--	--	
Lepus c.							
Adult	0.08013	0.09519	0.10420	0.09519	--	--	
Young adult	0.01940	0.01940	0.01940	--	--	--	
First litter	0.01560	0.01560	0.01560	--	--	--	
Second litter	0.01560	0.01560	0.01560	--	--	--	
Third litter	0.01300	0.01300	0.01300	--	--	--	

Table 34. Carbon increment in milk during lactation by cohort and season [(g carbon incremented in milk)(g total body protein)$^{-1}$ day^{-1}](GRMILK). Rock Valley animal. Seasons as defined in Figure 2

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onychomys	2.0	4.0	--	2.0	4.0	--	Note 22
Dipodomys	2.0	4.0	--	2.0	4.0	--	
Lepus c.	2.0	4.0	4.0	4.0	4.0	--	

JORNADA SIMULATION DATA INPUT FOR THE GENERAL DESERT BIOME MODEL

The information in this paper was gathered wherever possible from the data from the Jornada site. When the necessary data from the site were not available, an attempt was made to gather these from the literature. If the above approaches were not productive, the remaining holes in the necessary data were estimated by the field personnel associated with the particular process involved. The natural history and phenology information contained in Figures 1-4 was based on the latter information source since it was felt that these phenomena were specific for a given site.

Tables 1-27 for the bajada and 28-54 for the playa contain the data expressed in units for the general Desert Biome model. Wherever applicable the mnemonic in the program associated with the data is presented at the top of the table of interest and is in capital letters enclosed by parentheses.

The simulation data presented in this report were based on the available data up to and including the information contained in the 1973 annual report (RM 73-4; Whitford et al., 1973). At this time no attempt has been made to validate the simulation results since all available data were used in the construction of the model. Following the field season of 1974, validation will be completed using the latest data, and modification of some of the assumptions used in structuring this data set may be warranted.

NOTES

1. Biomass values were obtained from RM 73-4 (Whitford et al., 1973); the apportioning of the biomass was based on information contained in *The Handbook of Biological Data* (Spector, 1956) and in chemical analysis data (DSCODES A3UMM01, MM2A, MM2B). The information obtained from *The Handbook of Biological Data* (the data sets) was generally based on information which most closely fit the species in question, rather than the species itself.

Protein carbon is assumed to represent the mobile carbon pool.

2. The reserve and structural carbon values for leaves, stems and fruits were calculated based on an assumed value of 4% ash content. This assumed ash content was based on the apparent modal value of the available chemical supply analysis data (DSCODES A3UMM01, MM2A, MM2B).

3. CO_2 gas exchange data (DSCODE A3UBD02). Apportioning of photosynthate was based on information contained in RM 73-10 (Bamberg et al., 1973). In many cases the data were based on information which most closely fit the species in question rather than the species itself.

4. CO_2 gas exchange data were obtained from data set DSCODE A3UCG01 for the grass species. The carbon fixation was calculated assuming .69 g carbon fixed per g CO_2 absorbed by the photosynthetic organ. An average annual photoperiod of 12 hr per day was assumed. Grass photosynthate distributions were based on values obtained from Bamberg et al. (1973), using the species *Eurotia lanata* (now *Ceratoides lanata*) as the best estimate for grasses.

5. Due to the summer rains at the Jornada site it was assumed that the photosynthetic values for the shrubs returned to near spring conditions in late summer.

6. Seed germination allocation was assumed to be the same as the photosynthetic allocations with the exception of the photosynthetic allocation to fruits (for germination this was considered 0.0). The translocation rates for biomass from seed to organ are apportioned as above. For shrubs the total biomass was obtained from Wallace and Romney (1972; p. 330). For annuals and grasses the information was obtained from Spector (1956; p. 143), where corn was used as the nearest approximation to grasses and tomatoes were used as the nearest approximation to annuals.

The average plant tissue density was assumed to be near 1.0 or equal to H_2O, thus linear growth could be equaled with change in weight. Change in weight was assumed to be a cubic function of linear growth. The allometric relationships may be found in RM 73-4 (Whitford et al., 1973).

7. No mortality during dormancy was a simplifying assumption made while constructing the data set.

The basic data were obtained from Whitford et al. (1973) with the exception of the following:

a. For annual plants, the entire standing crop was assumed to be in the litter compartments by the end of the current year.
b. Annual turnover of the perennial grasses was assumed to be ~ 70%.
c. *Euphorbia* and other plants of this general type were assumed to lose up to 60% of the above-ground vegetation biomass annually (J. Ludwig, pers. comm.).
d. Annual plants had a root:shoot ratio of .64 (S. Bamberg, pers. comm.).
e. Annual root turnover for perennials was assumed to be 0.6. This is a personal estimate only.

8. The nutrient apportioning was based on data from DSCODES A3UMM01, MM2A and MM2B.

9. It was assumed in the model that the basic dynamics of nitrogen, ash and carbon were similar with a constant fractional difference between them. Therefore, the transfer rates of nitrogen and ash were based on the nitrogen:carbon and ash:carbon ratios. The latter data were obtained from chemical analysis data (DSCODES A3UMM01, MM2A, MM2B) and from information contained in *The Handbook of Biological Data*. The handbook data were most generally information which most closely fit the species in question.

10. Assimilation data were taken from *The Handbook of Biological Data* and *Biology Data Book, Volume I* (Altman, 1964). The assimilation data used in the simulation were based on values given for the closest species found in the above references. Data were not sufficient to calculate the changes in efficiency according to season and life stage; consequently it was assumed that assimilation was constant for a given species across season and life stages.

11. The respiration data were based on information contained in Klotz (1967) and Kleiber (1961).

12. The estimates for reproductive values were based on natural history information and personal communication from the field investigators. The *Lepus* reproduction estimates were for the most part based on Stoddard (1972).

13. Birth weights were based on information obtained from the site field personnel.

14. Maximum feeding rate values were based on best estimates of the site field personnel and the author.

15. Non-predatory mortality values were based on preliminary values obtained from the site field personnel.

16. The growth rate values were calculated using increase between the birth weight and the final adult weight. The increase was apportioned over the time period allocated for growth and assumes a constant growth rate.

17. The quantity of milk produced was based on estimates of the field personnel and the author.

ACKNOWLEDGEMENTS

The author wishes to acknowledge the extensive help given by the Jornada field personnel, Drs. W. G. Whitford and J. Ludwig. In addition, Miss Sue Payne and Dr. Walter Valentine were indispensable is assisting with the construction of simulation input.

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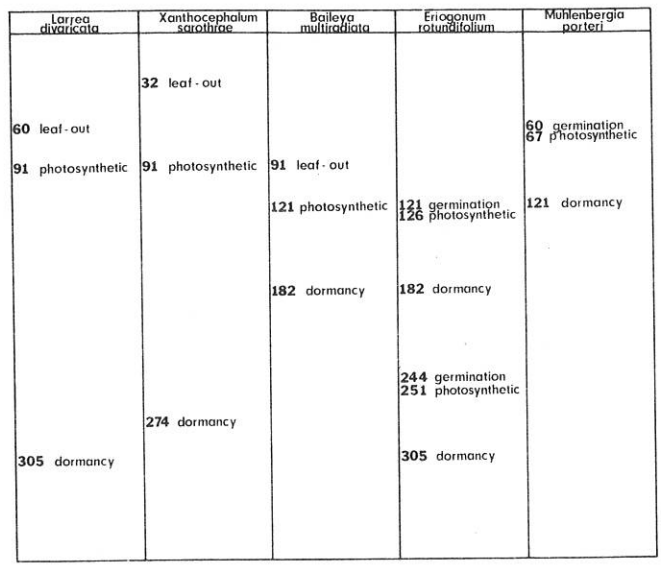

Figure 1. Plant phenology for the Jornada bajada. The Julian day on which a given phenological phenomenon occurs is given for each species; e.g., under *Larrea divaricata* (now *Larrea tridentata*) dormancy occurs on Julian day 305 and would be referred to as season number 3.

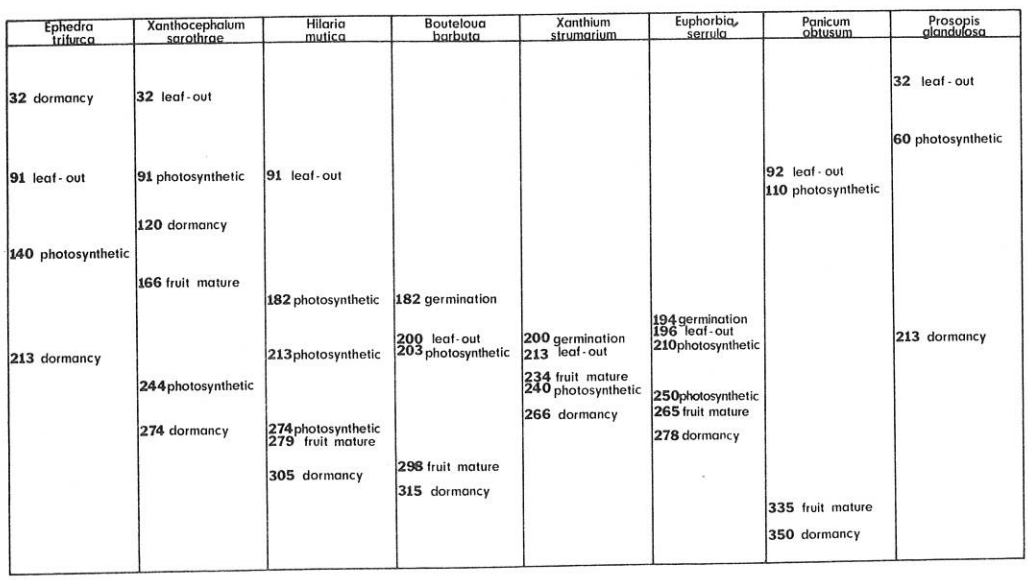

Figure 2. Plant phenology for the Jornada playa. The Julian day on which a given phenological phenomenon occurs is given for each species. Example: under *Ephedra trifurca* dormancy occurs on Julian day 213 and would be referred to as season number 4.

Figure 3. Animal life histories of the Jornada bajada. The Julian day on which a given life history phenomenon occurs for a given cohort of a given species appears in the column headed by the age class of interest. For example, for adult *Lepus californicus* last parturition occurs on Julian day 176 and would be designated season number 5.

