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2002 Small Mammal Inventory at Lawrence Livermore National Laboratory, Site 300

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2002 Small Mammal Inventory at Lawrence Livermore National Laboratory Site 300

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Introduction

To assist the University of California in obtaining biological assessment information for the *2004 Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory* (LLNL), Jones & Stokes conducted an inventory of small mammals in six major vegetation communities at Site 300. These communities were annual grassland, native grassland, oak savanna, riparian corridor, coastal scrub, and seep/spring wetlands. The principal objective of this study was to assess the diversity and abundance of small mammal species in these communities, as well as the current status of any special-status small mammal species found in these communities. Surveys in the native grassland community were conducted before and after a controlled fire management burn of the grasslands to qualitatively evaluate any potential effects of fire on small mammals in the area.

Methods

Jones & Stokes biologists established two replicate study plots in each of the six vegetation communities surveyed (Figure 1). Figures 2–7 show the precise location of each study plot. Figures 8–19 are photographs of each site. Each plot in the annual grassland, native grassland, oak savanna, and coastal scrub communities (Figures 2, 3, 4, and 6) entailed a 5- by 10-trap grid of Sherman live-capture traps (total 50 traps). The traps were placed in suitable habitat and spaced at approximately 9 meter (30 ft) intervals along both axes of each grid. The study plots in the riparian community consisted of three lines of traps set along the edge of the riparian corridor (Figures 5, 12–15). One line of 50 traps was set along the corridor upstream of the road; two shorter lines of 25 traps each were set downstream in parallel lines on each side of the stream corridor. These traps were also spaced at approximately 9 meter (30 ft) intervals. The study plots in the spring/seep wetland (Figure 7) entailed one 5- by 10-trap grid of 50 traps in a seep wetland (Figure 17) and one trapline of 50 traps set in an adjacent drainage channel (Figure 18). After the controlled burn, a trapline of 50 traps was set in the seep channel, farther downstream, adjacent to the native grassland

Figure 1. Vegetation Communities and Small Mammal Trapping Locations at Lawrence Livermore National Laboratory Site 300

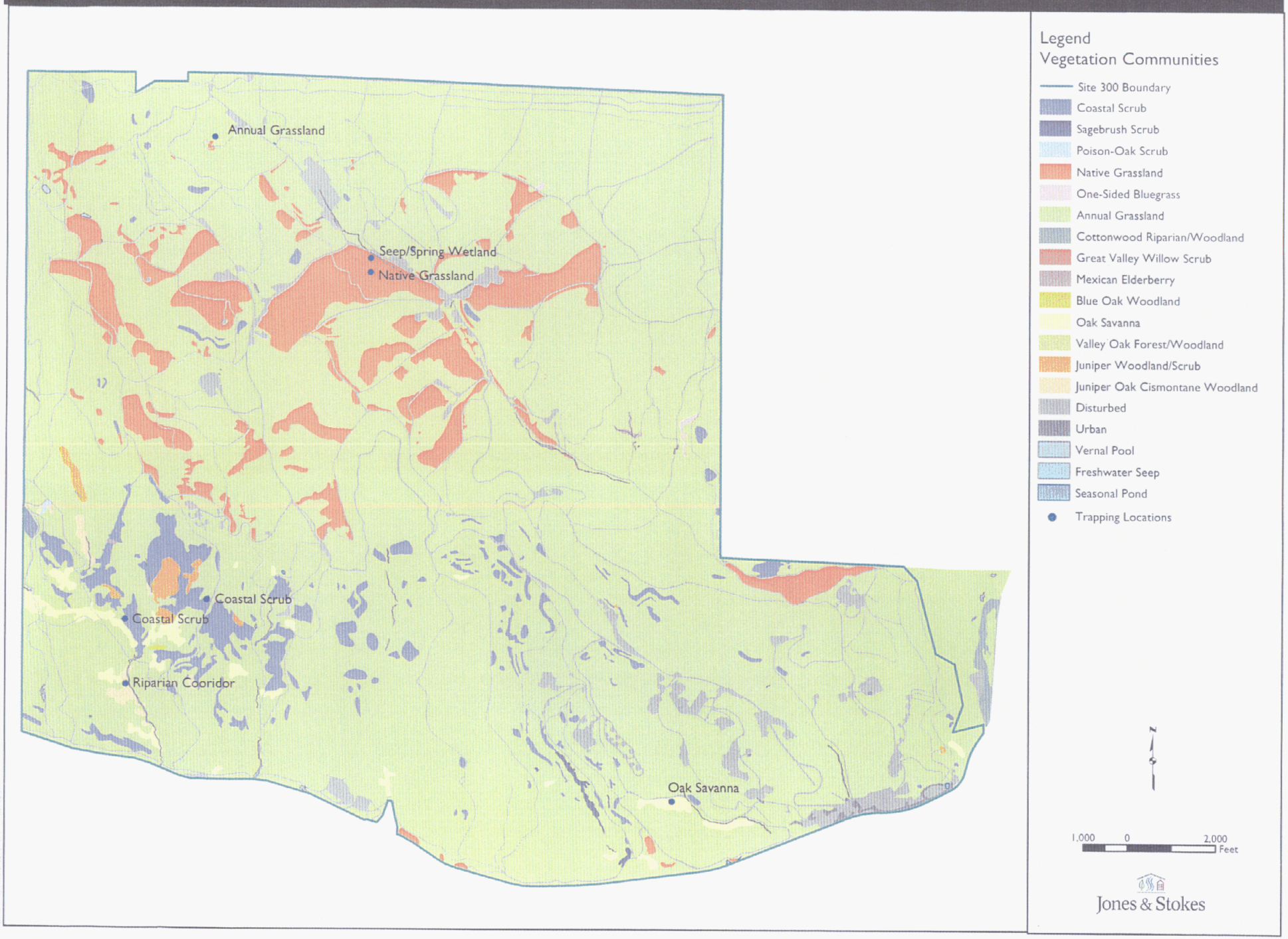


Figure 2. Location of small mammal survey grids in annual grassland habitat

Figure 3. Location of small mammal survey grids in native grassland habitat

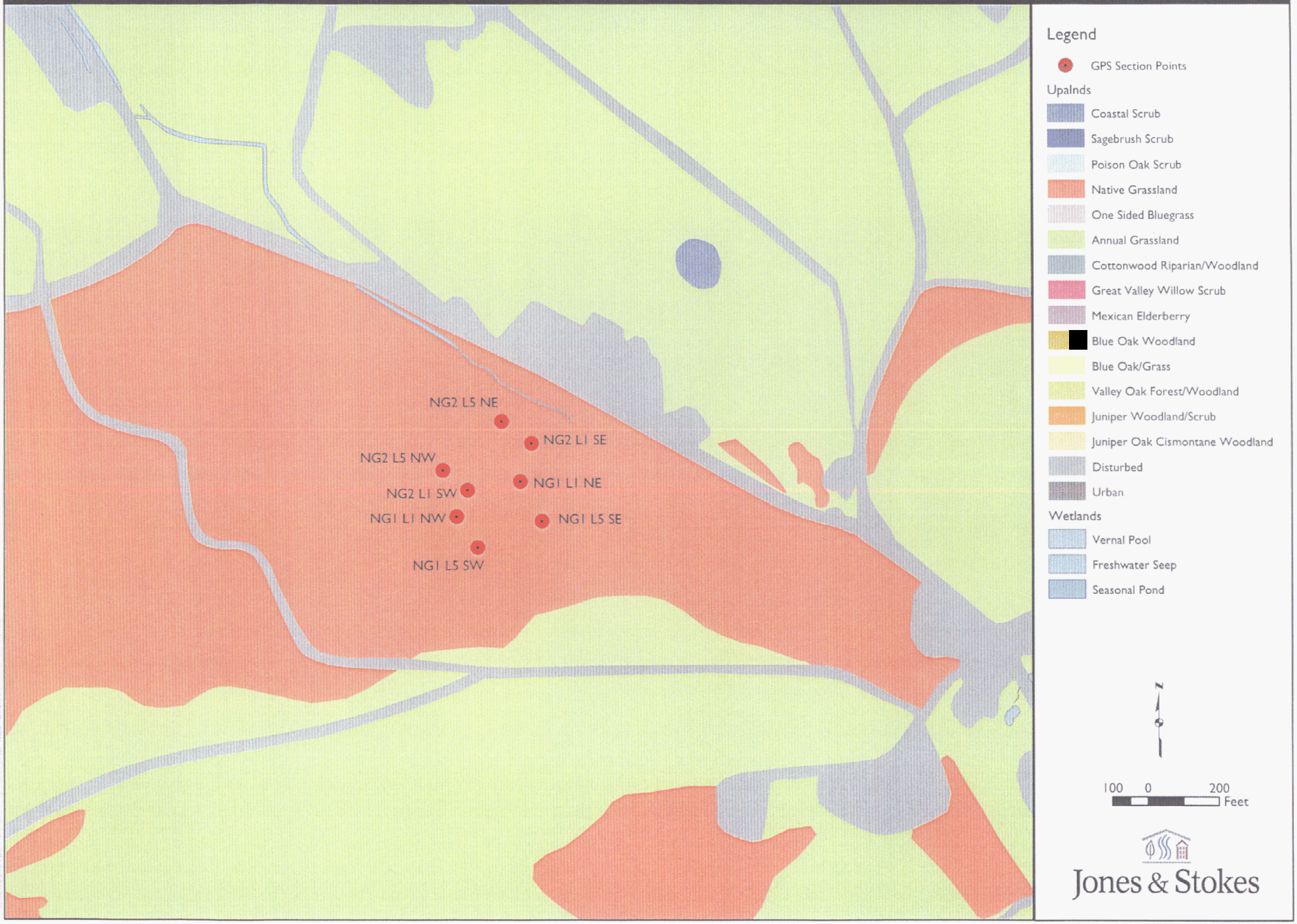


Figure 4. Location of small mammal survey grids in oak savanna habitat

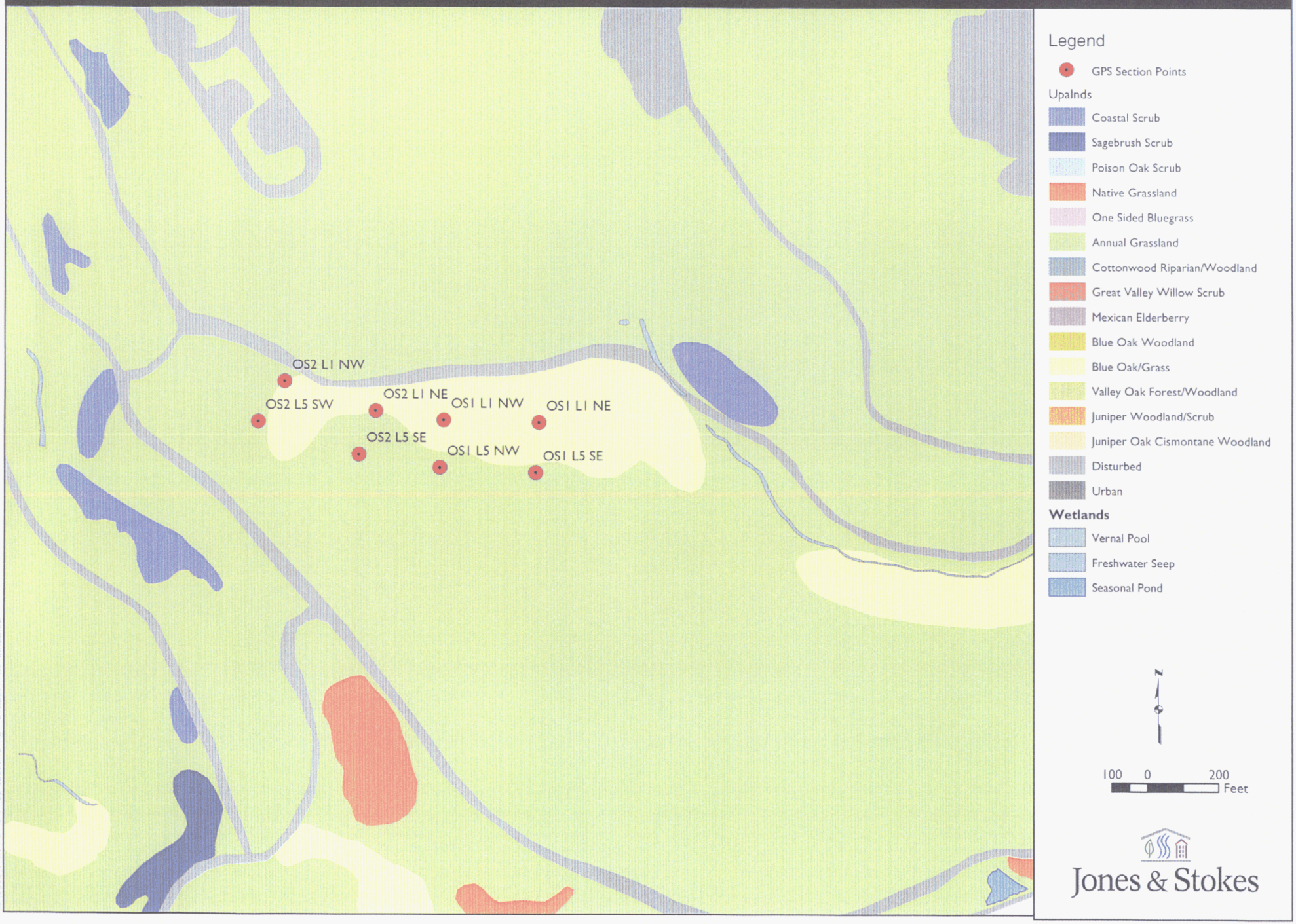


Figure 5. Location of small mammal survey grids in riparian woodland habitat

Figure 6. Location of small mammal survey grids in coastal sage scrub habitat

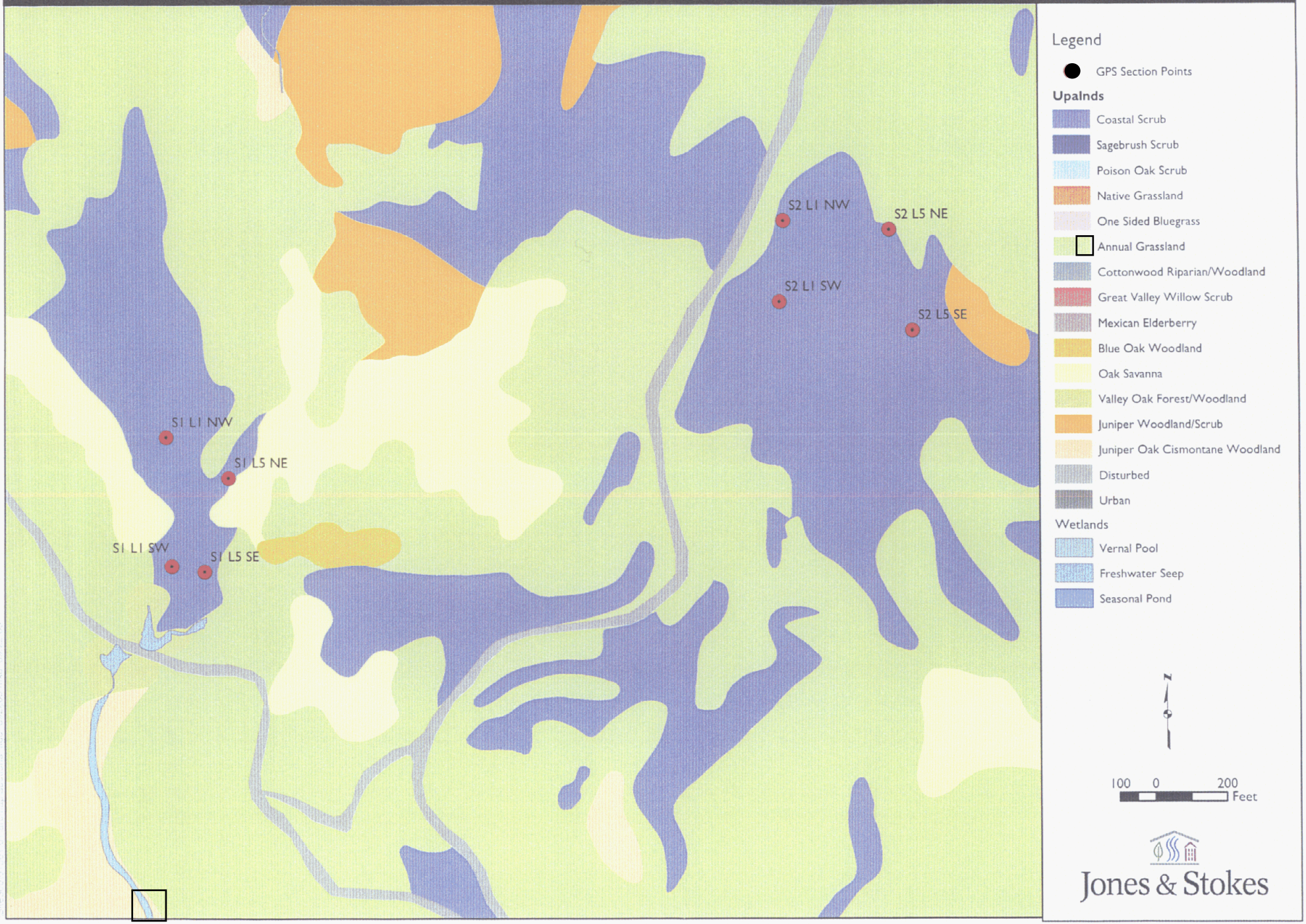
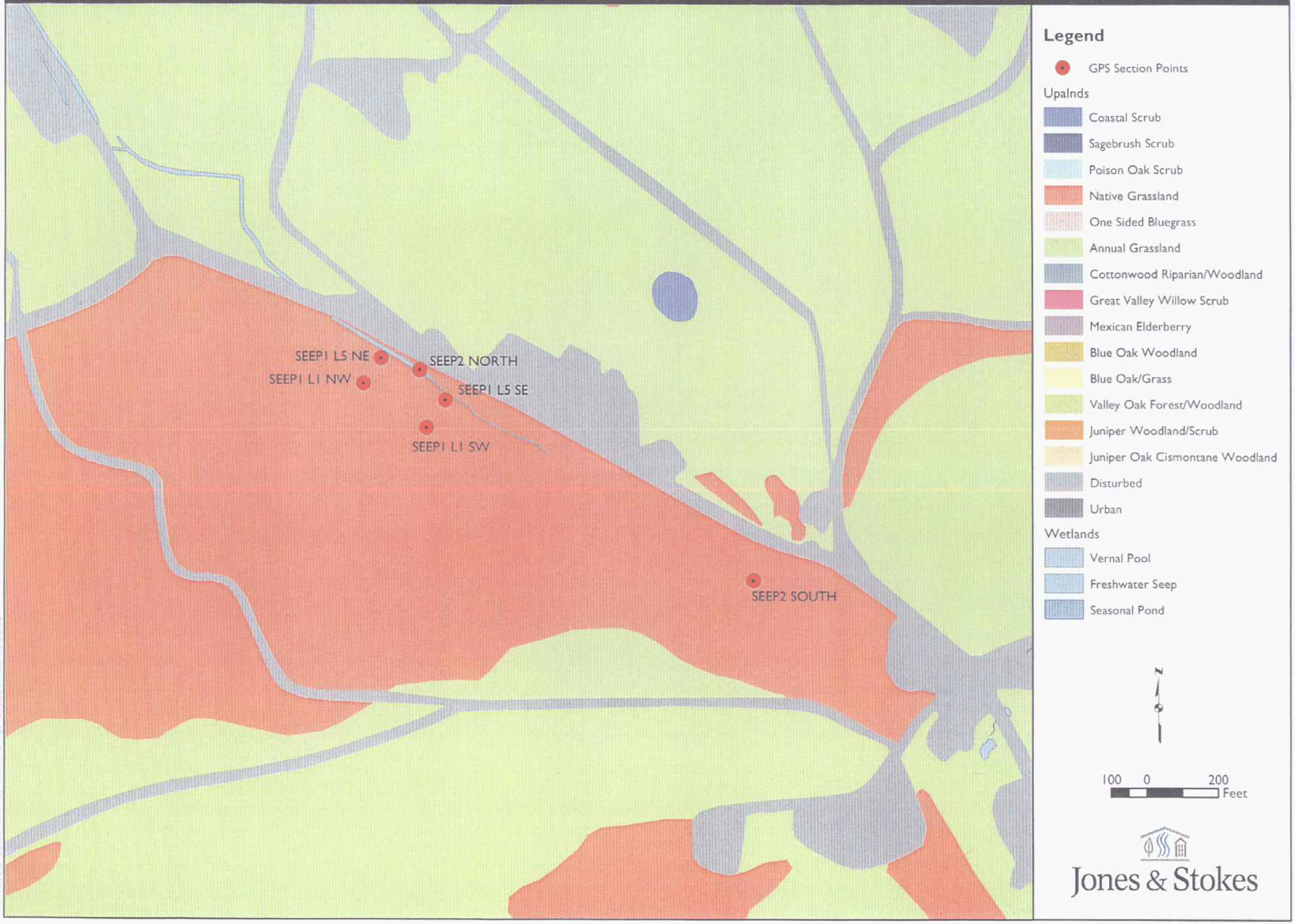


Figure 7. Location of small mammal survey grids and lines in seep/spring wetland habitat



survey area (25 traps upstream and 25 downstream of the gravel road crossing) (Figures 3 and 19) during the two post-burn survey periods.

Table 1. Small Mammal Trapping Survey Periods at Site 300

May 14 – May 19	June 20 – June 22	July 30 – August 1
Coastal Scrub	Annual Grassland	Native Grassland Post-burn 2
Riparian	Oak Savanna	Seep Channel Post-burn 2
Native Grassland	Native Grassland Post-burn 1	
Spring/Seep Wetland	Seep Channel Post-burn 1	

The corners of each grid and the ends of each trap line were located using a GPS recorder and permanently marked with 46 cm (18 in) lengths of #4 steel rebar fitted with a plastic orange safety cap (see Figures 8 and 17) to allow relocation and future replication of trapping surveys. The compass location of each grid corner and trapline end was marked on the plastic cap with a black marker. The GPS location data are provided in Appendix A of this report.

Trapping was conducted for three consecutive nights at each plot during three possible periods between May 14 and August 1, 2002 (Table 1). All traps were set within 2 hours of sunset and checked within 3 hours after sunrise the following morning. Both procedures were timed to avoid capture of animals during periods that could cause heat stress in the animals. Each trap was baited with peanut butter and rolled oats, and a wad of cotton was placed at the back of each trap for bedding.

Each animal captured was identified to species, and its age, sex, reproductive condition, and general health were evaluated and noted. The time, location of capture, and general weather and habitat conditions were also recorded. Photographs were taken of each study plot and each new species captured. All data were recorded on standardized Jones & Stokes fieldforms (Appendix B). Each captured animal was marked with a permanent nontoxic felt pen so it could be identified as a recapture if trapped on subsequent trap-nights. All animals were released at the site of capture.

All Jones & Stokes biologists conducting the small mammal surveys wore appropriate protective clothing and respirators during the handling of the animals to avoid potential exposure to Hantivirus. Standard precautionary measures

identified in Mills et al. (1995) *Guidelines for Working with Rodents Potentially Infected with Hantivirus* were observed during this work.

Results

Species Diversity and Abundance

Two hundred ten small mammals representing nine species in three families were captured during 2,689 trap-nights at Site 300. These taxa are listed below.

Family Geomyidae

- Valley pocket gopher (*Thomomys bottae*)

Family Heteromyidae

- California pocket mouse (*Perognathus californicus*)
- San Joaquin pocket mouse (*Perognathus inornatus*)
- Heermann's kangaroo rat (*Dipodomys heermanni*)

Family Muridae

- Western harvest mouse (*Reithrodontomys megalotus*)
- Deer mouse (*Peromyscus maniculatus*)
- Brush mouse (*Peromyscus boylii*)
- California vole (*Microtus californicus*)
- Dusky-footed woodrat (*Neotoma fuscipes*)
- House mouse (*Mus musculus*)

Table 2 summarizes the total number of individuals of each species captured at each survey site during each trapping period. The greatest number of species captured was in the riparian community (7) followed closely by the coastal scrub (5) and annual grassland (5) communities. Three species each were captured in the native grassland and seep/spring wetland communities, and two were captured in the oak savanna community. The greatest numbers of individual mammals captured were in the riparian (65) and coastal scrub (63) communities. Fewer than half these numbers were captured in the annual grassland (28) and seep/spring wetland (17) communities. The lowest number of individual mammals were captured in the oak savanna (5) and native grassland (4) communities. The numbers of recaptured animals was generally insufficient to adequately estimate local population abundance for any species.

Table 2. 2002 Small Mammal Trapping Results at Site 300

	Vegetation Community and Trapping Period									
								Seep/Spring Wetlands		
	Annual Grassland		Native Grassland		Oak Savanna	Riparian	Coastal Scrub	Grid 1 & Trapline 1	Seep Channel Trapline	Seep Channel Trapline
Species	Jun 20-22	May 17-19	Post-burn 1 June 20-22	Post-burn 2 July 30-Aug 1	June 20-22	May 14-16	May 14-16	May 17-19	Post-burn 1 June 20-22	Post-burn 2 July 30-Aug 1
Valley pocket gopher		1				1				
California pocket mouse							1			
San Joaquin pocket mouse	2				3					
Heerman's kangaroo rat	4						22			
Western harvest mouse	13					7			4	6
Deer mouse	8	1	4	4	1	7	10	3	3	7
Brush mouse		2				32	10	11		
California vole	1			2		4				
Dusky-footed woodrat						13	20	3		1
House mouse						1				
No. Species Captured	5	3	1	2	2	7	5	3	2	3
Total Captures	28	4	4	6	4	65	63	17	7	14
No. Trap-nights	300	300	300	300	300	300	300	300	39	150
Captures/100 Trap-nights	9.33	1.33	1.33	2.00	1.33	21.67	21.00	5.67	4.67	9.33

The San Joaquin pocket mouse is the only special-status small mammal species (federal species of concern) captured on Site 300 during this study.

Orloff (1986) identified the San Joaquin Valley woodrat (*Neotoma fuscipes riparia*), now the Riparian woodrat, as potentially occurring at Site 300. A historical record for this species has been documented for the Corral Hollow drainage and one woodrat (presumably of this subspecies) was captured on site in 1980. However, Williams (pers. comm. in Orloff 1986) considers the habitat at Site 300 to be suboptimal for this species, citing absence of well-developed riparian woodland.

The subspecies status of the woodrats captured in this study was not determined due to uncertainty regarding foot color. *N.f. riparia* has white hind feet instead of dusky on the upper surfaces (USFWS 1998). The species captured at Site 300 were not distinctly dusty but did not appear white either. However, 17 of the 37 individuals captured were captured in the riparian corridor or seep/spring wetland communities; the remaining individuals were captured in coastal scrub. These communities are not typical of the more mesic habitats characterizing the only currently verified population of this race at Caswell Memorial State Park on the Stanislaus River (approximately 25 km (16 mi) east). Additional research is recommended to determine whether this woodrat population at Site 300 is a disjunct population of *N. f. riparia*, a federally endangered species, a population of the more xeric dwelling Diablo Range woodrat (*N. f. perplexa*), or sympatric populations of both races.

Spatial and Temporal Variation

The spatial and temporal variation in trapping success is described below for each survey site. Tables 3–12 present the daily and average trapping success for each plot at each site. Maximum capture values for each species and date are highlighted in gray in each table to facilitate qualitative comparisons of capture success both within and between survey sites.