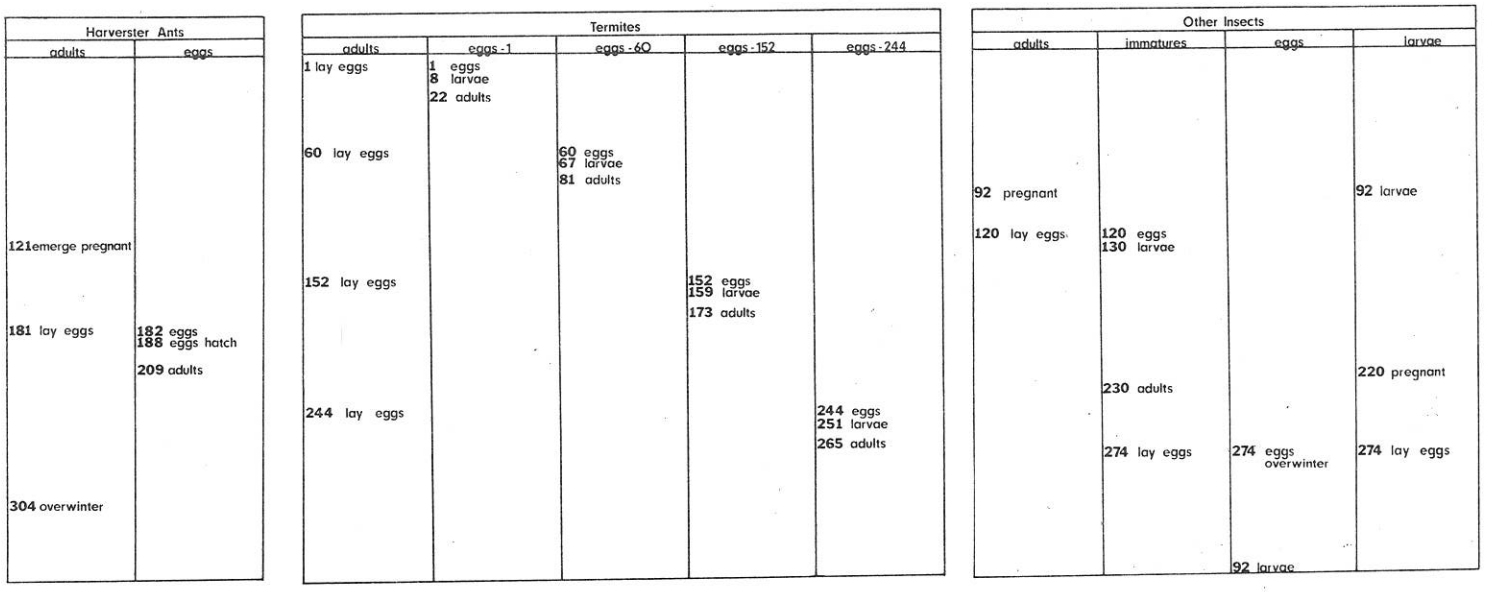

Figure 3, continued

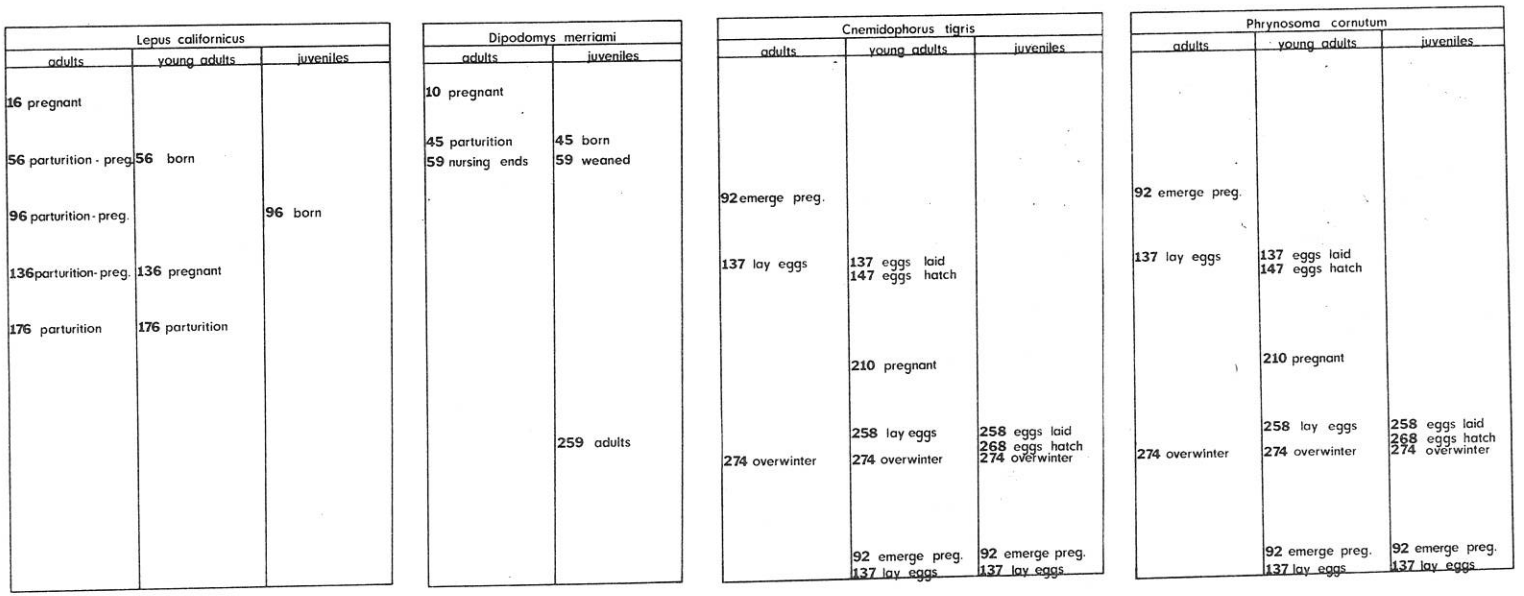

Figure 4. Animal life histories of the Jornada playa. The Julian day on which a given life history phenomenon occurs for a given cohort of a given species appears in the column headed by the age class of interest. For example, for adult *Lepus californicus* last parturition occurs on Julian day 176 and would be designated as season number 5.

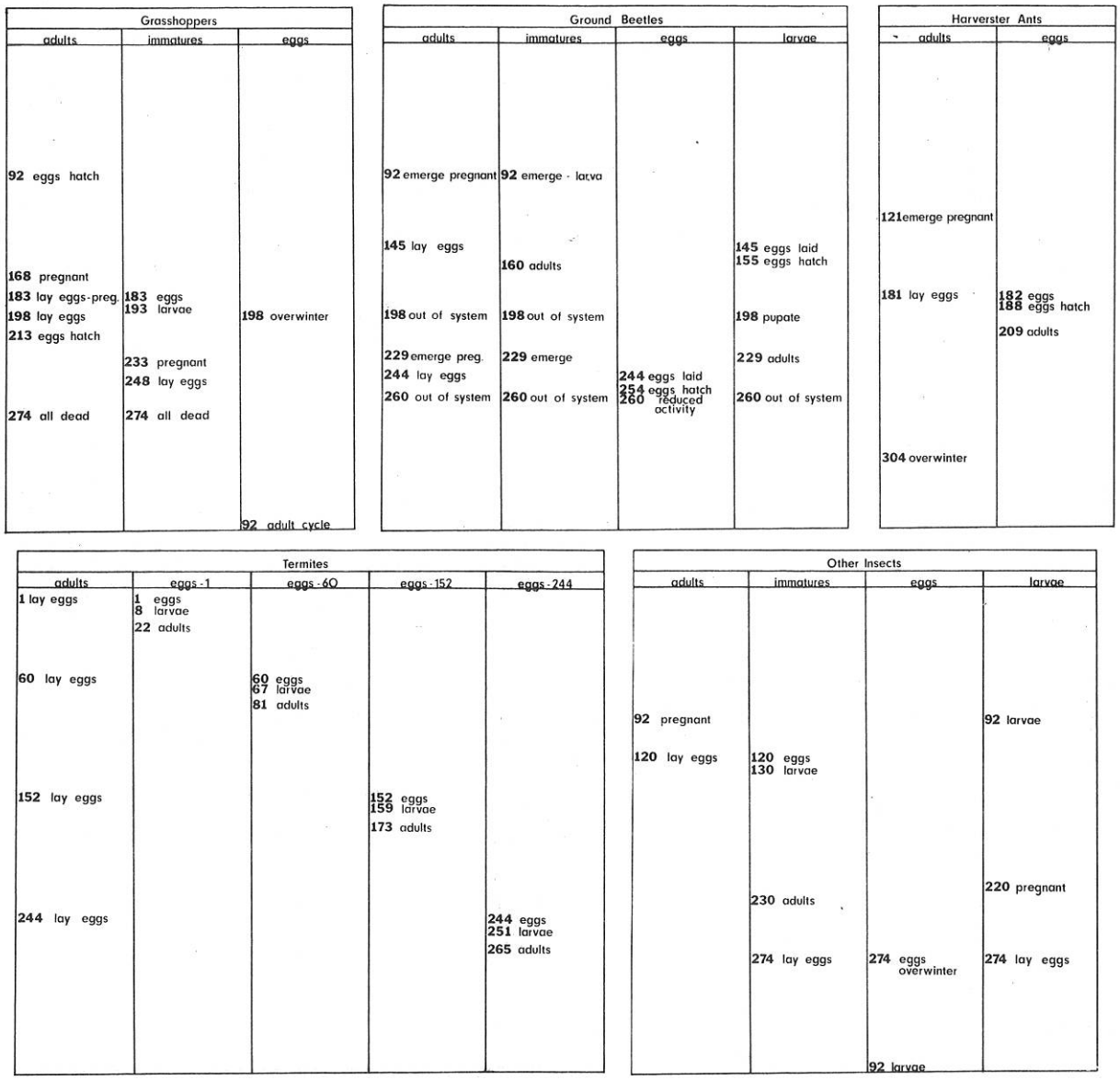

Figure 4, continued

Table 1. State variable initial conditions values (g/ha) for Jornada bajada. Initial conditions date -- April 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Larrea d.						
Leaves	12375.00	21825.00	54900.00	990.00	9000.00	Note 1
Stems	132514.00	208878.00	592944.00	10556.00	89840.00	
Fruits	1460.00	1820.00	6240.00	116.00	800.00	
Roots	112100.00	127300.00	678300.00	8930.00	76000.00	
Xanthocephalum s.						
Leaves	1032.00	1290.00	2863.00	82.56	516.00	Note 1
Stems	340.20	1522.80	4422.60	27.54	648.00	Note 2
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	186.00	576.60	1612.00	14.88	248.00	
Baileya m.						
Leaves	2940.00	4527.60	12936.00	235.20	2352.00	Note 1
Stems	470.00	2185.00	6110.00	37.60	940.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	1315.00	4891.80	14044.20	105.20	2104.00	
Eriogonum r.						
Leaves	0.00	0.00	0.00	0.00	0.00	Note 1
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.00	0.00	0.00	0.00	0.00	
Muhlenbergia p.						
Leaves	56.55	123.25	356.70	4.49	58.00	Note 1
Fruits	4.13	1.47	13.72	0.33	2.80	
Roots	5100.00	18768.00	48960.00	408.00	8160.00	