Annual Grassland

Five species and 28 individual small mammals were captured in the annual grassland study area (Table 3) during 300 trap-nights. The species richness and abundance at this site was highest in Grid 2, which was more topographically diverse. This grid contained a swale and rock outcrop area (Figure 8), as well as open areas of exposed sandy soil adjacent to the rock outcrop area. The areas of sandy soil were used by both Heermann's kangaroo rat and San Joaquin pocket mouse. Western harvest mouse and deer mouse were regularly captured at both grids. One California vole, an obligate grassland species, was captured in Grid 1. Trapping success at this site increased with time in both grids.

Table 3. Small Mammal Inventory Results at the Annual Grassland Community Site

	Annual Grassland Community								
	Grid 1			Grid 2			Survey Average		
Species	20-Jun	21-Jun	22-Jun	20-Jun	21-Jun	22-Jun	Grid 1	Grid 2	1 & 2
San Joaquin pocket mouse	0	0	0	0	1	1	0.00	0.67	0.33
Western harvest mouse	0	0	2	3	3	5	0.67	3.67	2.17
Deer mouse	1	1	3	0	1	2	1.67	1.00	1.33
Heerman's kangaroo rat	0	0	0	1	2	1	0.00	1.33	0.67
California vole	0	0	1	0	0	0	0.33	0.00	0.17
No. Species Captured	1	1	3	2	4	4	1.67	3.33	2.50
Total Captures	1	1	6	4	7	9	2.67	6.67	4.67
No. Trap-nights	50	50	50	50	50	50	50	50	50
Captures/100 Trap-nights	2	2	12	8	14	18	5.33	13.33	9.33

Native Grassland and Adjacent Seep Channel

The native grassland community was surveyed before and after a controlled burn of the area. Figures 9 and 10 show the pre- and post-burn conditions of the site. Table 4 summarizes the results of the pre-burn survey. No mammals were captured in Grid 1 during the 3-day pre-burn trapping period, but four individuals of three species were captured in Grid 2. These results indicate a low overall species diversity and abundance of small mammals in this habitat.

Table 4. Small Mammal Inventory Results at the Native Grassland Community Site Before Burning

	Native Grassland Community: Pre-burn								
	Grid 1			Grid 2			Survey Average		
Species	17-May	18-May	19-May	17-May	18-May	19-May	Grid 1	Grid 2	1 & 2
Valley pocket gopher	0	0	0	0	1	0	0	0.33	0.14
Deer mouse	0	0	0	0	1	0	0	0.33	0.14
Brush mouse	0	0	0	1	1	0	0	0.67	0.29
No. Species Captured	0	0	0	1	3	0	0	1.33	0.57
Total Captures	0	0	0	1	3	0	0	1.33	0.57
No. Trap-nights	50	50	50	50	50	50	50	50	50
Captures/100 Trap-nights	0	0	0	2	6	0	0	2.67	1.14

Tables 5 and 6 summarize the trapping results immediately after the burn and approximately 1 month after the burn. Trapping success during both of these survey periods was expectedly low due to low cover and forage availability. Only four deer mice were captured during the first trapping period; three deer mice and one California vole were captured in the second period. It is interesting to note, however, that the deer mice were active in the burn area the night of the burn (June 20) and 2 days after the burn. California voles had returned to the area by the second trapping period, during which time new grass shoots had begun to emerge from the charred soil.

Table 5. Small Mammal Inventory Results at the Native Grassland Community Site Immediately after Burning

	Native Grassland Community: Post-burn 1								
	Grid 1			Grid 2			Survey Average		
Species	20-Jun	21-Jun	22-Jun	20-Jun	21-Jun	22-Jun	Grid 1	Grid 2	1 & 2
Deer mouse	0	0	2	1	0	1	0.67	0.67	0.67
No. Species Captured	0	0	1	1	0	1	0.33	0.67	0.50
Total Captures	0	0	2	1	0	1	0.67	0.67	0.67
No. Trap-nights	50	50	50	50	50	50	50	50	50
Captures/100 Trap-nights	0	0	4	2	0	2	1.33	1.33	1.33

Table 6. Small Mammal Inventory Results at the Native Grassland Community Site 5 Weeks after Burning

	Native Grassland Community: Post-burn 2								
	Grid 1			Grid 2			Survey Average		
Species	30-Jul	31-Jul	1-Aug	30-Jul	31-Jul	1-Aug	Grid 1	Grid 2	1 & 2
Deer mouse	0	0	0	1	2	1	0.00	1.33	0.67
California vole	0	0	0	0	0	1	0.00	0.33	0.17
No. Species Captured	0	0	0	1	0	2	0.00	1.00	0.50
Total Captures	0	0	0	1	2	2	0.00	1.67	0.83
No. Trap-nights	50	50	50	50	50	50	50	50	50
Captures/100 Trap-nights	0	0	0	2	4	4	0.00	3.33	1.67

To qualitatiavely test the hypothesis that some small mammals may have escaped and/or emigrated from the burn area by moving downslope to the seep channel below the burn area (Figures 3 and 19), an additional trapline was set in the channel during both post-burn trapping periods. Tables 7 and 8 summarize the results of this survey. Because no traps were set in the channel the night of the burn, it was not possible to determine species presence or abundance at that time. However, both western harvest mice and deer mice were captured during the second night after the burn and throughout the second post-burn trapping period. The results of this survey are comparable in number and diversity to the pre-burn trapping results (see Seep Channel trapline results in Table 12 below) and do not suggest that large numbers of mice moved from the burn area to the seep channel.

Table 7. Small Mammal Inventory Results at Seep Channel Site immediately after Burning

	Seep Channel[1]: Post-burn 1								
	Upstream			Downstream			Survey Average		
Species	20-Jun	21-Jun	22-Jun	20-Jun	21-Jun	22-Jun	Up	Down	Up&Dwn
Western harvest mouse	0	2	1	0	0	1	1.00	0.33	0.67
Deer mouse	0	0	1	0	2	0	0.33	0.67	0.50
No. Species Captured	0	1	2	0	1	1	1.00	0.67	0.83
Total Captures	0	0	1	0	2	0	0.33	0.67	0.50
No. Trap-nights	0	10	9	0	10	10	6.33	6.67	6.50
Captures/100 Trap-nights	0	0	11	0	20	0	3.70	6.67	5.19

1: Seep channel survey area includes 2 sections - upstream and downstream from road crossing to Native Grassland Community survey site.

Table 8. Small Mammal Inventory Results at Seep Channel Site 5 Weeks after Burning

	Seep Channel[1]: Post-burn 2								
	Upstream			Downstream			Survey Average		
Species	30-Jul	31-Jul	1-Aug	30-Jul	31-Jul	1-Aug	Up	Down	Up&Dwn
Western harvest mouse	2	1	1	1		1	1.33	1.00	1.20
Deer mouse	2	1	2	1	1	0	1.67	0.67	1.17
Dusky-footed woodrat	0	0	0	0	0	1	0.00	0.33	0.17
No. Species Captured	2	2	2	2	1	2	2.00	1.67	1.83
Total Captures	4	2	3	2	1	2	3.00	1.67	2.33
No. Trap-nights	25	25	25	25	25	25	25	25	25
Captures/100 Trap-nights	16	8	12	8	4	8	12.00	6.67	9.33

1: Seep channel survey area includes 2 sections - upstream and downstream from road crossing to Native Grassland Community survey site.

Oak Savanna

Like the grassland communities, the oak savanna community supports a low diversity and abundance of small mammals (Table 9). Only four individuals of two species were captured during 300 trap-nights. Both trapping grids established at the site produced similar results. San Joaquin pocket mouse and deer mouse were the only species captured.

Table 9. Small Mammal Inventory Results at the Oak Savanna Community Site

	Oak Savanna Community								
	Grid 1			Grid 2			Survey Average		
Species	20-Jun	21-Jun	22-Jun	20-Jun	21-Jun	22-Jun	Grid 1	Grid 2	1 & 2
San Joaquin pocket mouse	0	1	0	0	1	1	0.33	0.67	0.50
Deer mouse	1	0	0	0	0	0	0.33	0.00	0.17
No. Species Captured	1	1	0	0	1	1	0.67	0.67	0.67
Total Captures	1	1	0	0	1	1	0.67	0.67	0.67
No. Trap-nights	50	50	50	50	50	50	50	50	50
Captures/100 Trap-nights	2	2	0	0	2	2	1.33	1.33	1.33

Riparian Corridor

Seven species and 65 individual small mammals were captured during 300 trap-nights in the riparian corridor at Site 300. Table 10 shows that most of these species and individuals were captured in trapline 1 (Figures 3, 12, and 13). This trapline appears to traverse a greater diversity of habitat types than the other two traplines (Figures 14 and 15).

Table 10. Small Mammal Inventory Results at the Riparian Community Site

	Riparian Community												
	Trapline 1			Trapline 2			Trapline 3			Survey Average			
Species	14-May	15-May	16-May	14-May	15-May	16-May	14-May	15-May	16-May	Line 1	Line 2	Line 3	1,2 & 3
Valley pocket gopher	0	0	1	0	0	0	0	0	0	0.33	0.00	0.00	0.11
Western harvest mouse	0	0	1	1	1	0	1	3	0	0.33	0.67	1.33	0.78
Deer mouse	2	1	3	0	1	0	0	0	0	2.00	0.33	0.00	0.78
Brush mouse	4	9	7	0	1	1	2	4	4	6.67	0.67	3.33	3.56
California vole	0	0	0	0	1	0	0	1	2	0.00	0.33	1.00	0.44
Dusky-footed woodrat	4	4	4	1	0	0	0	0	0	4.00	0.33	0.00	1.44
House mouse	1	0	0	0	0	0	0	0	0	0.33	0.00	0.00	0.11
No. Species Captured	4	3	5	2	4	1	2	3	2	4.00	2.33	2.33	2.89
Total Captures	11	14	16	2	3	1	3	8	6	13.67	2.33	5.67	7.22
No. Trap-nights	50	50	50	25	25	25	25	25	25	50	25	25	33.33
Captures/100 Trap-nights	22	28	32	8	16	4	12	32	24	27.33	9.33	22.67	19.78

Coastal Scrub

Five species and 63 individual small mammals were captured at the coastal scrub community during 300 trap-nights (Table 11). The capture rates were relatively high in both trapping grids (9–14 captures per day), although the number of species captured at Grid 2 tended to decrease over the 3-day trapping period.

Table 11. Small Mammal Inventory Results at the Coastal Scrub Community Site

	Coastal ScrubCommunity								
	Grid 1			Grid 2			Survey Average		
Species	14-May	15-May	16-May	14-May	15-May	16-May	Grid 1	Grid 2	1 & 2
California pocket mouse	1	0	0	0	0	0	0.33	0.00	0.17
Heerman's kangaroo rat	3	3	4	3	4	5	3.33	4.00	3.67
Deer mouse	0	1	2	3	1	3	1.00	2.33	1.67
Brush mouse	4	2	1	2	1	0	2.33	1.00	1.67
Dusky-footed woodrat	6	6	5	2	0	1	5.67	1.00	3.33
No. Species Captured	4	4	4	4	3	2	4.00	3.00	3.50
Total Captures	14	12	12	10	6	9	12.67	8.33	10.50
No. Trap-nights	50	50	50	50	50	50	50	50	50
Captures/100 Trap-nights	28	24	24	20	12	18	25.33	16.67	21.00

Seep/Spring Wetlands

Before the controlled burn, the survey of the seep/spring wetland area (Figures 17 and 18) resulted in only a single brush mouse being captured once in Grid 1 (Table 12), compared with seven individuals of three species caught in the seep channel trapline (Figure 18) adjacent to the grid. The trap success at the seep trapline varied from two to nine individuals per day throughout the 3-day survey period.

Table 12. Small Mammal Inventory Results at the Seep/Spring Wetland Community Site

	Seep/Spring Wetland Community								
	Grid 1			Seep Channel Trapline			Survey Average		
Species	17-May	18-May	19-May	17-May	18-May	19-May	Grid 1	Grid 2	1 & 2
Deer mouse	0	0	0	0	0	3	0.00	1.00	0.43
Brush mouse	0	0	1	4	1	5	0.33	3.33	1.62
Dusky-footed woodrat	0	0	0	1	1	1	0.00	1.00	0.43
No. Species Captured	0	0	1	2	2	3	0.33	2.33	1.19
Total Captures	0	0	1	5	2	9	0.33	5.33	2.48
No. Trap-nights	50	50	50	50	50	50	50	50	50
Captures/100 Trap-nights	0	0	2	10	4	18	0.67	10.67	4.95

Summary and Discussion

Vegetation Community Small Mammal Associations

Site 300 supports a variety of habitats suitable for a moderate diversity of small mammals, mostly adapted to the dry Mediterranean climate of the Coast Ranges. The spatial diversity, abundance, and ecological structure of these habitats largely determine the distribution and abundance of small mammals on the Site.

Figure 1 shows that annual grassland is the predominant vegetation community at Site 300 (vegetation map layer from Jones & Stokes 2002). This community consists largely of vast expanses of slender wild oat (*Avena barbata*) and wild oat (*A. fatua*). Because of the extent of this community, it encompasses a variety of habitat conditions (topography, soil conditions, cover availability) that are favorable for a mix of different small mammals, particularly granivorous species such as deer mouse, western harvest mouse, Heermann's kangaroo rat, and San Joaquin pocket mouse. Large to small patches of native grassland, primarily one-sided bluegrass (*Poa secunda*) and purple needlegrass (*Nasella cernua*), are interspersed throughout the annual grassland in the northern half of Site 300. The structural and botanical diversity within native grassland, however, is apparently less than that of annual grassland, at least in the areas surveyed during this study, and fewer small mammal species (deer mouse, brush mouse, and California vole) were captured there.

The coastal scrub community is widely distributed throughout the southern portion of Site 300, generally in smaller patches than the native grassland areas, occurring particularly on south-facing slopes. This community is structurally and botanically more diverse than the grassland communities and supports some of the same small mammal species as the annual and native grassland communities (deer mouse, Heermann's kangaroo rat, brush mouse), in addition to California pocket mouse and an abundant dusky-footed woodrat population. San Joaquin pocket mouse and California vole, however, were not captured in this community. California pocket mouse also occurs in grassland habitats, but is

more ecotonal in its habitat preferences, apparently being most abundant where grassland and scrub/chaparral habitats occur in close proximity (Zeiner et al. 1990). This species feeds not only on the seeds of annual grasses but on a variety of forbs, and probably consumes leafy vegetation and insects seasonally. Dusky-footed woodrats are common in a variety of habitats, including forests and woodlands, throughout the Coast Ranges of California (Zeiner et al. 1990) and can be abundant in chaparral and coastal scrub habitats. Local abundance of dusky-footed woodrats in the area may be limited by the availability of sticks for building stick houses.

Oak savanna habitat on Site 300 is largely confined to the canyons and draws of the southwest corner and southern border of the Site. The grassland understory of this community is mostly comprised of species also found in annual grassland; oak savanna accordingly provides favorable habitat for at least some of the same small mammal species that were captured in the annual grassland (deer mouse and San Joaquin pocket mouse). However, the survey plots in the oak savanna community trapped during this study (Figure 11) were fairly uniform in structure and vegetation cover compared with those in the annual grassland community (Figure 8). These differences could possibly explain the lower species diversity observed in the oak savanna survey. Other annual grassland species, including Heermann's kangaroo rat, western harvest mouse, and California vole, are likely to occur in the grassland habitat of different oak savanna areas on Site 300 where topographic and vegetation diversity are higher. The occurrence of San Joaquin pocket mouse in both the annual grassland and oak savanna communities suggests that the population status of this special-status species is stable, although the capture data were insufficient to quantitatively verify this assumption.

Riparian habitat at Site 300 is predominantly restricted to a few small drainages across the southern portion of the Site (Figure 1). This habitat type, however, supports the highest diversity and abundance of small mammals in the area.

Effects of Fire on Small Mammals in the Native Grassland Community

Three small mammal species were initially captured in the native grassland community before the controlled burn on June 20, 2002: valley pocket gopher, deer mouse, and brush mouse. The night after the burn, four deer mice were captured on site. Five weeks following the burn, deer mice and California voles were captured on site. While these data are insufficient to allow statistical comparisons of pre- and post-burn effects on species diversity or abundance, they do allow qualitative assessment of potential affects of the fire on resident small mammals, as well as possible short- and long-term responses of these mammals to the fire. The immediate capture of deer mice on the burned area suggests that the fire did not destroy all the small mammals in the burn area. No carcasses of mammals were observed on site while setting the traps immediately after the burn, and subsequent captures the following morning showed that numerous animals were active on the site within hours after the burn. While it is possible

that the deer mice that were captured the morning after the burn emigrated into the burn area from peripheral areas such as the seep channel, this is not likely, because there was little if any food available to attract them and the risk of predation in the area was very high. It is more likely that they emerged from burrows (in the burn area) into which they had retreated to escape the fire.

Studies on the behavioral responses of rodents to fire show that to escape the heat of a fire many species will either take refuge in unburned islands (Motobu 1978) or rock outcrops (Howard et al. 1959), run ahead of the flames (Erwin and Stasiak 1979), or take refuge in burrows (Lawrence 1966). In the case of grassland fires, where the flames move quickly across the landscape, the latter escape behavior is likely to be the most effective in ensuring survival. Beneath the soil surface, temperatures are reduced and rodents are able to survive (Lawrence 1966). Some level of loss, however, is inevitable and undetectable for an indeterminate number of animals that succumb to either direct burning on the surface or asphyxiation or heat prostration in the burrows (Chew et al. 1958; Tevis 1956; Erwin and Stasiak 1979).

Studies on short- and long-term effects of fire on small mammals in grassland communities show different species respond differently to burning. Immediately following a burn, for example, deer mice tend to show a positive response in numbers within a burn site (Tester 1965, Kaufman et al. 1983, 1988, Clark and Kaufman 1990, McMillian et al. 1995), while harvest mice (*Reithrodontomys megalotis*) and voles (*Microtus spp.)* are more negatively affected. Deer mice apparently respond favorably to the increased availability of seeds and invertebrates resulting from the removal of the litter layer by fire (Wright and Bailey 1982, Kaufman et al. 1983). Additionally, they appear to tolerate a more open vegetation structure (Kaufman et al. 1983), than other species. Harvest mice and voles are principally litter dwelling species that are highly susceptible to the direct effects of fire. Fire destroys nests as well as plant material used for nest construction (Shump 1974, Erwin and Stasiak 1979). Habitat structure, particularly a dense canopy structure for protective cover is characteristic of areas favored by these species and is most likely a principal determinant of their population responses to fire. The results of our trapping survey before and after the burn in the native grassland community are limited, though consistent with these findings. Deer mice were the only species captured immediately following the burn and were more abundant after the burn than before it. California voles were only captured later during the second post-burn survey.

The long-term effects of grassland fire management on the small mammal communities at Site 300 are unknown. Studies of fire effects on small mammal diversity in tallgrass prairie show that communities that develop after periodic fires are richer and more diverse than communities that develop after annual fires (Kaufman et al. 1994, 1995). Additionally communities in long-term unburned prairie were richer and more diverse that communities in short-term unburned prairie. In a series of long-term studies, Kaufman et al. (1983, 1994, 1995) observed that grasslands burned annually tends to lead to communities with a dominance of deer mice. In contrast, decreasing the frequency of fire favors a predominance of other species including western harvest mice and voles.

Additional factors such as grazing may also have a negative effect on small mammals that require a litter layer by reducing the depth of or eliminating the litter layer (Kaufman et al. 1995).

Deer mice are opportunistic omnivores (Johnson 1961), prefer xeric habitats with open vegetation and sparse litter cover (Kaufman et al. 1983, 1988a, 1988b), and are generally well suited to exploit burned areas during succession (Beck and Vogle 1972; Kaufman et al. 1983). Within 3 years, deer mouse populations in burned areas will often increase significantly over that of adjacent unburned areas (Cook 1959; Tevis 1956; Bock and Bock 1983; Kaufman et al. 1983, 1988a, 1988b). Initially, many of the colonizing mice are juveniles (Tester 1965; Stout et al. 1971; Sims and Buckner 1973), but subsequent population increases result from increased reproductive rates within the burn areas.

Western harvest mice, which are granivorous, will also inhabit burns, but tend not to invade these areas until some vegetative cover is established (Cook 1959; Kaufman et al. 1983). Kangaroo rats and pocket mice respond in a similar manner to changes in local food availability in burned areas (Bock and Bock 1978). Herbivores such as voles, however, are generally absent or present in low densities for some time after a burn (Fala 1975). These species are more restricted to habitats with dense vegetative cover in which they can build runways (Rickard 1960; Sims and Buckner 1973). Populations of voles are usually low in burn areas for the first 2–4 years following a fire, until vegetative cover increases (Cook 1959). It is interesting to note that two California voles were captured in the Site 300 burn area during the second post-burn survey on Site 300 (Table 2). While protective cover was not yet available at this site, new green shoots were emerging throughout the burned area and undoubtedly provided new food for this species.

In summary, the controlled burn of the native grassland habitat at Site 300 likely resulted in some level of loss of small mammals through direct mortality from the fire and subsequent increased predation, but immediate post-burn capture data indicate that a component of the population survived. Subsequent trapping showed continued use of the area by the opportunistic and ubiquitous deer mouse and apparent recolonization by California voles. Full recovery and return of other species, such as western harvest mouse, to this area would likely take several years. Annual burning of these grassland areas would retard this recovery process and limit species diversity and abundance of small mammals in these areas (eg. Kaufman 1983, 1994).

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Appendix A

GPS Location Data for Site 300 Small Mammal Trapping Grids and Traplines

Appendix B

2002 Site 300 Small Mammal Inventory Field Data Form

Appendix A

GPS Location Data for Site 300 Small Mammal Trapping Grids and Traplines

Comment	Datafile	Gps_height	Northing	Easting
OS2 L1 NE	G062215H.cor	620.15	414584.7676	1705520.906
NG2 L5 NW	G062213B.cor	971.584	426505.954	1699366.096
NG2 L5 NE	G062213C.cor	937.448	426642.5238	1699530.035
NG2 L1 SE	G062213D.cor	941.264	426581.223	1699613.754
NG1 L1 NE	G062213E.cor	967.377	426475.2812	1699582.083
NG1 L5 SE	G062213F.cor	988.805	426364.4144	1699643.194
NG1 L5 SW	G062213G.cor	1030.713	426290.1115	1699462.864
NG1 L1 NW	G062213H.cor	1001.883	426376.4867	1699404.17
SEEP2 NORTH	G062213I.cor	936.015	426878.7648	1699368.267
SEEP1 L5 SE	G062213J.cor	936.927	426794.3088	1699439.9
SEEP1 L5 NE	G062213K.cor	937.515	426911.7334	1699259.52
SEEP1 L1 NW	G062213L.cor	947.676	426841.2153	1699210.105
SEEP1 L1 SW	G062213M.cor	949.903	426717.1348	1699387.349
SEEP2 SOUTH	G062213N.cor	917.013	426289.4279	1700304.278
AG2 L1 NW	G062214A.cor	1127.529	429427.5697	1695530.878
AG2 L5 SE	G062214B.cor	1104.718	429608.7219	1695800.648
AG2 L5 NE	G062214C.cor	1130.157	429552.2598	1695514.432
AG2 L1 SW	G062214D.cor	1104.421	429486.7379	1695831.108
AG1 L1 NE	G062214E.cor	1126.894	429358.3022	1695831.784
AG1 L5 SE	G062214F.cor	1147.486	429278.217	1695962.212
AG1 L5 SW	G062214G.cor	1190.343	429093.0032	1695857.46
AG1 L1 NW	G062214H.cor	1174.172	429139.7398	1695753.401
OS1 L1 NW	G062215A.cor	634.272	414559.2601	1705711.918
OS1 L1 NE	G062215B.cor	626.316	414552.8726	1705978.885
OS1 L5 SE	G062215C.cor	679.788	414412.0648	1705969.751
OS1 L5 NW	G062215D.cor	693.23	414426.4986	1705701.121
OS2 L5 SE	G062215E.cor	687.919	414463.108	1705473.5
OS2 L5 SW	G062215F.cor	682.85	414554.3401	1705190.83
OS2 L1 NW	G062215G.cor	634.336	414667.9557	1705265.724
NG2 L1 SW	G062213A.cor	976.902	426450.4496	1699434.949
R2 S	g073000b.cor	689.611	417227.5105	1693682.644
S2 L5 SE	g072923b.cor	1060.663	418656.9577	1695951.104
S2 L5 NE	g072923c.cor	1176.377	418936.9932	1695887.003
S2 L1 NW	g072923d.cor	1209.617	418961.6904	1695592.55
S1 L1 SW	g072923e.cor	799.569	418000.6711	1693879.579
S1 L5 SE	g072923f.cor	792.125	417984.9308	1693971.368
S1 L5 NE	g072923g.cor	816.363	418245.7931	1694038.595
S1 L1 NW	g072923h.cor	840.586	418359.0758	1693863.848
R1 N	g072923i.cor	764.661	418469.0325	1693618.036
R1 S	g072923j.cor	737.986	417781.7526	1693745.395
R3 N	g072923k.cor	746.074	417769.9326	1693736.224
R2 N	g072923l.cor	715.777	417747.0669	1693761.746
R3 S	g073000a.cor	674.912	417276.9246	1693653.071
S2 L1 SW	g072923a.cor	1119.709	418736.3129	1695580.587

Data are in Stateplane, zone 2, units feet, NAD27, spheroid clarke1866

Appendix B

2002 Site 300 Small Mammal Inventory Field Data Form

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page _____ of _____

Site:_____
Date:_____/_____/02 **Start Survey Time:**_____ **End Survey Time:**_____

Team Members: _____

_____

Weather: Temp:_____F; **Wind:** _____mph from_____; **Clouds:** _____; **Precip:**_____
Other Site Conditions: _____

_____

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?

Trap Line #	Trap check-off Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: _____

_____

_____

_____

_____

_____

Project Manager sign-off: _____

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones & Stokes

Lawrence Livermore National Laboratory
Site 300

2002 Small Mammal Inventory
Field Data

Jones & Stokes LLNL Site 300
Small Mammal Inventory Field Data

Survey Period May 14 – 19, 2002

Communities Surveyed: Coastal Scrub
Riparian
Native Grassland
Seep

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey Page 1 of 1

Date: 5/14/02 SCRUB 1 Start Survey Time: 0840 End Survey Time: 11:00 for SCRUB 1

Team Members: ED WEST, JENNIFER ALVAREZ

Weather: Temp: 66 F; Wind: <5 mph from W; Clouds: clear; Precip: 0

Other Site Conditions:

1 (West)
2
3 RIDGE
4

Time	Site	Location	Cl	Time Trap Removed	Trap No. Replaced	Time Sp. Processed	Species	Sex	Age	Condition	Recapture?	Marked?	Trap disinfected?	Time Sp. Released
0920	S1	L1 #7	✓	—	~	—	P.b.	♂	A	✓	—	NO	—	9:30
0934	S1	L2 #8	✓	—	—	—	N.f.	♂	A	✓	—	4	—	9:45
0950	S1	L2 #1	✓	—	—	—	P.b.	♀	A	✓	—	4	—	9:55
0957	S1	L3 #5	✓	—	—	—	N.f.	♀	SMALL	LAC	—	4	—	1001
1002	S1	L3 #3	✓	^	—	—	N.f.	♀	A	LAC	—	4	—	1015
1017	S1	L3 #2	✓	—	—	—	D.h.	♂	A	✓	—	4	—	1020
1021	S1	L3 #1	✓	—	—	—	D.h.	♀	A	ADLAC	—	4	—	1025
1028	S1	L3 #4	✓	—	—	—	N.f.	♀	A	NOT LAC	—	4	—	1030
1031	S1	L3 #3	✓	—	—	—	N.f.	♂	A	✓	—	4	—	1033
1038	S1	L5 #5	✓	—	—	—	D.h.	♂	A	✓	—	4	—	1042
1044	S1	L5 #6	✓	—	—	—	P.b.	♂	A	✓	—	4		
1045	S1	L5 #9	✓	—	—	—	~~P.b.~~ Pc	♂	A	DIED - HEAT	—	N	—	1047
1049	S1	L5 #10	✓	—	—	—	N.f.			ESCAPE	—	—	—	—
1052	S1	L4	✓ EMPTY									—		
1055	S1	L4 #4	✓		—	—	P.b.	♂	A		—	4	—	1056
END														