Table 2. Seed pool initial conditions values (g/ha) for Jornada bajada. Initial conditions date -- April 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Larrea d.	1825.00	2275.00	7800.00	117.50	1000.00	PC Dr. J. Ludwig; Note 8
Xanthocephalum s.	750.00	1380.00	3960.00	60.00	600.00	PC Dr. J. Ludwig; Note 8
Baileya m.	70.00	127.00	369.00	5.60	56.00	PC Dr. J. Ludwig; Note 8
Eriogonum r.	205.00	381.00	1082.00	16.40	164.00	PC Dr. W. Whitford; Note 8
Muhlenbergia p.	4.13	1.47	13.72	0.33	2.80	PC Dr. J. Ludwig; Note 8

Table 3. Allocation of photosynthate to various organs expressed as a fraction of the total. Jornada bajada (CARBOF)

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Source
Larrea d.				
Leaves	0.138	0.244	0.618	Note 3; RM 73-4
Stems	0.141	0.223	0.636	
Fruits	0.153	0.191	0.656	
Roots	0.122	0.138	0.740	
Xanthocephalum s.				
Leaves	0.199	0.248	0.553	Note 3; RM 73-4
Stems	0.054	0.242	0.704	
Fruits	0.123	0.226	0.651	
Roots	0.078	0.242	0.680	
Baileya m.				
Leaves	0.144	0.221	0.635	Note 4; Note 5; RM 73-4
Stems	0.053	0.249	0.698	
Fruits	0.123	0.224	0.653	
Roots	0.064	0.241	0.695	
Eriogonum r.				
Leaves	0.199	0.248	0.553	Note 3; RM 73-4
Stems	0.054	0.242	0.704	
Fruits	0.122	0.228	0.650	
Roots	0.076	0.238	0.686	
Muhlenbergia p.				
Leaves	0.105	0.229	0.666	Note 3; RM 73-4
Fruits	0.213	0.076	0.711	
Roots	0.007	0.257	0.673	

Table 4. Allocation of seed reserve carbon to leaves, stems and roots during germination (GERM, GERMR) for Jornada bajada

Species	Leaves	Stems	Roots	Translocation rate (gm gm^{-1} day^{-1})	Source
Larrea d.	0.680	0.280	0.040	0.008	Note 6
Xanthocephalum s.	0.680	0.280	0.040	0.008	Note 6
Baileya m.	0.680	0.200	0.120	0.017	Note 6
Eriogonum r.	0.680	0.200	0.120	0.017	Note 6
Muhlenbergia p.	0.470	0.000	0.530	0.033	Note 6

Table 5. Apportioning of new photosynthate to each organ by phenophase (PHENOF). Jornada bajada

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Sixth Phenophase	Source
Larrea d.							
Leaves	0.44	0.44	0.68	0.68	0.44	0.00	RM 73-4; Note 4, Note 4
Stems	0.42	0.42	0.20	0.20	0.42	0.00	
Fruits	0.00	0.00	0.06	0.06	0.00	0.00	
Roots	0.14	0.14	0.08	0.08	0.14	0.00	
Xanthocephalum s.							
Leaves	0.68	0.68	0.68	0.68	0.00	0.00	RM 73-4; Note 3, Note 4
Stems	0.28	0.28	0.28	0.28	0.00	0.00	
Fruits	0.00	0.00	0.00	0.04	0.00	0.00	
Roots	0.04	0.04	0.04	0.04	0.00	0.00	
Baileya m.							
Leaves	0.68	0.68	0.68	0.00	0.00	0.00	RM 73-4; Note 3, Note 4, Note 5
Stems	0.20	0.20	0.00	0.00	0.00	0.00	
Fruits	0.00	0.08	0.08	0.00	0.00	0.00	
Roots	0.12	0.04	0.04	0.00	0.00	0.00	
Eriogonum r.							
Leaves	0.68	0.68	0.00	0.68	0.68	0.00	RM 73-4; Note 3, Note 4, Note 5
Stems	0.20	0.20	0.00	0.20	0.20	0.00	
Fruits	0.08	0.08	0.00	0.00	0.00	0.00	
Roots	0.04	0.04	0.00	0.12	0.12	0.00	
Muhlenbergia p.							
Leaves	0.47	0.47	0.47	0.00	0.00	0.00	RM 73-4; Note 3, Note 4
Fruits	0.04	0.00	0.00	0.00	0.00	0.00	
Roots	0.49	0.53	0.58	0.00	0.00	0.00	

Table 6. Photosynthetic rate by species for each phenophase (PHRATE) expressed as g carbon fixed per g carbon in photosynthetic tissue per day. Jornada bajada

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Sixth Phenophase	Source
Larrea d.	0.126	0.126	0.080	0.008	0.127	0.000	RM 73-4; Note 3, Note 4, Note 5
Xanthocephalum s.	0.310	0.310	0.055	0.310	0.000	0.000	
Baileya m.	0.550	0.055	0.000	0.310	0.310	0.000	
Eriogonum r.	0.658	0.658	0.658	0.000	0.000	0.000	

Table 7. Mortality rates for each organ of a given species during each phenophase (RATLTD) for Jornada bajada (g dead per g organ per day)

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Sixth Phenophase	Source
Larrea d.							
Leaves	0.000	0.000	0.000	0.000	0.000	0.020	RM 73-4; Note 7
Stems	0.000	0.000	0.000	0.000	0.000	0.020	
Fruits	0.000	0.000	0.000	0.000	0.000	0.020	
Roots	0.000	0.000	0.000	0.000	0.000	0.000	
Xanthocephalum s.							
Leaves	0.000	0.000	0.000	0.000	0.020	0.020	Note 73-4; Note 7
Stems	0.000	0.000	0.000	0.000	0.020	0.020	
Fruits	0.000	0.000	0.000	0.000	0.020	0.020	
Roots	0.000	0.000	0.000	0.000	0.020	0.010	
Baileya m.							
Leaves	0.000	0.000	0.000	0.020	0.020	0.020	RM 73-4; Note 7
Stems	0.000	0.000	0.000	0.020	0.020	0.020	
Fruits	0.000	0.000	0.000	0.020	0.020	0.020	
Roots	0.000	0.000	0.000	0.001	0.010	0.001	
Eriogonum r.							
Leaves	0.000	0.000	0.020	0.000	0.000	0.020	RM 73-4; Note 7
Stems	0.000	0.000	0.020	0.000	0.000	0.020	
Fruits	0.000	0.000	0.020	0.000	0.000	0.020	
Roots	0.000	0.000	0.020	0.000	0.000	0.020	
Muhlenbergia p.							
Leaves	0.000	0.000	0.000	0.028	0.020	0.020	RM 73-4; Note 7
Fruits	0.000	0.000	0.000	0.028	0.020	0.020	
Roots	0.000	0.000	0.000	0.028	0.020	0.020	

Table 8. Nitrogen and ash transfer to each organ of a given species expressed as a ratio to carbon transfer. Jornada bajada (RATIO)

Species	Nitrogen	Ash	Source
Larrea d.			
Leaves	0.044	0.101	RM 73-4; Note 9
Stems	0.045	0.096	
Fruits	0.049	0.084	
Roots	0.039	0.082	
Xanthocephalum s.			
Leaves	0.063	0.099	RM 73-4; Note 9
Stems	0.017	0.103	
Fruits	0.039	0.098	
Roots	0.025	0.104	
Baileya m.			
Leaves	0.046	0.115	RM 73-4; Note 9
Stems	0.017	0.107	
Fruits	0.039	0.098	
Roots	0.020	0.103	
Eriogonum r.			
Leaves	0.063	0.099	RM 73-4; Note 9
Stems	0.017	0.103	
Fruits	0.039	0.098	
Roots	0.024	0.102	
Muhlenbergia p.			
Leaves	0.032	0.108	RM 73-4; Note 9
Fruits	0.068	0.144	
Roots	0.022	0.112	

Table 9. Allocation of photosynthate to various organs expressed as a fraction of the total. Jornada bajada (CARBOF)

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Source
Larrea d.				
Leaves	0.138	0.244	0.618	Note #3; RM 73-4
Stems	0.141	0.223	0.636	
Fruits	0.153	0.191	0.656	
Roots	0.122	0.138	0.740	
Xanthocephalum s.				
Leaves	0.199	0.238	0.553	Note #3; RM 73-4
Stems	0.054	0.242	0.704	
Fruits	0.123	0.226	0.651	
Roots	0.078	0.242	0.680	
Baileya m.				
Leaves	0.144	0.221	0.635	Note #4; Note #5; RM 73-4
Stems	0.053	0.249	0.698	
Fruits	0.123	0.242	0.653	
Roots	0.064	0.241	0.695	
Eriogonum r.				
Leaves	0.199	0.248	0.553	Note #3; RM 73-4
Stems	0.054	0.242	0.704	
Fruits	0.122	0.228	0.650	
Roots	0.076	0.238	0.686	
Muhlenbergia p.				
Leaves	0.105	0.229	0.666	Note #3; RM 73-4
Fruits	0.213	0.076	0.711	
Roots	0.007	0.257	0.673	

Table 10. Initial condition values (g/ha) for the Jornada bajada. Initial conditions date -- April 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onamidophorus t.						
Adult	9.85600	31.59000	7.83200	4.30500	7.16900	RM 73-4; Note 3; PC Dr. W. Whitford
Young adult	---	---	---	---	---	
Juvenile	---	---	---	---	---	
Uta s.						
Adult	0.18200	0.58300	0.14450	0.07947	0.13790	
Young adult	0.00384	0.01230	0.00305	0.00168	0.00291	
Juvenile	---	---	---	---	---	
Grasshoppers						
Adult	15.13000	48.50000	12.02000	6.61000	11.47000	
Eggs	---	---	---	---	---	
Immature	---	---	---	---	---	

Table 10, continued

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Ground beetles						
Adult	0.43210	1.38500	0.34340	0.18880	0.32750	
Immature	---	---	---	---	---	
Eggs	2.59500	8.31600	2.06200	1.13300	1.96600	
Larvae	---	---	---	---	---	
Other insects						
Adult	2.55600	8.19100	2.03100	1.11600	1.93700	
Immature	---	---	---	---	---	
Larvae	---	---	---	---	---	
Egg	0.69000	2.21100	0.54830	0.30140	0.52290	
Dipodomys m.						
Adult	21.36000	68.45000	16.97000	9.33000	16.19000	
Juvenile	6.84500	19.17000	4.75300	2.61300	4.53300	
Lepus c.						
Adult	30.73000	98.47000	24.42000	13.42000	23.24000	
Young adult	92.19000	295.40000	73.26000	40.27000	69.27000	
Juvenile	---	---	---	---	---	
Ants (Colony)						
Adult	0.59000	0.27100	0.46900	0.25800	0.44700	
Eggs	---	---	---	---	---	
Termites (Colony)						
Adult	49.10000	157.58000	39.17000	21.48000	37.27000	
Egg	---	---	---	---	---	
Egg - 66	---	---	---	---	---	
Egg - 152	---	---	---	---	---	
Egg - 244	---	---	---	---	---	

Table 11. Assimilation efficiencies by chemical constituent and cohort (g assimilated/g consumed) for the Jornada bajada (COEFF). Season 1; seasons defined in Figure 3

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	0.85	0.90	0.15	0.85	0.17	Note 10
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Uta s.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Ground beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Ants (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 12. Assimilation efficiencies by chemical constituent and cohort (g assimilated/g consumed) for the Jornada bajada (COEFF). Season 2; seasons defined in Figure 3

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	0.85	0.90	0.15	0.85	0.17	Note 10
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Uta s.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Ground beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	

Table 12, continued

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Ants (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Egg-66	--	--	--	--	--	
Egg-152	--	--	--	--	--	
Egg-244	--	--	--	--	--	

Table 13. Assimilation efficiences by chemical constituent and cohort (g assimilated/g consumed) for the Jornada bajada (COEFF). Season 3; seasons defined in Figure 3

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						Note 10
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Uta s.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Immature	--	--	--	--	--	
Ground beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adults	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Ants (Colony)						
Adult	--	--	--	--	--	
Eggs	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 14. Assimilation efficiencies by chemical constituent and cohort (g assimilated/g consumed) for the Jornada bajada (COEFF). Season 4; seasons defined in Figure 3

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						Note 10
Adult	--	--	--	--	--	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Uta s.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Immature	--	--	--	--	--	
Ground beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adult	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	--	--	--	--	--	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	-	--	
Ants (Colony)						
Adult	--	--	--	--	--	
Eggs	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 15. Assimilation efficiencies by chemical constituent and cohort (g assimilated/g consumed for the Jornada bajada (COEFF). Season 5; seasons defined in Figure 3

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						Note 10
Adult	--	--	--	--	--	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Uta s.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Immature	--	--	--	--	--	
Ground beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adult	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	--	--	--	--	--	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.90	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Ants (Colony)						
Adult	--	--	--	--	--	
Eggs	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.90	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 16. Assimilation efficiencies by chemical constituent and cohort (g assimilated/g consumed) for the Jornada bajada (COEFF). Season 6; seasons defined in Figure 3

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						Note 10
Adult	--	--	--	--	--	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Uta s.						
Adult	--	--	--	--	--	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Grasshoppers						
Adult	--	--	--	--	--	
Eggs	--	--	--	--	--	
Immature	--	--	--	--	--	
Ground beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	--	--	--	--	--	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adult	--	--	--	--	--	
Immature	--	--	--	--	--	
Larvae	--	--	--	--	--	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	--	--	--	--	--	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Ants (Colony)						
Adult	--	--	--	--	--	
Eggs	--	--	--	--	--	
Termites (Colony)						
Adult	--	--	--	--	--	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 17. Maximum respiration rate by season for each cohort [(g carbon respired) (g body protein carbon 2/3)$^{-1}$ day^{-1}] for the Jornada bajada. Seasons as defined in Figure 3

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 11
Adult	0.01	0.01	0.00	--	--	--	
Young adult	0.00	0.01	0.01	0.01	0.01	0.00	
Juvenile	0.00	0.01	0.01	0.00	--	--	
Uta s.							
Adult	0.01	0.01	0.01	0.01	0.00	--	
Young adult	0.00	0.01	0.01	0.01	0.01	0.00	
Juvenile	0.00	0.01	0.01	0.00	--	--	
Grasshoppers							
Adult	0.01	0.01	0.01	0.01	0.01	--	
Eggs	0.01	0.01	0.01	0.01	--	--	
Immature	0.00	0.00	--	--	--	--	
Ground beetles							
Adult	0.01	0.01	0.00	0.01	0.01	0.00	
Immature	0.01	0.01	0.00	0.01	0.00	--	
Egg	0.00	0.01	0.01	0.01	--	--	
Larvae	0.00	0.01	0.01	0.00	0.01	0.00	

Table 17, continued

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Other insects							
Adults	0.01	0.01	--	--	--	--	
Young adult	0.00	0.01	0.01	0.01	0.00	--	
Larvae	0.01	0.01	0.01	--	--	--	
Egg	0.00	0.00	--	--	--	--	
Dipodomys m.							
Adult	0.01	0.01	0.01	--	--	--	
Juvenile	0.01	0.01	0.01	--	--	--	
Lepus c.							
Adult	0.01	0.01	0.01	0.01	0.01	--	
Young adult	0.01	0.01	0.01	--	--	--	
Juvenile	0.01	--	--	--	--	--	
Ants (Colony)							
Adult	0.01	0.01	0.00	--	--	--	
Eggs	0.01	0.01	0.00	--	--	--	
Termites (Colony)							
Adult	0.01	0.01	0.01	0.01	--	--	
Egg	0.01	0.01	0.00	--	--	--	
Egg - 66	0.01	0.01	0.00	--	--	--	
Egg -152	0.01	0.01	0.00	--	--	--	
Egg -244	0.01	0.01	0.00	--	--	--	

Table 18. Number of young produced during a given season by species (young per individual) for the Jornada bajada (BIRTHN). Seasons as defined in Figure 3

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.	--	2.50	--	--	2.50	--	Note 12; PC Dr. W. Whitford
Uta s.	--	2.00	2.00	2.00	2.00	--	
Grasshoppers	--	--	175.00	175.00	175.00	--	
Ground beetles	--	200.00	--	--	200.00	--	
Other insects	--	400.00	400.00	--	400.00	--	
Dipodomys m.	--	1.50	--	--	--	--	
Lepus c.	--	1.00	2.00	3.00	2.00	--	
Ants (Colony)	--	0.12	--	--	--	--	
Termites (Colony)	39.00	50.00	50.00	8.00	--	--	

Table 19. Birth weight of offspring for each species and chemical constituent (g/ha) for the Jornada bajada (BIRTHW). Season 2; seasons as defined in Figure 3

Species	Protein Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	0.03073	0.09849	0.02442	0.01343	0.02329	Note 13; PC Dr. W. Whitford
Uta s.	0.00769	0.02464	0.00611	0.00336	0.00582	
Grasshoppers	---	---	---	---	---	
Ground beetles	0.00133	0.00426	0.001060	0.00058	0.00101	
Other insects	0.00040	0.00128	0.00032	0.00017	0.00030	
Dipodomys m.	0.25700	0.84100	0.20500	0.11300	0.19500	
Lepus c.	5.53300	17.73000	4.39600	2.41600	4.19300	
Ants (Colony)	0.01940	0.06230	0.01540	2008490	0.01470	
Termites (Colony)	0.25590	0.78800	0.19540	0.10740	0.18640	

Table 20. Birth weight of offspring for each species and chemical constituent (g/ha) for the Jornada bajada (BIRTHW). Season 3; seasons as defined in Figure 3

Species	Protein Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	---	---	---	---	---	Note 13; PC Dr. W. Whitford
Uta s.	0.00769	0.02464	0.00611	0.00336	0.00582	
Grasshoppers	0.00266	0.00851	0.00211	0.00116	0.00201	
Ground beetles	---	---	---	---	---	
Other insects	0.00040	0.00128	0.00032	0.00017	0.00030	
Dipodomys m.	---	---	---	---	---	
Lepus c.	5.53300	17.73000	4.39600	2.41600	4.19300	
Ants (Colony)	---	---	---	---	---	
Termites (Colony)	0.25590	0.78800	0.19540	0.10740	0.18640	

Table 21. Birth weight of offspring for each species and chemical constituent (g/ha) for the Jornada bajada (BIRTHW). Season 4; seasons as defined in Figure 3

Species	Protein Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	---	---	---	---	---	Note 13; PC Dr. W. Whitford
Uta s.	0.00769	0.02464	0.00611	0.00336	0.00582	
Grasshoppers	0.00266	0.00851	0.00211	0.00116	0.00201	
Ground beetles	---	---	---	---	---	
Other insects	---	---	---	---	---	
Dipodomys m.	---	---	---	---	---	
Lepus c.	5.53300	17.73000	4.39600	2.41600	4.19300	
Ants (Colony)	---	---	---	---	---	
Termites (Colony)	0.25540	0.78800	0.19540	0.10740	0.18640	

Table 22. Birth weight of offspring for each species and chemical constituent (g/ha) for the Jornada bajada (BIRTHW). Season 5; seasons as defined in Figure 3

Species	Protein Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	0.03073	0.09849	0.24420	0.01343	0.02329	Note 13; PC Dr. W. Whitford
Uta s.	0.00769	0.02464	0.00611	0.00336	0.00582	
Grasshoppers	0.00266	0.00851	0.00211	0.00116	0.00201	
Ground beetles	0.00133	0.00426	0.00106	0.00058	0.00101	
Other insects	0.00040	0.00128	0.00032	0.00017	0.00030	
Dipodomys m.	---	---	---	---	---	
Lepus c.	5.53300	17.73000	4.39600	2.41600	4.19300	
Ants (Colony)	---	---	---	---	---	
Termites (Colony)	---	---	---	---	---	

Table 23. Maximum feeding rate by season for each cohort [(g consumed)(g body weight)$^{-1}$ day^{-1}] for the Jornada bajada (A). Seasons as defined in Figure 3

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 14; PC Dr. W. Whitford
Adult	0.1300	0.1200	--	--	--		
Young adult	--	--	0.1600	0.1300	0.1200		
Juvenile	--	--	0.1800	--	--		
Uta s.							
Adult	0.1760	0.1760	0.1760	0.1600	--		
Young adult	--	--	0.2400	0.1760	0.1600		
Juvenile	--	--	0.2000	--	--		
Grasshoppers							
Adult	0.5000	0.4400	0.4400	0.4400	0.4000		
Eggs	--	--	--	--	--		
Immature	0.4000	0.4400	--	--	--		
Ground beetles							
Adult	0.4400	0.4000	--	0.4400	0.4000		
Immature	0.5000	0.4000	--	0.4000	--		
Egg	--	--	--	--	--		
Larvae	--	--	0.5000	--	0.4000		
Other insects							
Adult	0.4000	0.4000	--	--	--		
Immature	--	--	0.4500	0.5000	0.4000		
Larvae	0.4500	0.5000	0.4000	--	--		
Egg	--	--	--	--	--		
Dipodomys m.							
Adult	0.1000	0.1270	0.0918	--	--		
Juvenile	0.1800	0.1100	0.0918	--	--		
Lepus c.							
Adult	0.0880	0.0880	0.0880	0.0880	0.0800		
Young adult	0.1100	0.0880	0.0880	--	--		
Juvenile	0.0950	--	--	--	--		
Ants (Colony)							
Adult	0.6000	0.6000	--	--	--		
Eggs	--	--	--	--	--	--	
Termites (Colony)							
Adult	0.8000	0.9000	1.0000	0.9000	--	--	
Egg	--	--	--	--	--	--	
Egg - 66	--	--	--	--	--	--	
Egg - 152	--	--	--	--	--	--	
Egg - 244	--	--	--	--	--	--	