R, Red

Notes: Codes: Riparian 1 - upstream of road
Site screen 1 - upstream on plateau
Site screen 2 - near women's site
L1 # Base of rock face, lot of activity - soil disturbance
Pc - perognathus californicus

Summary
Dipodomys heermanni 3
Neotoma fuscipes 6
Peromyscus boylii 4
Peromyscus maniculatus 0
Perognathus Californicus 1
14

Project Manager Sign-off

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

X 3 X 6 9 10 (LAST)

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SCRUB 1
Date: 05/15/02 **Start Survey Time:** 835 **End Survey Time:** 938

Team Members: ED WEST
JENNIFER ALVAREZ

Weather: Temp: 76 F; **Wind:** <5 mph from ____; **Clouds:** 0; **Precip:** 0
Other Site Conditions:

Trap Survey Results

Time	Site	Location	☒	Species	Sex	Age	Condition	Recapture?	Marked?
846	S1	L5 #7	✓	D.h.	♀	A	NAL LAC	NO	✓
850	S1	L5 #10	✓	N.f.	♀	A	LAC	NO	✓
855	S1	L4 #4	✓	N.f.	♀	A	✓ —	YES	—
902	S1	L4 #2	✓	N.f.	♀	A	LAC	NO	✓
905	S1	L3 #1	✓	P.b.	♀	A	LAC	NO	✓
908	S1	L3 #2	✓	D.h.	♀	A	LAC	NO	✓
912	S1	L3 #4	✓	P.b.	♂	A	—	NO	✓
916	S1	L3 #7	✓	P.m.		ESCAPE		NO	—
917	S1	L3 #9	✓	N.f.	♂	A	—	NO	✓
928	S1	L4 #1	✓	N.f.	♀	A	LAC	YES	—
932	S1	L1 #5	✓	N.f.	♂	A	—	NO	✓
936	S1	L1 #10	✓	D.h.	♀	A	LAC	NO	✓

Trap check-off

Trap Line #	Trap number
5	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
3	1 2 3 4 5 6 7 8 9 10
2	1 2 3 4 5 6 7 8 9 10
1	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Summary:

	TOTAL	RECAP
Dipodomys heermanni	3	0
Neotoma fuscipes	6	2
Peromyscus boylii	2	0
Peromyscus maniculatus	1	0
	12	2

Notes:

Project Manager sign-off: Ed West

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Site: SCRUB 1
Date: 05/16/02
Start Survey Time: 832
End Survey Time: 940
77°F

Team Members: ED WEST
JENNIFER ALVAREZ

Weather: Temp: 78 F; **Wind:** 2-3 mph from W; **Clouds:** ∅; **Precip:** ∅
Other Site Conditions: ALONG RIDGE, 2 LINES ON each SIDE, one along Ridgeline

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
837	S1	L5 #2	✓	Dh	♂	A	GOOD	NO	–
840	S1	L5 #3	✓	N.f.	♂	A	GOOD	yes	–
850	S1	L4 #4	✓	N.f.	♀	A	LAC nose+ TAIL	yes	–
901	S1	L4 #2	✓	N.f.	♀	A	LAC GOOD	yes	–
904	S1	L3 #2	✓	N.f.	♀	A	Preg GOOD	NO	–
906	S1	L3 #4	✓	N.f.	♂	A	GOOD	yes	–
908	S1	L3 #7	✓	Pm	♀	A	Preg (?)	NO	–
925	S1	L1 #2	✓	P.b.	♂	A	GOOD	NO	–
929	S1	L1 #3	✓	P.m.	♀	A	LAC	NO	–
931	S1	L1 #6	✓	D.h.	♂	A	GOOD	NO	–
934	S1	L1 #7	✓	Dh	♀	A	LAC (TAIL)	NO	–
937	S1	L1 #10	✓	D.h.	♀	A	LAC tail scrape	yes	–

Trap check-off

Trap Line #	Trap number
5	~~1~~ (2) (3) ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
4	~~1~~ (2) ~~3~~ (4) ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
3	~~1~~ (2) ~~3~~ (4) ~~5~~ ~~6~~ (7) ~~8~~ ~~9~~ ~~10~~
2	~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
1	~~1~~ (2) (3) ~~4~~ ~~5~~ (6) (7) ~~8~~ ~~9~~ (10)
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

		RECAP
Dh	4	1
Nf	5	
Pb	1	
Pm	2	

Notes:

Project Manager sign-off: [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey
SAGE 2 SCRUB

Date: 05/14/02 **Start Survey Time:** 1117 **End Survey Time:** 1205

Team Members: ED WEST
JENNIFER ALVAREZ

Weather: Temp: ___ F; **Wind:** >15 mph from W; **Clouds:** ∅; **Precip:** ∅
Other Site Conditions:

NORTH

Time	Site	Location	CI	Time Trap Removed	Trap No. Replaced	Time Sp. Processed	Species	Sex	Age	Condition	Recapture?	Marked?	Trap dissinfected?	Time Sp. Released
1117	S2	L1 #7	✓	—	—	—	Pm	♀	A	LAC	—	Y	—	1120
1121	S2	L1 #8	✓	—	—	—	Pm	♂	A	—	—	Y	—	1123
1:25	S2	L1 #10	—	—	—	—	N.f.	♂	A	HEAT CONDIT - ALIVE BUT NOT MOVING				
	S2	L2 #1	✓				Nf	♀	A	LAC	—	Y	—	—
	S2	L2 #7	—	—	—	—	D.h.	♀	A	LAC	—	Y	—	—
1135	S2	L2 #5	✓	—	—	—	PM	—	J	—	—	Y	—	1140
1141	S2	L2 #6	✓	—	—	—	P.b.	♂	A	—	—	Y	—	1142
1150	S2	L4 #3	✓	—	—	—	P.b	♀	A	LAC	—	Y	—	1152
1153	S2	L5 #9	✓				D.h.	♀	A	DEAD - LAC	—	—	—	1155
1158	S2	L5 2	✓				D.h.	♂	A	DEAD	—	—	—	1208

Notes: S2 L4 #8 BROKEN TRAP
S2 L5 #9 KRAT - SALVAGED (JA)

Summary:
Dipodomys heermanni 3
Neotoma fuscipes 2
Peromyscus boylii 2
Peromyscus maniculatus 3
10

Project Manager Sign-off [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SCRUB 2
Date: 05/15/02 **Start Survey Time:** 722 **End Survey Time:** 812

Team Members: ED WEST
JENNIFER ALVAREZ

Weather: Temp: 70 F; **Wind:** 5-10 mph from SW; **Clouds:** ∅; **Precip:** ∅
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
726	S2	L1 #4		D.h.	♀	A	LAC	NO	✓
730	S2	L1 #7		P.m	♂	A	—	NO	✓
735	S2	L1 #4		D.h.	?	J	—	NO	✓
741	S2	L1 #5		D.h.	♀	A	LAC	NO	✓
747	S2	L2 #6		P.b	♂	A	—	yes	—
735	S2	L3 #7		D.h	?	J	—	NO	✓
741	S2	L3 #4		D.h	♀	A	—	NO	✓
751	S2	L3 #10		D.h	♂	A	NON LAC	NO	✓
802	S2	L4 #8	-	TRAP BROKEN - TO BE Replaced					
809	S2	L5 #2		P.m	♂	A	—	NO	✓

Trap Line #	Trap check-off — Trap number									
1	1	2	3	(4)	5	6	(7)	8	9	10
2	1	2	3	(4)	(5)	6	7	8	9	10
2	1	2	3	4	5	(6)	7	8	9	10
3	1	2	3	(4)	(5)	6	(7)	(8)	(9)	(10)
4	1	2	3	4	5	6	7	8	(9)	10
5	1	(2)	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

NO TRAP AT 5.

Summary:

	TOTAL	Rec
Dipodomys heermanni	4	∅
Neotoma fuscipes	∅	∅
Peromyscus boylii	1	1
Peromyscus maniculatus	1	∅
	6	

Notes: MARKED RATS ON WHITE HIPLINE; MICE ON LIGHT UNDERFUR
WHEN TRAP ✓ off → CROSS OVER ON LINES, REWORKED LINES; DELETE ERROR LINE

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SAGE 2
Date: 05/16/02 **Start Survey Time:** 700 **End Survey Time:** 801
76°F

Team Members: ED WEST
JENNIFER HERNANDEZ

Weather: Temp: 64 F; **Wind:** ~2 mph from W; **Clouds:** Ø; **Precip:** Ø
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
702	S2	L5 #2	✓	P.m.	♂	A	—	NO	—
710	S2	L4 #9	✓	D.h.	♂	A	DECEMD T's	NO	
720	S2	L4 #1	✓	D.h	♀	A	LAC	YES	—
729	S2	L3 #6	✓	D.h.	♀	A	LAC	YES	-
749	S2	L1 #1	✓	P.m	♂	J	—	NO	—
751	S2	L1 #2	✓	N.f.	♂	A	—	NO	—
755	S2	L1 #6	✓	D.h.	♀	A	PROB LAC EVIDENT NIPPLES	YES	—
758	S2	L1 #8	✓	P.m	♂	A	✓ TAIL TIP	NO	—
800	S2	L1 #9	✓	D.h.	♂	A	OK	NO	—

Trap check-off

Trap Line #	Trap number										
5	1	2	3	4	5	6	7	8	9	10	
4	1	2	3	4	5	6	7	8	9	10	
3	1	2	3	4	5	6	7	8	9	10	
2	1	2	3	4	5	6	7	8	9	10	
1	1	2	3	4	5	6	7	8	9	10	
	1	2	3	4	5	6	7	8	9	10	
	1	2	3	4	5	6	7	8	9	10	
	1	2	3	4	5	6	7	8	9	10	
	1	2	3	4	5	6	7	8	9	10	
	1	2	3	4	5	6	7	8	9	10	

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

		Recap
Dh	5	3
Nf	1	
Pb	0	
Pm	3	

Notes: L5 - Pm caught in # 2 (TOP)
SQUIRRELS SP SEEN L3 #6

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey Page 1 of 2

RIPARIAN 1 - UPSTREAM RIPARIAN 2 - DOWNSTREAM

Date: 5/14/02 **Start Survey Time:** 0840 **End Survey Time:** 1039

Team Members: BRIAN ZETTLE, WILL KOHN

Weather: Temp: 66° F; **Wind:** <5 mph from W; **Clouds:** 0; **Precip:** 0

Other Site Conditions:

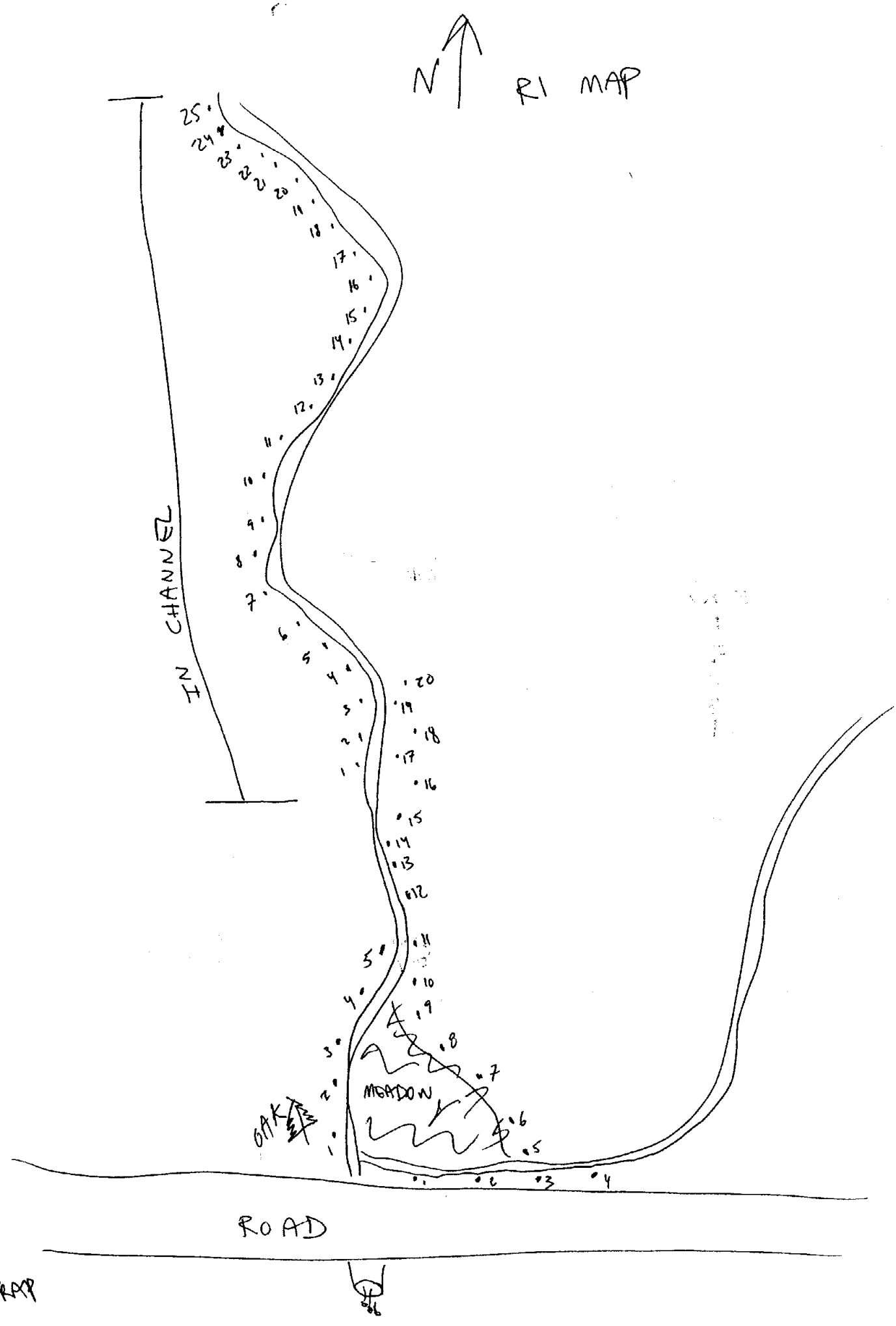
Time	Site	Location	Cl	Time Trap Removed	Trap No. Replaced	Time Sp. Processed	Species	Sex	Age	Condition	Recapture?	Marked?	Trap disInfected?	Time Sp. Released
0912	R1	W1												
0913	R1	W2	✓	0915						NO ANIMAL				
0916	R1	W3												
0917	R1	W4	✓	0917			N. fuscipes	M	A	GOOD		✓	NO	0923
0925	R1	W5	✓	0925			P. [illegible]	F	A	GOOD, MAMMARIES PRESENT		✓	NO	0928
0929	R1	E10												
0930	R1	E9												
0931	R1	E8												
0932	R1	E7												
0932	R1	E6												
0933	R1	E5												
0933	R1	E4												
0934	R1	E3												
0934	R1	E2												
0935	R1	E1												
0936	R1	E11												
0937	R1	E12												
0937	R1	E13	✓	0938						NO ANIMAL				
0939	R1	E14												
0940	R1	E15												
0940	R1	E16												
0941	R1	E17	✓	0942			P. boylii	F	A	GOOD, PREGNANT		✓	NO	0946
0947	R1	E18	✓	0948			P. boylii	M	A	GOOD, TESTES PROMINANT		✓	NO	0949
0949	R1	E19												
0950	R1	E20	✓	0951			P. boylii	M	A?	GOOD, TAIL > BODY		✓	NO	0954