Table 24. Fraction of population which suffers non-predatory mortality by season and cohort for the Jornada bajada (DEATH). Seasons as defined in Figure 3

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 15; PC. Dr. W. Whitford
Adult	0.0016	0.0016	0.0037				
Young adult		0.0708	0.0046	0.0046	0.0046	0.0037	
Juvenile		0.0708	0.1124	0.0037			
Uta s.							
Adult	0.0012	0.0012	0.0012	0.0012	0.0740		
Young adult		0.0908	0.0014	0.0014	0.0014	0.0074	
Juvenile		0.0228	0.0016	0.0074			
Grasshoppers							
Adult	0.0710	0.0710	0.0710	0.0710	0.0710		
Eggs	0.0114	0.0344	0.2589	0.2589			
Immature		0.0023					
Ground beetles							
Adult	0.0009	0.0009	0.0165	0.0035	0.0035	0.0025	
Immature	0.0053	0.0028	0.0165	0.0035	0.0025		
Egg		0.0105	0.0577	0.0025			
Larvae		0.0105	0.0083	0.0016	0.0035	0.0025	
Other insects							
Adult	0.0371	0.0371					
Immature		0.0876	0.0055	0.0055	0.0055		
Larvae	0.0048	0.0048	0.0055				
Egg		0.0037					
Dipodomys m.							
Adult	0.0020	0.0020	0.0020				
Juvenile	0.0020	0.0020	0.0020				
Lepus c.							
Adult	0.0046	0.0046	0.0046	0.0046	0.0046		
Young adult	0.0046	0.0046	0.0046				
Juvenile	0.0046						
Ants (Colony)							
Adult	0.0280	0.0280	0.0280				
Eggs	0.0147	0.0001					
Termites (Colony)							
Adult	0.0371	0.0371	0.0371	0.0371			
Egg	0.0147	0.0001					
Egg - 66	0.0147	0.0001					
Egg - 152	0.0147	0.0001					
Egg - 244	0.0147	0.0001					

Table 25. Protein increment for each cohort by seasons [(g protein incremented)(g total body protein)$^{-1}$ day^{-1}] for the Jornada bajada (GROW). Seasons defined in Figure 3

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 16
Adult	0.0026	--	0.0970	--	--	--	
Young adult	--	--	--	--	--	--	
Juvenile	--	--	0.6590	--	0.3050	--	
Uta s.							
Adult	0.0280	0.0280	0.0280	--	--	--	
Young adult	--	--	--	0.0280	--	--	
Juvenile	--	--	0.0190	--	--	--	
Grasshoppers							
Adult	0.0460	0.1900	0.1900	0.1900	--	--	
Eggs	--	0.0810	0.1900	--	--	--	
Immature	--	--	--	--	--	--	
Ground beetles							
Adult	0.0850	--	--	0.300	--	--	
Immature	0.0103	--	--	--	--	--	
Egg	--	--	0.0032	0.0032	--	--	
Larvae	--	--	0.0162	--	--	--	
Other Insects							
Adult	0.0990	--	--	--	--	--	
Immature	--	--	--	0.0620	--	--	
Larvae	0.0190	0.0500	0.0240	--	--	--	
Egg	--	--	--	--	--	--	
Dipodomys m.							
Adult	0.0055	--	--	--	--	--	
Juvenile	0.0335	0.0335	--	--	--	--	
Lepus c.							
Adult	0.0020	0.0030	0.0050	0.0030	--	--	
Young adult	0.1280	0.0030	--	--	--	--	
Juvenile	0.0397	--	--	--	--	--	
Ants (Colony)							
Adult	0.0003	--	--	--	--	--	
Eggs	0.1680	--	--	--	--	--	
Termites (Colony)							
Adult	0.0304	0.0197	0.0264	0.0132	--	--	
Egg	0.4228	--	--	--	--	--	
Egg - 66	0.4228	--	--	--	--	--	
Egg - 152	0.4228	--	--	--	--	--	
Egg - 244	0.4228	--	--	--	--	--	

Table 26. Reserve carbon increment for each cohort by season [(g reserve carbon)(g total body protein carbon)$^{-1}$ day^{-1}] for the Jornada bajada (GROW). Seasons as defined in Figure 3

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 16
Adult	0.0073	--	0.0073	--	--	--	
Young adult	--	--	--	--	--	--	
Juvenile	--	--	--	--	--	--	
Uta s.							
Adult	0.0910	0.0910	0.0910	0.0910	--	--	
Young adult	--	--	--	--	--	--	
Juvenile	--	--	--	--	--	--	
Grasshoppers							
Adult	0.6100	0.6100	0.6100	0.6100	--	--	
Eggs	--	--	--	--	--	--	
Immature	--	--	--		--	--	
Ground beetles							
Adult	0.2700	--	--	1.0700	--	--	
Immature	--	--	--	--	--	--	
Egg	--	--	--	--	--	--	
Larvae	--	--	--	--	--	--	
Other insects							
Adult	0.3200	--	--	--	--	--	
Immature	--	--	--	0.2000	--	--	
Larvae	--	0.1600	--	--	--	--	
Egg	--	--	--	--	--	--	
Dipodomys m.							
Adult	0.0180	--	--	--	--	--	
Juvenile	--	--	--	--	--	--	
Lepus c.							
Adult	0.00641	0.00961	0.01600	0.00961	--	--	
Young adult	--	0.00961	--	--	--	--	
Juvenile	--	--	--	--	--	--	
Ants (Colony)							
Adult	0.00096	--	--	--	--	--	
Eggs	--	--	--	--	--	--	
Termites (Colony)							
Adult	0.09740	0.09030	0.08460	0.04230	--	--	
Egg	--	--	--	--	--	--	
Egg - 66	--	--	--	--	--	--	
Egg - 152	--	--	--	--	--	--	
Egg - 244	--	--	--	--	--	--	

Table 27. Structural carbon increment for each cohort by season [(g structural carbon)(g total body protein carbon)$^{-1}$ day^{-1}] for the Jornada bajada (GROW). Seasons as defined in Figure 3

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 16
Adult	0.0018	--	0.0250	--	--	--	
Young adult	--	--	--	--	--	--	
Juvenile	--	--	0.2310	--	--	--	
Uta s.							
Adult	0.0220	0.0220	0.0220	0.0220	--	--	
Young adult	--	--	0.1360	--	--	--	
Juvenile	--	--	0.0076	--	--	--	
Grasshoppers							
Adult	0.0187	0.1500	0.1500	0.1500	--	--	
Eggs	--	--	0.1500	--	--	--	
Immature	--	0.0035	--	--	--	--	
Ground Beetles							
Adult	0.0680	--	--	0.2700	--	--	
Immature	0.0053	--	--	--	--	--	
Egg	--	--	0.0016	0.0016	--	--	
Larvae	--	--	0.0083	--	--	--	

Table 27, continued

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Other insects							
Adult	0.0790	--	--	--	--	--	
Immature	--	--	0.0120	0.0500	--	--	
Larvae	0.0096	0.0400	--	--	--	--	
Egg	--	--	--	--	--	--	
			--				
Dipodomys m.							
Adult	0.0044	--	--	--	--	--	
Juvenile	0.0013	0.0013	--	--	--	--	
Lepus c.							
Adult	0.00159	0.00239	0.00398	0.00239	--	--	
Young adult	0.01960	0.00239	--	--	--	--	
Juvenile	0.00580	--	--	--	--	--	
Ants (Colony)							
Adult	0.00024	--	--	--	--	--	
Eggs	--	0.05380	--	--	--	--	
Termites (Colony)							
Adult	0.02420	0.01570	0.02100	0.01050	--	--	
Egg	--	0.10690	--	--	--	--	
Egg - 66	--	0.10690	--	--	--	--	
Egg - 152	--	0.10690	--	--	--	--	
Egg - 244	--	0.10690	--	--	--	--	

Table 28. State variable initial condition values (g/ha) for the Jornada playa. Initial conditions date -- April 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Ephedra t.						
Stems	83.30	227.85	683.55	26.65	98.00	Note 1
Fruits	36.60	81.90	26.76	12.36	46.80	
Roots	660.80	3304.00	10407.60	211.46	1652.00	
Xanthocephalum s.						
Leaves	39.00	96.20	321.10	12.48	52.00	Note 1
Stems	22.80	169.10	514.90	7.30	76.00	Note 2
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	8.54	553.88	564.37	2.73	24.40	
		*				
Hilaria m.						
Leaves	1045.20	2278.00	6592.80	334.46	1072.00	Note 1
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	32891.60	187952.00	592048.80	10525.31	93976.00	
Bouteloua b.						
Leaves	0.00	0.00	0.00	0.00	0.00	Note 1
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.00	0.00	0.00	0.00	0.00	
Xanthium s.						
Leaves	0.00	0.00	0.00	0.00	0.00	Note 1
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.01	0.01	0.01	0.01	0.01*	
Euphorbia s.						
Leaves	0.00	0.00	0.00	0.00	0.00	Note 1
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	0.00	0.00	0.00	0.00	0.00	
Panicum o.						
Leaves	1144.00	1300.00	4264.00	16640.00	2080.00	Note 1
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.06	0.42	0.14	0.64	0.08	
Roots	450.00	8099.00	2571.00	10284.00	1285.00	
Prosopis g.						
Leaves	110.00	194.00	488.00	8.80	88.00	Note 1
Stems	184670.00	291090.00	826320.00	1471.00	125209.00	
Fruits	0.00	0.00	0.00	0.00	0.00	
Roots	2832000.00	331600.00	1713600.00	22560.00	192000.00	

* Trace

Table 29. Seed pool initial condition values (g/ha) for the Jornada playa. Initial conditions date -- April 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Ephedra t.	488.40	1036.00	3374.00	156.29	592.00	PC Dr. J. Ludwig; Note 8
Xanthocephalum s.	450.00	1320.00	3945.00	144.00	600.00	PC Dr. J. Ludwig; Note 8
Hilaria m.	0.00	0.00	0.00	0.00	0.00	
Bouteloua b.	330.00	700.00	2110.00	105.60	400.00	PC Dr. J. Ludwig; Note 8
Xanthium s.	300.00	800.00	2300.00	100.00	400.00	PC Dr. J. Ludwig; Note 8
Euphorbia s.	2.97	880.00	2630.00	96.00	400.00	PC Dr. W. Whitford; Note 8
Panicum o.	4000.00	14.00	6.30	28.80	3.60	PC Dr. J. Ludwig; Note 8
Prosopis g.		5000.00	14000.00	200.00	2000.00	PC Dr. J. Ludwig; Note 8

Table 30. Allocations of photosynthate to the various organs expressed as a decimal fraction of the total. Jornada playa (CARBOF)

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Source
Ephedra t.				
Leaves	0.000	0.000	0.000	Note 3 using values based on *Larrea*,
Stems	0.083	0.229	0.688	biomass data from RM 73-4
Fruits	0.099	0.211	0.690	
Roots	0.045	0.229	0.726	
Xanthocephalum s.				
Leaves	0.085	0.210	0.705	Note 3 using values based on *Lycium*
Stems	0.032	0.239	0.729	and *Ambrosia* data, biomass data from
Fruits	0.078	0.230	0.692	RM 73-4
Roots	0.007	0.491	0.502	
Hilaria m.				
Leaves	0.105	0.229	0.666	Note 4, Note 5, RM 73-4
Stems	0.000	0.000	0.000	
Fruits	0.105	0.222	0.673	
Roots	0.040	0.231	0.729	

Table 30, continued

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Source
Bouteloua b.				
Leaves	0.620	0.231	0.707	Note 4, Note 5, RM 73-4
Stems	0.000	0.000	0.000	
Fruits	0.105	0.222	0.673	
Roots	0.040	0.231	0.729	
Xanthium s.				
Leaves	0.085	0.210	0.705	Note 3, RM 73-4
Stems	0.320	0.239	0.729	
Fruits	0.078	0.230	0.692	
Roots	0.040	0.231	0.729	
Euphorbia s.				
Leaves	0.085	0.210	0.705	Note 3, based on *Lycium* and *Ambrosia*
Stems	0.032	0.239	0.729	values
Fruits	0.078	0.230	0.692	
Roots	0.040	0.231	0.729	
Panicum o.				
Leaves	0.085	0.210	0.705	Note 4, Note 5, RM 73-4
Stems	0.032	0.239	0.729	
Fruits	0.078	0.230	0.692	
Roots	0.040	0.231	0.729	
Prosopis g.				
Leaves	0.138	0.244	0.618	Note 3, based on *Lycium* and *Ambrosia*
Stems	0.141	0.223	0.636	values
Fruits	0.153	0.191	0.656	
Roots	0.122	0.138	0.740	

Table 31. Allocation of seed reserve carbon to leaves, stems and roots during germination (GERM, GERMR). Jornada playa

Species	Leaves	Stems	Roots	Translocation Rate (cm/cm/day)	Source
Ephedra t.	0.00	0.91	0.09	8×10^{-5}	Note 6
Xanthocephalum s.	0.68	0.28	0.04	8×10^{-5}	Note 6
Hilaria m.	0.47	0.00	0.53	.039	Note 6
Bouteloua b.	0.47	0.00	0.53	.039	Note 6
Xanthium s.	0.68	0.20	0.12	.039	Note 6
Euphorbia s.	0.68	0.20	0.12	.039	Note 6
Panicum o.	0.47	0.00	0.53	.009	Note 6
Prosopis g.	0.68	0.00	0.32	8×10^{-5}	Note 6

Table 32. Apportioning of new photosynthate to each organ by phenophase (PHENOF)

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Ephedra t.						
Leaves	0.00	0.00	0.00	0.00	0.00	RM 73-4; Note 3, Note 4
Stems	0.91	0.91	0.10	0.01	0.00	
Fruits	0.00	0.02	0.00	0.00	0.00	
Roots	0.09	0.07	0.90	0.99	0.00	
Xanthocephalum s.						
Leaves	0.68	0.68	0.68	0.08	0.00	RM 73-4; Note 3, Note 4
Stems	0.28	0.28	0.28	0.20	0.00	
Fruits	0.00	0.04	0.00	0.04	0.00	
Roots	0.04	0.00	0.04	0.68	0.00	
Hilaria m.						
Leaves	0.47	0.10	0.01	0.00	0.00	RM 73-4; Note 3, Note 4, Note 5
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.00	0.20	0.00	
Roots	0.53	0.90	0.90	0.80	0.00	
Bouteloua b.						
Leaves	0.95	0.95	0.55	0.00	0.00	RM 73-4; Note 3, Note 4
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.00	0.40	0.00	0.00	
Roots	0.05	0.05	0.05	0.00	0.00	
Xanthium s.						
Leaves	0.68	0.00	0.68	0.00	0.00	RM 73-4; Note 3, Note 4, Note 5
Stems	0.20	0.00	0.20	0.00	0.00	
Fruits	0.08	0.00	0.08	0.00	0.00	
Roots	0.04	0.00	0.04	0.00	0.00	
Euphorbia s.						
Leaves	0.68	0.20	0.20	0.00	0.00	RM 73-4; Note 3, Note 4
Stems	0.28	0.20	0.28	0.00	0.00	
Fruits	0.00	0.08	0.00	0.00	0.00	
Roots	0.04	0.52	0.52	1.00	0.00	
Panicum o.						
Leaves	0.60	0.80	0.30	0.02	0.00	Rm 73-4; Note 3, Note 4, Note 5
Stems	0.00	0.00	0.00	0.00	0.00	
Fruits	0.00	0.08	0.00	0.30	0.00	
Roots	0.40	0.12	0.70	0.68	0.00	
Prosopis g.						
Leaves	0.10	0.10	0.01	0.08	0.00	RM 73-4; Note 3, Note 4
Stems	0.10	0.20	0.20	0.24	0.00	
Fruits	0.00	0.02	0.04	0.04	0.00	
Roots	0.80	0.68	0.75	0.68	0.00	

Table 33. Photosynthetic rate by species for each phenophase (PHRATE) expressed as g carbon fixed per g carbon in photosynthetic tissue per day. Jornada playa

Species	First Phenophase	Second Phenophase	Third Phenophase	Fourth Phenophase	Fifth Phenophase	Source
Ephedra t.	0.000	0.009	0.117	0.000	0.000	RM 72-4; Note 3, Note 4, Note 5
Xanthocephalum s.	0.001	0.300	0.003	3.000	0.000	RM 73-4; Note 3, Note 4, Note 5
Hilaria m.	0.010	0.200	0.241	0.000	0.000	RM 73-4; Note 3, Note 4, Note 5
Bouteloua b.	0.001	0.200	0.241	0.000	0.000	RM 73-4; Note 3, Note 4, Note 5
Xanthium s.	0.826	0.000	3.500	0.000	0.000	RM 73-4; Note 3, Note 4, Note 5
Euphorbia s.	0.000	0.000	9.000	0.000	0.000	RM 73-4; Note 3, Note 4, Note 5
Panicum o.	0.400	0.900	19.000	0.010	0.000	RM 73-4; Note 3, Note 4, Note 5
Prosopis g.	0.006	0.006	0.000	0.000	0.000	RM 73-4; Note 3, Note 4, Note 5

Table 34. Mortality rates for each organ of each species during a given phenophase (g dead per g organ per day) (RATLTD). Jornada playa

Species	First Phenonhase	Second Phenonhase	Third Phenonhase	Fourth Phenonhase	Fifth Phenonhase	Source
Ephedra t.						
Leaves	0.000	0.000	0.000	0.000	0.000	RM 73-4; Note 7
Stems	0.000	0.000	0.000	0.010	0.020	
Fruits	0.000	0.000	0.000	0.000	0.010	
Roots	0.000	0.000	0.000	0.000	0.001	
Xanthocephalum s.						
Leaves	0.000	0.000	0.000	0.000	0.020	RM 73-4; Note 7
Stems	0.000	0.000	0.000	0.000	0.008	
Fruits	0.000	0.000	0.000	0.000	0.010	
Roots	0.000	0.000	0.000	0.000	0.002	
Hilaria m.						
Leaves	0.000	0.000	0.010	0.000	0.020	RM 73-4; Note 7
Stems	0.000	0.000	0.000	0.000	0.000	
Fruits	0.000	0.000	0.010	0.000	0.020	
Roots	0.000	0.000	0.000	0.000	0.002	
Bouteloua b.						
Leaves	0.000	0.000	0.000	0.020	0.020	RM 73-4; Note 7
Stems	0.000	0.000	0.000	0.000	0.000	
Fruits	0.000	0.000	0.000	0.020	0.020	
Roots	0.000	0.000	0.000	0.020	0.020	
Xanthium s.						
Leaves	0.000	0.010	0.000	0.010	0.010	RM 73-4; Note 7
Stems	0.000	0.010	0.000	0.010	0.010	
Fruits	0.000	0.010	0.000	0.010	0.010	
Roots	0.000	0.001	0.000	0.001	0.001	
Euphorbia s.						
Leaves	0.000	0.000	0.000	0.090	0.050	RM 73-4; Note 7
Stems	0.000	0.000	0.000	0.020	0.020	
Fruits	0.000	0.000	0.000	0.020	0.020	
Roots	0.000	0.000	0.000	0.020	0.020	
Panicum o.						
Leaves	0.000	0.000	0.080	0.010	0.020	RM 73-4; Note 7
Stems	0.000	0.000	0.010	0.000	0.020	
Fruits	0.000	0.000	0.010	0.000	0.020	
Roots	0.000	0.000	0.000	0.000	0.020	
Prosopis g.						
Leaves	0.000	0.030	0.000	0.020	0.040	RM 73-4; Note 7
Stems	0.000	0.010	0.000	0.020	0.020	
Fruits	0.000	0.000	0.000	0.020	0.020	
Roots	0.000	0.000	0.000	0.001	0.001	

Table 35. Nitrogen and ash transfer to each organ of a given species expressed as a ratio to carbon transfer. Jornada playa (RATIO)

Species	Nitrogen	Ash	Source
Ephedra t.			
Stems	0.026	0.098	RM 73-4; Note 9
Fruits	0.031	0.120	
Roots	0.014	0.114	
Xanthocephalum s.			
Leaves	0.027	0.113	RM 73-4; Note 9
Stems	0.010	0.107	
Fruits	0.025	0.104	
Roots	0.002	0.021	
Hilaria m.			
Leaves	0.033	0.108	RM 73-4; Note 9
Fruits	0.033	0.127	
Roots	0.012	0.115	
Bouteloua b.			
Leaves	0.019	0.112	RM 73-4; Note 9
Fruits	0.033	0.127	
Roots	0.012	0.115	
Xanthium s.			
Leaves	0.027	0.113	RM 73-4; Note 9
Stems	0.010	0.107	
Fruits	0.025	0.104	
Roots	0.012	0.115	
Euphorbia s.			
Leaves	0.027	0.113	RM 73-4; Note 9
Stems	0.010	0.107	
Fruits	0.025	0.104	
Roots	0.012	0.115	
Panicum o.			
Leaves	0.033	0.108	RM 73-4; Note 9
Fruits	0.033	0.127	
Roots	0.012	0.115	
Prosopis g.			
Leaves	0.044	0.101	RM 73-4; Note 9
Stems	0.045	0.096	
Fruits	0.049	0.084	
Roots	0.039	0.082	