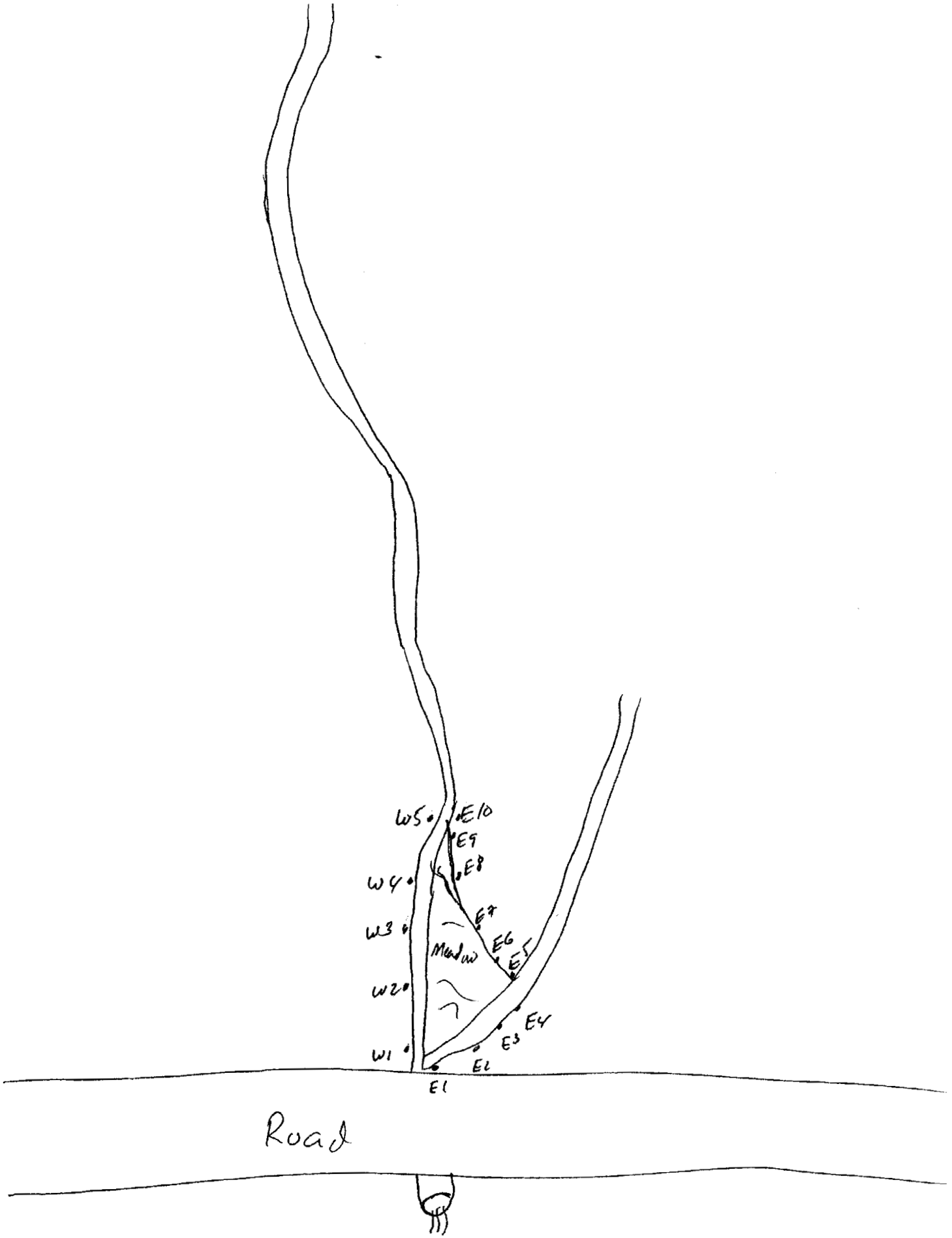
Notes:

Project Manager Sign-off

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681


N
R1 MAP
IN CHANNEL
MEADOW
OAK
ROAD
• = TRAP


W5
E10
E9
E8
W4
E7
W3
E6
Mud
E5
W2
E4
E3
W1
E2
E1
Road

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey

Date: 5 / 14 /02 Start Survey Time: 0840 End Survey Time: 1039

Team Members: B. ZETTLE, W. KOHN

Weather: Temp:_____F; Wind: _____mph from_____; Clouds: _____; Precip:_____
Other Site Conditions:

Time	Site	Location	Cl	Time Trap Removed	Trap No. Replaced	Time Sp. Processed	Species	Sex	Age	Condition (TOO WET)	Recapture?	Marked?	Trap disinfected?	Time Sp. Released
1000	R1	M1	✓	1002			N. fuscipes	F	A	GOOD, MAMMAE PRESENT		NO	NO	1005
1006	R1	M2A	✓	1006			M. musculus	F	U	GOOD		✓	NO	1008
1010	R1	M2B												
1009	R1	M3												
1011	R1	M4												
1011	R1	M5												
1012	R1	M6												
1013	R1	M7												
1013	R1	M8A	✓	1013			P. maniculatus	F	A	GOOD, PREGNANT		✓	NO	1015
1015	R1	M9												
1015	R1	M10												
1016	R1	M11												
1016	R1	M12												
1017	R1	M13												
1017	R1	M14	✓	1017			N. Fuscipes	F	A	GOOD, NON-REPRO.		✓	NO	1020
1017	R1	M15												
1021	R1	M16												
1021	R1	M17												
1022	R1	M18												
1022	R1	M19	✓	1022						NO ANIMAL				
1024	R1	M20	✓	1024						NO ANIMAL				
1024	R1	M21	✓	1024			P. boylii	M	A	GOOD, NON-REPRO		✓	NO	1027
1027	R1	M22	✓	1027			N. fuscipes	F	A	GOOD, NON-REPRO		✓	NO	1031
1031	R1	M23	✓	1031						NO ANIMAL				
1035	R1	M8B												

Notes: OBSERVED W. FENCE LIZARD, GOPHER SNAKE

5-14 TOTAL
Dh 0
Np 4
Pb 4
Pm 2
Mm 1

Project Manager Sign-off

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 2

Site: R1
Date: 5 / 15 /02 **Start Survey Time:** 0724 **End Survey Time:** 0845

Team Members: B. ZETTLE, W. KOHN

Weather: Temp: 14°C; **Wind:** 0-1 mph from E; **Clouds:** —; **Precip:** —
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0728	R1	E1	✓	Bufo woodh.			GOOD	NO	
0729	R1	E2		N. fuscipes				[redacted]	
0730	R1	E3	✓	N. lepida	F	A	GOOD, NON-REPRO.	NO	✓
0734	R1	E4						[redacted]	
0735	R1	W1						[redacted]	
0735	R1	W2	TRAP NOT SET NIGHT BEFORE						
0736	R1	W3							
0736	R1	W4	✓	N. fuscipes	M	A	NR, TAIL CLIPPED	YES	—
0742	R1	W5							
0744	R1	E5							
0744	R1	E6							
0744	R1	E7							
0745	R1	E8	✓	P. maniculatus	F	A	MAMMARIES PRESENT	NO	✓
0749	R1	E9							
0749	R1	E10							
0750	R1	E11							
0751	R1	E12	✓	N. fuscipes	F	A	MAMMARIES, Ra. sac NOTED	NO	✓
0754	R1	E13	✓	NO ANIMAL, FECES PRESENT ??					
0756	R1	E14							
0757	R1	E15	✓	P. boylii	M	J	GOOD	NO	✓
0759	R1	E16							
0759	R1	E17	✓	P. boylii	F	A	MAMMARIES	NO	✓
0801	R1	E18	✓	P. boylii	M	J	NON-REPRO	NO	✓
0803	R1	E19							
0804	R1	E20	✓	P. boylii	F	A	PREGNANT, MAMMARIES	NO	✓

Trap Line #	Trap check-off (Trap number)
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

NR = NON REPRODUCTIVE

Notes:

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 2 of 2

Site: R1
Date: 5/15/02 **Start Survey Time:** 0724 **End Survey Time:** 0845

Team Members: B. BETTLE, W. KOHN

Weather: Temp:____F; **Wind:** ____mph from____; **Clouds:** ____; **Precip:**____
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0809	R1	M1							
0810	R1	M2A							
0811	R1	M2B	✓	NO ANIMAL					
0811	R1	M3							
0814	R1	M4	✓	P. boylii	F	A	PREGNANT, MAMMERS	NO	✓
0816	R1	M5							
0817	R1	M6	✓	P. boylii	F	A	NR	NO	✓
0819	R1	M7	✓	P. boylii	M	A	NR	NO	✓
0822	R1	M8A	✓	P. boylii	U	J	VERY SMALL	NO	✓
0822	R1	M8B							
0829	R1	M9	✓	P. boylii	U	J	VERY SMALL	NO	✓
0829	R1	M10							
0831	R1	M11							
0832	R1	M12	✓	NO ANIMAL					
0832	R1	M13							
0833	R1	M14							
0833	R1	M15							
0833	R1	M16							
0834	R1	M17							
0834	R1	M18							
0834	R1	M19	✓	NO ANIMAL					
0835	R1	M20							
0835	R1	M21	✓	NO ANIMAL					
0835	R1	M22	✓	NO ANIMAL					
0836	R1	M23	✓	N. fuscipes	F	A	NR	YES	—

Trap Line #	Trap check-off — Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: HEARD CRLF CALLING ??

5-15 TOTAL
Dh 0
Nf 4
Pb 9
Pm 1
Mm 0

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 7

Site: R1
Date: 5/16/02 Start Survey Time: 0645 End Survey Time: _____

Team Members: W. Kohn

Weather: Temp: _____F; Wind: calm mph from _____; Clouds: — ; Precip: —
Other Site Conditions: _____

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
645	R1	E1							
647		E2							
649		E3							
651		E4	✓	N. fuscipes	F	Juv	Non repro	No	No
655		E5							
656		E6							
658		E7							
658		E8							
700		E9	✓	P. maniculatus	F	Ad	Mammaries large	Yes	No
703		E10							
704		E11							
706		E12	✓	N. fuscipes	F	Ad	Mammaries grant	Yes	No
710		E13	✓	P. boylii	F	Ad	Mammaries, P. boylii	Yes	No
712		E14							
714		E15	✓	P. maniculatus	F	Ad	Non repro	No	No
715		E16							
716		E17							
716		E18							
717		E19							
718		E20	✓	P. boylii	F	Ad	Pregnant	Yes	No
725		W5							
726		W4							
727		W3							
729		W2	✓	P. maniculatus	M	Ad	Non repro	No	No
734		W1							

Trap Line #	Trap check-off Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off: _____

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Site: R1
Date: 5/16/02
Start Survey Time: 0645
End Survey Time: 821

Team Members: W. Kohn

Weather: Temp: ___F; **Wind:** ___mph from___; **Clouds:** ___; **Precip:**___
Other Site Conditions:

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
739	R1	M1	✓	P. boylii	[illegible]	Jv	Good	No	No
742		M2A							
744		M2B	✓				No animal		
745		M3							
747		M4							
749		M5	✓	[illegible]	M	Ad	Repro	No	No
754		M6	✓	T. bottae	F	Ad	Nonrepro	No	No
755		M7	✓	R. megalotis	M	Ad	Repro	No	No
759		M8A							
759		M8B							
800		M9	✓	N. fuscipes	M	Ad	Nonrepro	No	No
803		M10							
804		M11							
805		M12	✓				No animal		
806		M13							
807		M14							
808		M15	✓	P. boylii	M	Ad	Repro	No	No
810		M16							
810		M17							
811		M18							
811		M19	✓	P. boylii (P. californicus struck out)	F	Ad	Repro pregnant (lactating struck out)	No	No
813		M20							
814		M21	✓	P. boylii	M	Ad	Nonrepro	No	No
815		M22	✓	N. fuscipes	F	Ad	Nonrepro	Yes	No
819		M23	✓	P. boylii	F	Ad	Pregnant	No	No

Trap check-off

Trap Line #	Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

5-16 total
Dh
Nf 4
Pb 6
Pm 3
Tb 1
Rm 1
Pc 1

Project Manager sign-off: [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

RZ - EASTSIDE OF DOWNSTREAM

Project: LLNL Site 300 Small Mammal Survey

Page 1 of 1

Date: 5/14/02 **Start Survey Time:** 1040 **End Survey Time:** 1136

Team Members: B. ZEITLE, W. KOHN

Weather: Temp: 20.5 F; **Wind:** 0-1 mph from EAST; **Clouds:** 0% ; **Precip:** 0