Table 36. Initial condition values (g/ha) for Jornada playa animals. Initial condition date -- April 1, 1972

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	13.40000	42.94000	10.65000	5.85300	10.16000	RM 73-4; Note 3; PC. Dr. W. Whitford
Young adult	---	---	---	---	---	
Juvenile	---	---	---	---	---	
Phrynosoma						
Adult	0.61480	1.97000	0.48850	0.26860	0.46559	
Young adult	---	---	---	---	---	
Juvenile	---	---	---	---	---	
Grasshoppers						
Adult	0.30240	0.9692	0.24030	0.13210	0.22920	
Eggs	---	---	---	---	---	
Immature	---	---	---	---	---	
Ground Beetles						
Adult	0.53980	1.73000	0.42890	0.23580	0.40910	
Immature	---	---	---	---	---	
Egg	3.23100	10.35000	2.56700	1.41100	2.44900	
Larvae	---	---	---	---	---	
Other insects						
Adult	2.55600	8.19100	2.03100	1.11600	1.93700	
Immature	---	---	---	---	---	
Larvae	---	---	---	---	---	
Egg	0.6900	2.21100	0.54830	0.30140	0.52290	
Dipodomys m.						
Adult	8.35400	26.77000	6.63900	3.68300	6.33100	
Juvenile	2.33900	7.49600	1.85900	1.02400	1.77200	

Table 36, continued

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Lepus c.						
Adult	36.88000	118.20000	29.31000	16.11000	27.96000	
Young adult	110.70000	354.60000	87.94000	48.34000	83.87000	
Juvenile	---	---	---	---	---	
Ants (Colony)						
Adult	12.42700	38.29000	9.88000	5.42900	9.42000	
Egg	---	---	---	---	---	
Termites (Colony)						
Adult	61.47400	197.02500	48.82700	26.85800	46.59700	
Egg	---	---	---	---	---	
Egg - 66	---	---	---	---	---	
Egg - 152	---	---	---	---	---	
Egg - 244	---	---	---	---	---	

Table 37. Assimilation efficiencies by chemical fraction and cohort [(g assimilated) (g consumed)$^{-1}$] (COEFF). Jornada playa animals. Season 1; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	0.85	0.90	0.15	0.85	0.17	Note 10
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Phrynosoma						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other Insects						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Ants (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 38. Assimilation efficiencies by chemical fraction and cohort [(g assimilated) (g consumed)$^{-1}$] (COEFF). Jornada playa animals. Season 2; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	0.85	0.90	0.15	0.85	0.17	Note 10
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Phrynosoma						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Ants (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Figure 39. Assimilation efficiencies by chemical fraction and cohort [(g assimilated) (g consumed)$^{-1}$] (COEFF). Jornada playa animals. Season 3; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	0.85	0.90	0.15	0.85	0.17	Note 10
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Phrynosoma						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Eggs	--	--	--	--	--	
Immature	--	--	--	--	--	
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other Insects						
Adult	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Ants (Colony)						
Adult	--	--	--	--	--	
Egg	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 40. Assimilation efficiencies by chemical fraction and cohort [(g assimilated)(g consumed)$^{-1}$] (COEFF). Jornada playa animals. Season 4; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	--	--	--	--	--	Note 10
Young adult						
Juvenile	--	--	--	--	--	
Phrynosoma						
Adult	--	--	--	--	--	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	0.85	0.90	0.15	0.85	0.17	
Grasshoppers						
Adult						
Egg	--	--	--	--	--	
Immature	--	--	--	--	--	
Ground Beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature						
Egg	--	--	--	--	--	
Larvae						
Other Insects						
Adult	--	--	--	--	--	
Immature						
Larvae	--	--	--	--	--	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Ants (Colony)						
Adult	--	--	--	--	--	
Egg	--	--	--	--	--	
Termites (Colony)						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 41. Assimilation efficiencies by chemical fraction and cohort [(g assimilated)(g consumed)$^{-1}$] (COEFF). Jornada playa animals. Season 5; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	--	--	--	--	--	Note 10
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Phrynosoma						
Adult	--	--	--	--	--	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Grasshoppers						
Adult	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Immature	--	--	--	--	--	

Table 41, continued

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Ground beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	0.85	0.90	0.15	0.85	0.17	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adult	--	--	--	--	--	
Immature	0.85	0.90	0.15	0.85	0.17	
Larvae	--	--	--	--	--	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	0.85	0.90	0.15	0.85	0.17	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Ants (Colony)						
Adult	--	--	--	--	--	
Egg	--	--	--	--	--	
Termites (Colony)						
Adult	--	--	--	--	--	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 42. Assimilation efficiencies by chemical fraction and cohort (g assimilated)(g consumed)$^{-1}$ (COEFF). Jornada playa animals. Season 6; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.						
Adult	--	--	--	--	--	Note 10
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Phrynosoma						
Adult	--	--	--	--	--	
Young adult	0.85	0.90	0.15	0.85	0.17	
Juvenile	--	--	--	--	--	
Grasshoppers						
Adult	--	--	--	--	--	
Egg	--	--	--	--	--	
Immature	--	--	--	--	--	
Ground beetles						
Adult	0.85	0.90	0.15	0.85	0.17	
Immature	--	--	--	--	--	
Egg	--	--	--	--	--	
Larvae	0.85	0.90	0.15	0.85	0.17	
Other insects						
Adult	--	--	--	--	--	
Immature	--	--	--	--	--	
Larvae	--	--	--	--	--	
Egg	--	--	--	--	--	
Dipodomys m.						
Adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Lepus c.						
Adult	--	--	--	--	--	
Young adult	--	--	--	--	--	
Juvenile	--	--	--	--	--	
Ants (Colony)						
Adult	--	--	--	--	--	
Egg	--	--	--	--	--	
Termites (Colony)						
Adult	--	--	--	--	--	
Egg	--	--	--	--	--	
Egg - 66	--	--	--	--	--	
Egg - 152	--	--	--	--	--	
Egg - 244	--	--	--	--	--	

Table 43. Maximum respiration rate by season for each cohort for Jornada playa animals [(g carbon respired)(g body protein carbon 2/3)$^{-1}$ day^{-1}] (RA). Seasons as defined in Figure 4

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 11
Adult	0.01	0.01	0.00				
Young adult	0.00	0.01	0.01	0.01	0.01	0.00	
Juvenile	0.00	0.01	0.01	0.00			
Phrynosoma							
Adult	0.01	0.01	0.00				
Young adult	0.00	0.01	0.01	0.01	0.01	0.00	
Juvenile	0.00	0.01	0.01	0.00			
Grasshoppers							
Adult	0.01	0.01	0.01	0.01	0.01		
Egg	--	--	--	--			
Immature	0.01	0.01	0.01	0.01	--		
Ground beetles							
Adult	0.01	0.01	0.00	0.01	0.01	0.00	
Immature	0.01	0.01	0.00	0.01	0.00		
Egg	0.00	0.01	0.01	0.01			
Larvae	0.00	0.01	0.01	0.00	0.01	0.00	
Other insects							
Adult	0.01	0.01					
Immature	0.00	0.01	0.01	0.01	0.00		
Larvae	0.01	0.01	0.01				
Egg	0.00	0.00					
Dipodomys m.							
Adult	0.01	0.01	0.01				
Juvenile	0.01	0.01	0.01				
Lepus c.							
Adult	0.01	0.01	0.01	0.01	0.01		
Young adult	0.01	0.01	0.01				
Juvenile	0.01						
Ants (Colony)							
Adult	0.01	0.01	0.00				
Egg	0.01	0.00					
Termites (Colony)							
Adult	0.01	0.01	0.01	0.01			
Egg	0.01	0.01	0.00				
Egg - 66	0.01	0.01	0.00				
Egg - 152	0.01	0.01	0.00				
Egg - 244	0.01	0.01	0.00				

Table 44. Number of young produced during a given season by species for Jornada playa animals (young per individual). (BIRTHN). Seasons as defined in Figure 4

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.	--	2.50	--	--	2.50	--	Note 12; PC. Dr.
Phrynosoma	--	2.00	2.00	2.00	2.00	--	W. Whitford
Grasshoppers	--	--	175.00	350.00	175.00	--	
Ground beetles	--	200.00	200.00	--	--	--	
Other insects	--	400.00	400.00	--	400.00	--	
Dipodomys m.	--	1.50	--	--	--	--	
Lepus c.	--	1.00	4.0	3.00	2.00	--	
Ants (Colony)	--	0.12	--	--	--	--	
Termites (Colony)	39.00	50.00	50.00	80.00	--	--	

Table 45. Birth weight of offspring for each species and chemical fraction (g/ha). (BIRTHW). Jornada playa animals. Season 1; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	--	--	--	--	--	Note 13; PC. Dr. W. Whitford
Phrynosoma	--	--	--	--	--	
Grasshoppers	--	--	--	--	--	
Ground beetles	--	--	--	--	--	
Other insects	--	--	--	--	--	
Dipodomys m.	--	--	--	--	--	
Lepus c.	0.2559	0.7880	0.1954	0.1074	0.1864	
Ants (Colony)	--	--	--	--	--	
Termites (Colony)	--	--	--	--	--	

Table 46. Birth weight of offspring for each species and chemical fraction (g/ha). (BIRTHW). Jornada playa animals. Season 2; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	0.03073	0.09849	0.02442	0.13430	0.02329	Note 13; PC. Dr. W. Whitford
Phrynosoma	0.03073	0.09849	0.02442	0.13430	0.02329	
Grasshoppers	---	---	---	---	---	
Ground beetles	0.00133	0.00426	0.00106	0.00058	0.00101	
Other insects	0.00040	0.00128	0.00032	0.00017	0.00030	
Dipodomys m.	0.25700	0.84100	0.20500	0.11300	0.19500	
Lepus c.	5.53300	17.73000	4.39600	2.41600	4.19300	
Ants (Colony)	---	---	---	---	---	
Termites (Colony)	---	---	---	---	---	

Table 47. Birth weight of offspring for each species and chemical fraction (g/ha). (BIRTHW). Jornada playa animals. Season 3; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	---	---	---	---	---	Note 13; PC. Dr W. Whitford
Phrynosoma	0.00769	0.02464	0.00611	0.00336	0.00582	
Grasshoppers	0.00266	0.00851	0.00211	0.00116	0.00201	
Ground beetles	---	---	---	---	---	
Other insects	0.00040	0.00128	0.00032	0.00017	0.00030	
Dipodomys m.	---	---	---	---	---	
Lepus c.	11.08000	35.46000	8.78000	4.83200	8.37600	
Ants (Colony)	---	---	---	---	---	
Termites (Colony)	0.25590	0.78800	0.19540	0.10740	0.18640	

Table 48. Birth weight of offspring for each species and chemical fraction (g/ha). (BIRTHW). Jornada playa animals. Season 4; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	---	---	---	---	---	Note 13; PC. Dr. W. Whitford
Phrynosoma	0.00769	0.02464	0.00611	0.00336	0.00582	
Grasshoppers	0.00532	0.01702	0.00422	0.00232	0.00402	
Ground beetles	---	---	---	---	---	
Other insects	---	---	---	---	---	
Dipodomys m.	---	---	---	---	---	
Lepus c.	5.53300	17.73000	4.39600	2.41600	4.19300	
Ants (Colony)	---	---	---	---	---	
Termites (Colony)	0.25590	0.78800	0.19540	0.10740	0.18640	

Table 49. Birth weight of offspring for each species and chemical fraction (g/ha). (BIRTHW). Jornada playa animals. Season 5; seasons as defined in Figure 4

Species	Mobile Carbon	Reserve Carbon	Structural Carbon	Nitrogen	Ash	Source
Onemidophorus t.	0.03073	0.09849	0.02442	0.01343	0.02329	Note 13; PC. Dr. W. Whitford
Phrynosoma	0.03073	0.09849	0.02442	0.01343	0.02329	
Grasshoppers	0.00266	0.00851	0.00211	0.00116	0.00201	
Ground beetles	0.00133	0.00426	0.00106	0.00058	0.00101	
Other insects	0.00040	0.00128	0.00032	0.00017	0.00030	
Lepus c.	5.53300	17.73000	4.39600	2.41600	4.19300	
Ants (Colony)	---	---	---	---	---	
Termites (Colony)	---	---	---	---	---	

Table 50. Maximum feeding rate by season for each cohort for Jornada playa animals [(g consumed)(g body weight)$^{-1}$ day^{-1}]. (A). Seasons as defined in Figure 4

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidophorus t.							Note 14; PC. Dr. W. Whitford
Adult	0.1300	0.1200	--	--	--	--	
Young adult	--	--	0.1600	0.1300	0.1200	--	
Juvenile	--	--	0.1800	--	--	--	
Phrynosoma							
Adult	0.1300	0.1200	--	--	--	--	
Young adult	--	--	0.1600	0.1300	0.1200	--	
Juvenile	--	--	0.1800	--	--	--	
Grasshoppers							
Adult	0.5000	0.4400	0.4400	0.4400	0.4000	--	
Egg	--	--	--	--	--	--	
Immature	0.4000	0.0000	0.5000	0.4400	--	--	
Ground beetles							
Adult	0.4400	0.4000	--	--	--	--	
Immature	0.5000	0.4000	0.0000	0.4000	0.0000	--	
Egg	0.0000	0.0000	--	--	--	--	
Larvae	--	--	0.5000	0.0100	0.4000	--	
Other insects							
Adult	0.4400	0.4000	--	--	--	--	
Immature	--	--	0.4500	0.5000	0.4000	--	
Larvae	0.4500	0.5000	0.4000	--	--	--	
Egg	--	--	--	--	--	--	
Dipodomys m.							
Adult	0.1000	0.1270	0.0918	--	--	--	
Juvenile	0.1800	0.1100	0.0918	--	--	--	
Lepus c.							
Adult	0.0880	0.0880	0.0880	0.0880	0.0800	--	
Young adult	0.1100	0.0880	0.0800	--	--	--	
Juvenile	0.0950	--	--	--	--	--	
Ants (Colony)							
Adult	0.6000	0.6000	--	--	--	--	
Egg	--	0.6000	0.6000	--	--	--	
Termites (Colony)							
Adult	0.8000	0.9000	1.0000	0.9000	--	--	
Egg	--	1.1000	--	--	--	--	
Egg - 66	--	1.1000	--	--	--	--	
Egg - 152	--	1.1000	--	--	--	--	
Egg - 244	--	1.1000	--	--	--	--	

Table 51. Fraction of population which suffers non-predatory mortality by season and cohort (DEATH) for the Jornada playa animals. Seasons as defined in Figure 4

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidiophorus t.							Note 15; PC. Dr. W. Whitford
Adult	0.0016	0.0016	0.0037	--	--	--	
Young adult	--	0.0708	0.0046	0.0046	0.0046	0.0037	
Juvenile	--	0.0708	0.1124	0.0037	--	--	
Phrynosoma							
Adult	0.0016	0.0016	0.0037	--	--	--	
Young adult	--	0.0708	0.0046	0.0046	0.0046	0.0037	
Juvenile	--	0.0228	0.0016	0.0074	--	--	
Grasshoppers							
Adult	0.0710	0.0710	0.0710	0.0710	0.0710	--	
Eggs	0.0114	0.0344	0.2659	0.2659	--	--	
Immature	--	0.0023	--	--	--	--	
Ground Beetles							
Adult	0.0009	0.0009	0.0165	0.0035	0.0035	0.0025	
Immature	0.0053	0.0028	0.0165	0.0035	0.0025	--	
Egg	--	0.0105	0.0577	0.0025	--	--	
Larvae	--	0.0105	0.0083	0.0016	0.0035	0.0025	
Other insects							
Adult	0.0371	0.0371	--	--	--	--	
Immature	--	0.0876	0.0055	0.0055	0.0055	--	
Larvae	0.0048	0.0048	0.0055	--	--	--	
Egg	--	0.0039	--	--	--	--	
Dipodomys m.							
Adult	0.0020	0.0020	0.0020	--	--	--	
Juvenile	0.0020	0.0020	0.0020	--	--	--	
Lepus c.							
Adult	0.0046	0.0046	0.0046	0.0046	0.0046	--	
Young adult	0.0046	0.0046	0.0046	--	--	--	
Juvenile	0.0046	--	--	--	--	--	
Ants (Colony)							
Adult	0.0280	0.0280	0.0280	--	--	--	
Egg	0.0147	0.0001	--	--	--	--	
Termites (Colony)							
Adult	0.0371	0.0371	0.0371	0.0371	--	--	
Egg	0.0147	0.0001	--	--	--	--	
Egg - 66	0.0147	0.0001	--	--	--	--	
Egg - 152	0.0147	0.0001	--	--	--	--	
Egg - 244	0.0147	0.0001	--	--	--	--	

Table 52. Protein increment for each cohort by season for Jornada playa animals [(g protein carbon incremented)(g total body protein carbon)$^{-1}$ day^{-1}]. (GROW)

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidiophorus t.							Note 16
Adult	0.0026		0.0970				
Young adult							
Juvenile			0.6590				
Phrynosoma							
Adult	0.0014	0.0280	0.0280				
Young adult			0.1081	0.0280			
Juvenile			0.6980				
Grasshoppers							
Adult	0.0460	0.1900	0.1900	0.1900			
Egg		0.0810	0.1900				
Immature							
Ground beetles							
Adult	0.0850			0.3300			
Immature	0.0103						
Egg			0.0032	0.0032			
Larvae			0.0162				
Other insects							
Adult	0.0990						
Immature			0.0240	0.0620			
Larvae	0.0190	0.0500					
Egg							
Dipodomys m.							
Adult	0.0055						
Juvenile	0.0335	0.0335					
Lepus c.							
Adult	0.0020	0.0030	0.0050	0.0030			
Young adult	0.1280	0.0030					
Juvenile	0.0397						
Ants (Colony)							
Adult	0.0003						
Egg		0.1680					
Termites (Colony)							
Adult	0.0304	0.0197	0.0264	0.0132			
Egg		0.4228					
Egg - 66		0.4228					
Egg - 152		0.4228					
Egg - 244		0.4228					

Table 53. Reserve carbon increment for each cohort by season for Jornada playa animals [(g reserve carbon)g total body protein carbon)$^{-1}$ day^{-1}]. (GROW)

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidiophorus t.							Note 17
Adult	0.0073		0.0000				
Young adult							
Juvenile			0.0000				
Phrynosoma							
Adult	0.0014	0.0280	0.0280				
Young adult			0.0000	0.0280			
Juvenile			0.0000				
Grasshoppers							
Adult	0.0000	0.6100	0.6100	0.6100			
Egg		0.0000	0.6100				
Immature							
Ground beetles							
Adult	0.2700			1.0700			
Immature	0.0000						
Egg			0.0000	0.0000			
Larvae			0.0000				
Other insects							
Adult	0.3200						
Immature			0.0000	0.2000			
Larvae	0.0000	0.1600					
Egg							
Dipodomys m.							
Adult	0.0180						
Juvenile	0.0000	0.0000					
Lepus c.							
Adult	0.00641	0.00961	0.01600	0.00961			
Young adult	0.00000	0.00961					
Juvenile	0.00000						
Ants (Colony)							
Adult	0.00096						
Egg		0.00000					
Termites (Colony)							
Adult	0.09740	0.09030	0.08460	0.04230			
Egg		0.00000					
Egg - 66		0.00000					
Egg - 152		0.00000					
Egg - 244		0.00000					

Table 54. Structural carbon increment by cohort and season for Jornada playa animals [(g structural carbon incremented)(g total body protein carbon)$^{-1}$ day^{-1}]. (GROW). Seasons as defined in Figure 4

Species	Season 1	Season 2	Season 3	Season 4	Season 5	Season 6	Source
Onemidiophorus t.							Note 16
Adult	0.0018		0.0250				
Young adult							
Juvenile			0.2310		0.0000		
Phrynosoma							
Adult	0.0011	0.0220	0.0220				
Young adult			0.0248	0.0220			
Juvenile			0.2310				
Grasshoppers							
Adult	0.0187	0.1500	0.1500	0.1500			
Egg		0.0035	0.1500				
Immature							
Ground beetles							
Adult	0.0680			0.2700			
Immature	0.0053						
Egg			0.0016	0.0016			
Larvae			0.0083				
Other insects							
Adult	0.0790						
Immature			0.0120	0.0500			
Larvae	0.0096	0.0400					
Egg							
Dipodomys m.							
Adult	0.0044						
Juvenile	0.0013	0.0013					
Lepus c.							
Adult	0.00159	0.00239	0.00398	0.00239			
Young adult	0.01960	0.00239					
Juvenile	0.00580						
Ants (Colony)							
Adult	0.00024						
Egg		0.05380					
Termites (Colony)							
Adult	0.02420	0.01570	0.02100	0.01050			
Egg		0.10690					
Egg - 66		0.10690					
Egg - 152		0.10690					
Egg - 244		0.10690					