Other Site Conditions: Riparian drainage flowing south

Time	Site	Location	Cl	Time Trap Removed	Trap No. Replaced	Time Sp. Processed	Species	Sex	Age	Condition	Recapture?	Marked?	Trap disinfected?	Time Sp. Released
1044	RZ	E1												
1045	RZ	E2												
1045	RZ	E3												
1046	RZ	E4	✓				RED ANTS			NO ANIMAL				
1048	RZ	E5	✓	1048			N. fuscipes	F	A	GOOD, NON-REPRO.		✓	NO	1050
1051	RZ	E6												
1051	RZ	E7												
1052	RZ	E8	✓							NO ANIMAL				
1053	RZ	E9												
1054	RZ	E10												
1054	RZ	E11												
1054	RZ	E12												
1055	RZ	E13												
1055	RZ	E14												
1055	RZ	E15												
1055	RZ	E16												
1056	RZ	E17	✓	1056			R. MEGA	M	A	GOOD, FURNED TESTES		✓	NO	1059
1102	RZ	E18												
1102	RZ	E19												
1102	RZ	E20												
1103	RZ	E21												
1103	RZ	E22												
1105	RZ	E23												
1104	RZ	E24												
1104	RZ	E25												

Notes:

5-15 TOTAL
Nf 1
Pb 1
Pm 1
Rm 2
Mc 1

Project Manager Sign-off

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: RZ
Date: 5 / 15 /02 **Start Survey Time:** 0847 **End Survey Time:** 0908

Team Members: B. BETTLE W. KOHN

Weather: Temp: 69° F; **Wind:** 1-4 mph from E; **Clouds:** 15% ; **Precip:** —
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0849	RZ	1	✓	P. boylii	M	A	REPRODUCTIVE	NO	✓
0851	RZ	2							
0852	RZ	3							
0852	RZ	4							
0853	RZ	5							
0853	RZ	6							
0853	RZ	7							
0854	RZ	8							
0854	RZ	9							
0854	RZ	10							
0854	RZ	11							
0855	RZ	12							
0855	RZ	13							
0855	RZ	14							
0856	RZ	15							
0856	RZ	16	✓	M. Californicus	F	A	NON-REPRO.	NO	✓
0900	RZ	17	✓	P. maniculatus	U	A	ESCAPED DURING PROCESS	NO	NO
0902	RZ	18							
0902	RZ	19							
0903	RZ	20							
0904	RZ	21							
0904	RZ	22	✓	R. megalotis	M	A	REPRODUCTIVE	NO	✓
0907	RZ	23							
0907	RZ	24							
0907	RZ	25							

Trap Line #	Trap check-off — Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

NF 1
PB 1
bm 1
MC 1
RM 2

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Site: R2
Date: 5/16/02 **Start Survey Time:** 835 **End Survey Time:** 906

Team Members: W. Kohn

Weather: Temp:____F; **Wind:** ____mph from____; **Clouds:** ____; **Precip:**____
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
836		1							
841		2							
842		3							
843		4	/	P. boylii	M	Ad	Non Repro	No	No
846		5							
847		6							
848		7							
848		8							
849		9							
850		10							
851		11							
852		12							
854		13							
855		14							
858		15							
859		16							
900		17							
900		18							
901		19							
902		20							
903		21							
904		22							
905		23							
905		24							
906		25							

Trap Line #	Trap check-off (Trap number)	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	
	1 2 3 4 5 6 7 8 9 10	

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

R3- WEST SIDE OF DOWNSTREAM

Project: LLNL Site 300 Small Mammal Survey

Page 1 of 1

Date: 5/14/02 **Start Survey Time:** 1040 **End Survey Time:** 1136

Team Members: B. BETTLE, W. KOHN

Weather: Temp:____F; **Wind:** ____mph from____; **Clouds:** ____; **Precip:**____

Other Site Conditions:

Time	Site	Location	CI	Time Trap Removed	Trap No. Replaced	Time Sp. Processed	Species	Sex	Age	Condition	Recapture?	Marked?	Trap dissinfected?	Time Sp. Released
1105	R3	W25												
1106	R3	W24												
1107	R3	W23												
1107	R3	W22												
1108	R3	W21	✓	1109			P. boylii	M	A	GOOD, NON-REPRO		✓	NO	1110
1111	R3	W20												
1111	R3	W19												
1112	R3	W18	✓	1112			R. megalo	M	A	GOOD, NON-REPRO		✓	NO	1115
1116	R3	W17												
1117	R3	W16	✓	1118			P. maniculatus	M	A	GOOD, TESTES		✓	NO	1119
1119	R3	W15												
1120	R3	W14	✓	1120			P. maniculatus	M	A	GOOD, NON-REPRO		✓	NO	1123
1123	R3	W13												
1124	R3	W12												
1124	R3	W11												
1125	R3	W10												
1125	R3	W9												
1126	R3	W8												
1126	R3	W7												
1127	R3	W6												
1127	R3	W5												
1128	R3	W4												
1129	R3	W3	✓	1130			P. boylii	M	A	GOOD, TESTES		✓	NO	1131
1132	R3	W2												
1133	R3	W1	✓	1134			P. boylii	F	A	GOOD, PREGNANT		✓	NO	1136

Notes: LARGE WESTERN RATTLESNAKE OBSERVED. ALLIGATOR LIZARD OBSERVED

Project Manager Sign-off

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: R3
Date: 5/15/02 **Start Survey Time:** 0908 **End Survey Time:** 0932

Team Members: B. BETTLE, W. KOHN

Weather: Temp: 69° F; **Wind:** 1-4 mph from E; **Clouds:** 15%; **Precip:** —
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0908	R3	25							
0909	R3	24	✓	M. californicus	F	A	NONREPRO	NO	✓
0912	R3	23							
0912	R3	22							
0913	R3	21	✓	P. boylii	M	A	NONREPRO	NO	✓
0915	R3	20							
0915	R3	19	✓	R. Megalotis	F	A	PREGNANT	NO	✓
0917	R3	18	✓	R. Megalotis	M	A	NONREPRO	NO	✓
0919	R3	17							
0919	R3	16	✓	P. boylii	M	A	TESTES	NO	✓
0921	R3	15							
0921	R3	14							
0922	R3	13	✓	~~R. megalotis~~	M	A	TESTES		
0924	R3	12							
0924	R3	11							
0924	R3	10							
0925	R3	9							
0925	R3	8							
0926	R3	7	✓	P. boylii	U	J	VERY SMALL	NO	✓
0928	R3	6							
0928	R3	5							
0928	R3	4							
0929	R3	3	✓	P. boylii	F	A	MAMMARIES, PREG.	YES	—
0932	R3	2							
0932	R3	1							

Trap Line #	Trap check-off (Trap number)
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: R3
Date: 5/16/02 Start Survey Time: 909 End Survey Time: 950

Team Members: W. Fok

Weather: Temp:_____F; Wind: _____mph from_____; Clouds: _____; Precip:_____
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
950		1	✓	P. boylii	F	Ad	Pregnant	NO	NO
949		2							
946		3							
945		4							
948		5							
943		6							
943		7	✓	P. boylii	U	SA		Yes	NO
942		8							
940		9	✓	P. boylii	U	SA		Yes	NO
934		10							
935		11							
935		12							
933		13							
933		14							
931		15							
930		16							
926		17							
925		18	✓	M. californicus	F	Ad	Nonrepro	NO	NO
920		19	✓	P. boylii	M	Ad	Nonrepro	NO	NO
920		20							
917		21	✓	M. californicus	F	Ad	Nonrepro	NO	NO
915		22							
914		23							
911		24	✓	P. boylii	M	Ad	Unrepro	NO	NO
909		25							

Trap check-off

Trap Line #	Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of _____

Site: Native Grassland 1/(copper) / 2 cover Start Survey Time:_____ End Survey Time:_____

Date: 5/17/02

Team Members: ED WEST
JENNIFER ALVAREZ

Weather: Temp:_____F; Wind: 5-10 mph from NW; Clouds: 0; Precip: 0

Other Site Conditions:

NG 1 - NO CAPTURES

Trap Survey Results

NG 2

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
6:55	NG2	L3 #1		P.M.	B	A	GOOD	—	✓

Trap Line #	Trap check-off (Trap number)
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

L3 #5 BADGER DEN

Notes: SUNRISE AT SITE APPROX 6:20 (6:02 IN TRACY)
- LINES EAST WEST ALIGNMENT

Project Manager sign-off: _____

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: NG-1 (UPPER)
Date: 5/18/02 **Start Survey Time:** 0645 **End Survey Time:** 0702

Team Members: B. BERTLES, W. KOHN

Weather: Temp: 57° F; **Wind:** 5-10 mph from W; **Clouds:** —; **Precip:** —
Other Site Conditions: GUSTY AND COOL

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
0659	NG-1	4-5	✓	NO	ANI	MAL			

Trap check-off

Trap Line #	Trap number
1	~~1 2 3 4 5 6 7 8 9 10~~
2	~~1 2 3 4 5 6 7 8 9 10~~
3	~~1 2 3 4 5 6 7 8 9 10~~
4	~~1 2 3 4 (5) 6 7~~ 8 ~~9 10~~
5	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: MARKED ORANGE CAPS AT CORNERS. (EX; NG1 L1)

NOTE 5-17 02 NO CAPTURES AT NG-1

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey

Site: N61
Date: 5/19/02

Start Survey Time: 0726 End Survey Time: 0748

Team Members: B. ZOTTOLO, W. KOHN

Weather: Temp: 54 F; Wind: 0-1 mph from W; Clouds: 40% ; Precip: —
Other Site Conditions: COOL, CALM. SUN HITS SITES AT 0720.

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?

Trap Line #	Trap check-off Trap number
1	~~1~~ 2 ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
2	~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
3	~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
4	~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
5	~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Ø = CLOSED BUT NO ANIMAL

Notes: ALL 50 TRAPS COLLECTED.

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: NG-2 (lower)
Date: 5 / 18 /02 **Start Survey Time:** 0707 **End Survey Time:** 0720

Team Members: B. BOTTLE, W. KOHN

Weather: Temp: 57 F; **Wind:** 5-10 mph from W; **Clouds:** —; **Precip:** —
Other Site Conditions: GUSTY COOL

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
0707	NG2	L1-2	✓	NO ANIMAL					
0712	NG2	L2-4	✓	P. maniculat.	M	A	NON-REPRO	—	✓
0716	NG2	L4-1	✓	P. boylii	M	A	NON-REPRO	✓	—
0718	NG2	L5-2	✓	NO ANIMAL					
0721	NG2	L5-9	✓	T. bottae	F	A	NON-REPRO	—	✓

Trap Line #	Trap check-off Trap number
1	~~1~~ (2) ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
2	~~1~~ ~~2~~ ~~3~~ (4) ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
3	~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
4	(1) ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
5	~~1~~ (3) ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ (9) ~~10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: PHOTOGRAPHED GOPHER.

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: NG 2
Date: 5 / 19 /02 **Start Survey Time:** 0757 **End Survey Time:** 0813

Team Members: B. BETTLE W. KOHN

Weather: Temp: 56° F; **Wind:** 0-1 mph from W; **Clouds:** 40% ; **Precip:** —
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?

Trap Line #	Trap check-off — Trap number
1	~~1 2 3 4 5 6 7 8 9 10~~
2	~~1 2 3 4 5 6 7 8 9 10~~
3	~~1 2 3 4 5 6 7 8 9 10~~
4	~~1 2 3 4 5 6 7 8 9 10~~
5	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: ALL 50 TRAPS COLLECTED

Project Manager sign-off: [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SP1
Date: 5/17/02 Start Survey Time: 0628 End Survey Time: 0650

Team Members: B. ZETTLE, N. KOHN

Weather: Temp: 18°C, Wind: 5-10 mph from W; Clouds: 0; Precip: —
Other Site Conditions: GRID SYSTEM IN SEEP HABITAT

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0633	SP1	L1-1	✓	NO ANIMAL					

Trap check-off

Trap Line #	Trap number
1	~~1 2 3 4 5 6 7 8 9 10~~
2	~~1 2 3 4 5 6 7 8 9 10~~
3	~~1 2 3 4 5 6 7 8 9 10~~
4	~~1 2 3 4 5 6 7 8 9 10~~
5	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: SP1 = GRID IN SEEP. LINE 1 ON WEST SIDE OF GRID.
L1-4 - BUNCH OF ANTS.
L5-8 - BUNCH OF ANTS.

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SP-1
Date: 5 / 18 /02 **Start Survey Time:** 0730 **End Survey Time:** 0738

Team Members: B. [illegible], W. KOHN

Weather: Temp: 58° F; **Wind:** 5-10 mph from W; **Clouds:** — ; **Precip:** —
Other Site Conditions: GUSTY, COOL

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?

Trap check-off

Trap Line #	Trap number
1	1 2 3 4 5 6 7 8 9 10
2	1 2 3 4 5 6 7 8 9 10
3	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
5	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off: [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SP 1
Date: 5 / 19 /02 **Start Survey Time:** 0810 **End Survey Time:** 0838

Team Members: B. BETTLE, M. KOHN

Weather: Temp: 60 F; **Wind:** 0-1 mph from SE; **Clouds:** 40; **Precip:** —
Other Site Conditions:

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
0837	SP1	L4-1	✓	P. boylii	F	A	PREGNANT	—	—

Trap check-off

Trap Line #	Trap number
1	~~1 2 3 4 5 6 7 8 9 10~~
2	~~1 2 3 4 5 6 7 8 9 10~~
3	~~1 2 3 4 5 6 7 8 9 10~~
4	~~1~~ 2 ~~3 4 5 6 7 8 9 10~~
5	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: ALL 50 TRAPS COLLECTED

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SP-2
Date: 2/18/02 **Start Survey Time:** 0739 **End Survey Time:** 0807

Team Members: B. ZETTLE, W. KOHN

Weather: Temp: 58° F; **Wind:** 5-10 mph from W; **Clouds:** —; **Precip:** —
Other Site Conditions: GUSTY, COOL

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0741	SP-2	10	/	N. fuscipes	U	J	Non-repro	✓	—
0754	"	36	/	P. boylii	F	A	Non-repro	—	✓
0758	"	37	/	P. boylii	F	A	Pregnant	—	✓
0800	"	39	/	P. boylii	M	A	Non-repro	—	✓
0802	↓	43	/	P. boylii	M	A	Non-repro	—	✓

Trap Line #	Trap check-off Trap number
	~~1 2 3 4 5 6 7 8 9~~ (10)
	~~1 2 3 4 5 6 7 8 9~~ 10
	~~1 2 3 4 5 6 7 8 9~~ 10
	~~1 2 3 4~~ (5) (6) (7) ~~8~~ (9) ~~10~~
	~~1~~ (2) (3) ~~4 5 6 7 8 9~~ 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: Ants in trap # 36. Mouse seemed quite stressed on release
Changed plot layout. Instead of 25 traps on either side of drainage, all traps were ~~lined~~ 37 + in the drainage spaced 10 steps apart.

Many traps were closed with no animals. Possibly due to other larger animals setting them off. 3 buck deer known to inhabit the area.

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SP-2
Date: 5 / 17 /02 **Start Survey Time:** 0651 **End Survey Time:** 0723

Team Members: B. BOTTLE, W. FOHN

Weather: Temp:____F; **Wind:** ____mph from____; **Clouds:** ____; **Precip:**____
Other Site Conditions:

Trap Survey Results

SP-2

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0658	[redacted]	W:13	✓	N. fuscipes	[redacted]V	[redacted]J	NON-REPRO	NO	✓
0708	SP-2	E20	✓	P. boylii	M	J	NON-REPRO	NO	✓

Trap check-off

Trap Line #	Trap number
W	~~1 2 3 4 5 6 7 8 9 10~~
W	~~11 12 (13) 14 15 16 17 18 19 20~~
W	~~21 22 23 24 25~~ 6 7 8 9 10
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
E	1 ~~2 3 4 5 6 7 8 9 10~~
E	~~1 2 3 4 5 6 7 8 9~~ (10)
E	~~1 2 3 4 5~~ 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: SP2 = SLEEP DRAINAGE WEST OF ROAD, PARALLELS ROAD
W1 - ANTS, E7 - ANTS

20 TRAPS NORTH OF CREEK CROSSING 5' SOUTH,
25 TRAPS on EAST SIDE OF DRAINAGE, 25 TRAPS on WEST SIDE OF DRAINAGE

Project Manager sign-off:

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Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SPZ
Date: 5 /9 /02 **Start Survey Time:** 0842 **End Survey Time:** 0923

Team Members: B. BETTLE, W. KOHN

Weather: Temp: 60 F; **Wind:** 0-4 mph from SE; **Clouds:** 40; **Precip:** —
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0842	SPZ	1	✓	P. manic.	M	A	NON REPRO	—	—
0849	SPZ	10	✓	P. boylii	F	A	PREGNANT	—	—
0852	SPZ	11	✓	P. boylii	M	A	REPRODUCTIVE	—	—
0854	SPZ	12	✓	N. fuscipes	F	J	NON-REPRO	✓	—
0901	SPZ	24	✓	P. manic.	M	J	NON-REPRO	—	—
0910	SPZ	39	✓	P. boylii	F	A	NON-REPRO	—	—
0913	SPZ	40	✓	P. MANICULATUS	F	A	MAMMORIES	—	—
0916	SPZ	43	✓	P. boylii	U	J	FOXTAIL IN EAR	—	—
0918	SPZ	44	✓	P. boylii	M	A	NON-REPRO	?	—

Trap Line #	Trap check-off — Trap number
	~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ (10)
	(1) (2) ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
	~~1~~ ~~2~~ ~~3~~ (4) ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
	~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ (6) ~~7~~ ~~8~~ ~~9~~ (10)
	~~1~~ ~~2~~ (3) (4) ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~ ~~10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes: WATER LEVEL INCREASED SEVERAL TRAPS IN WATER. NO FATALITIES. ALL 60 TRAPS COLLECTED.

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones & Stokes LLNL Site 300
Small Mammal Inventory Field Data

Survey Period June 20 – 22, 2002

Communities Surveyed:

Annual Grassland
Oak Savanna
Native Grassland – Post Burn 1
Seep

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey

Site: AG 1 + 2
Date: 6 / 20 /02
Start Survey Time: 700
End Survey Time: 735

Team Members: Ed West, Will Kotkov, Jennifer Alvarez

Weather: Temp: 70 F; Wind: Ø mph from — ; Clouds: Ø ; Precip: Ø
Other Site Conditions:

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
7:10	AG2	L2#10		Rm	♂	A	Good		y
715	AG2	L4#3		Rm	♀	A	Good		y
717	AG2	L5#2		Rm	♀	A	Preg		y
720	AG2	L5#10		D.h	♀	A	Non Lac		y
730	AG1	L2#2		Rm	♀	A	Preg		y

Trap check-off

Trap Line #	Trap number
1	1 2 3 4 5 6 7 8 9 10
2	1 2 3 4 5 6 7 8 9 (10)
3	1 2 3 4 5 6 7 8 9 10
4	(1) 2 3 4 5 6 7 8 9 10
5	1 (2) 3 4 5 6 7 8 (9) (10)
1	1 2 3 4 5 6 7 8 9 10
2	1 2 (3) 4 5 6 7 8 9 10
3	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
5	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

1234 AG2 10

AG1 432

10 AG1 5 1

1 5 AG2 10

Notes:

Project Manager sign-off: [signature]

Jones and Stokes
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Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey — Page 1 of 1

ANNUAL CONDITIONS

Site: AG 2 (LOWER) AG 2 UPPER

Date: 06 / 21 / 02 Start Survey Time: 0620 End Survey Time:

Team Members: ED WEST, WILL KOLTON, JENNIFER ALUMBAUGH

Weather: Temp: 59 F; Wind: 25 mph from NW; Clouds: 0; Precip: 0

Other Site Conditions: VERY WINDY.

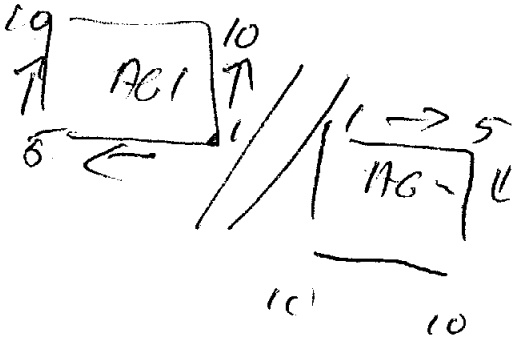
Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0622	AG2	L1 #7		[illegible]	♂	A	SCROTAL	N	Y
0624	AG2	L2 #10		RM	♀	A	MAM/NONPREG	N	Y
0627	AG2	L3 #2		PMAC	♀	A	PREG	N	Y
0630	AG2	L4 #7		RM	♀	A	PREG	N	Y
0637	AG2	L4 #4		RM	♀	A	MAM/ACTIVE	YES	—
0633	AG2	L5 #6		DH	♂	A	SCROTAL	N	Y
0632	AG2	L5 #8		DH	♀	A	LOST TAIL	N	Y
643	AG1	L2 #4		PM	♀	A	PREG	YES	—

Trap Line #	Trap check-off — Trap number
1	1 2 3 4 5 6 7 8 9 10
2	1 2 3 4 5 6 7 8 9 10
3	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
5	1 2 3 4 5 6 7 8 9 10
1	1 2 3 4 5 6 7 8 9 10
2	1 2 3 4 5 6 7 8 9 10
3	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
5	1 2 3 4 5 6 7 8 9 10

AG 2

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.



Notes: 2 PHOTOS OF POCKET MOUSE. 1 PHOTO P. MAC.
AG 2 CONDITIONS: OPEN GRASS AREA DIVERSITY; RICKY AREA W/ FINE SOIL - DRAINAGE NEAR, SEE PHOTO.
AG1 - VALLEY GRASS

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**
Annual Grasslands

Site: AG 1 + 2
Date: 6/22/02 **Start Survey Time:** 645 **End Survey Time:** 0740

Team Members: Ed West, Will Kern, Jennifer Aldana

Weather: Temp: 60 (shade) **F; Wind:** 5 **mph from** W **; Clouds:** ∅ **; Precip:** ∅
Other Site Conditions:

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
0656	AG2	L1 #7		R.m.	♂	A	Scrot	No	—
0700	AG2	L1 #9		R.m.	♀	A	Lac	No	
0703	AG2	L4 #10		Perog. in	♂	A	Scrot	No	—
0700	AG	L3 #2		P.m.	♂	A	Non Scrot	No	—
0702	AG2	L3 #6	RM	R.m.	♀	A	Mam Non Preg	No	—
0708	AG2	L5 #10		D.h.	♀	A	Non Lac	Yes	—
0710	AG2	L5 #4		R.m.	♂	A	Non Scrot	No	—
0712	AG2	L4 5		P.m.	♂	Juv	Good	No	—
0715	AG2	L5 #3		R.m.	♂	A	Non Scrot	No	—
0720	AG1	L1 #5		R.m.	♂	A	Scrotal	No	—
0722	AG1	L2 #4		P.m.	♀	A	Preg	Yes	
0725	AG1	L2 #5		P.m.	♂	A	Scrotal	No	—
0727	AG1	L1 #6	Microtus		♂	A	Non Scrot	No	—
0730	AG1	L1 #10		R.m.	♀	A	Lac	No	—
0734	AG1	L5 #8		P.m.	♂	A	Non Scrot	No	—

→ Microtus californicus

Trap check-off

Trap Line #	Trap number
1	1 2 3 4 5 6 (7) 8 (9) 10
2	1 2 3 4 5 6 7 8 9 10
3	1 (2) 3 4 5 (6) 7 8 9 10
4	1 2 3 4 (5) 6 7 8 9 (10)
5	1 2 (3) (4) 5 6 7 8 9 (10)
1	1 2 3 4 (5) (6) 7 8 9 (10)
2	1 2 3 (4) (5) 6 7 8 9 10
3	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
5	1 2 3 4 5 6 7 (8) 9 10

AG2 Lower
AG1 Upper

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off: [signature]

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Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey

Page 1 of 1

Site: ~~SO~~ OAK SAVANNA 1 AND 2

Date: 6 / 20 /02 **Start Survey Time:** 0545 **End Survey Time:** 0620

Team Members: ED WEST, WILL KOHN, JENNIFER ALVAREZ

Weather: Temp: 70 F; Wind: 7-5 mph from NE; Clouds: ø; Precip: ø

Other Site Conditions:

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
0555	OS1	L2#3		P.M.	♂	J	GOOD		Y
OAK	SAVANNA			#2	(NORTH)				
				NO	CAPTURES				

Trap check-off

Trap Line #	Trap number
1	~~1 2 3 4 5 6 7 8 9 10~~
2	~~1 2~~ (3) ~~4 5 6 7 8 9 10~~
3	~~1 2 3 4 5 6 7 8 9 10~~
4	~~1 2 3 4 5 6 7 8 9 10~~
5	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

(1/3 Cap)

Jim Woollett
Thom Kato } LLNL
Michael Van Hattem } Sci

Notes: OBSERVED COYOTE DEER OWL
Jim Woollett, Thom Kato, Mike Van Hattem joined us for
Trap check at Burn and Arroyo Gadescanus site
Thom handled harvest mouse w/o

Project Manager sign-off: [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey
OAK SAVANNA

Site: OS 1 & 2

Date: 6 / 21 /02

Start Survey Time: 0710 End Survey Time: 0735

Team Members: ED WEST, Will Kohn, JENNIFER ALEXANDER

Weather: Temp: 60 F; Wind: 10-15 gusty mph from N; Clouds: Ø; Precip: Ø

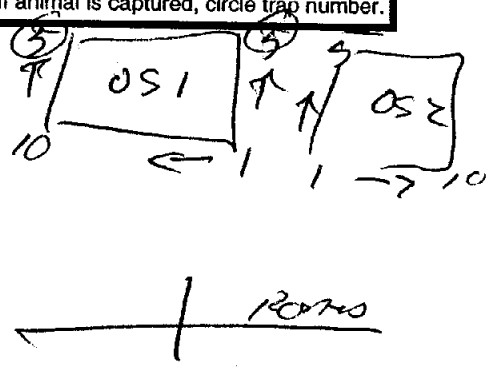
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0715	OS1	L1 #6		Perog IN.	♀	A	MM normal		Y
0718	OS2	L4 #3		Perog IN.	♀	♀	MM normal		Y

Trap Line #	Trap check-off — Trap number									
1	1	2	3	4	5	(6)	7	8	9	10
2	1	2	3	4	5	6	7	8	9	10
3	1	2	3	4	5	6	7	8	9	10
4	1	2	3	4	5	6	7	8	9	10
5	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	1	2	3	4	5	6	7	8	9	10
3	1	2	3	4	5	6	7	8	9	10
4	1	2	(3)	4	5	6	7	8	9	10
5	1	2	3	4	5	6	7	8	9	10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.



ROAD

PEROGNATHUS INORNATUS

Notes: PEROGNATHUS INORNATUS - NO SPINES, LIGHT PATCH AT BASE of EAR; ORANGE UNDERCOAT "LINE" SMALL

Project Manager sign-off:

Jones and Stokes
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Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Page 1 of 1

Site: OS 1 & 2
Date: 06/22/02

Start Survey Time: 0801

End Survey Time: 0855

Team Members: ED WEST, Will KOLIN, Jennifer ALVAREZ

Weather: Temp: 65 SUNNY F; Wind: 5-10 GUST mph from N; Clouds: ϕ; Precip: ϕ

Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
OS	1	NO	Compounds						
0855	OS2	L3 #2		PEROG IN	♀	A	LAC	NO	NO

Trap check-off

Trap Line #	Trap number	
1	1 2 3 4 5 6 7 8 9 10	OAK SEEDLING 1
2	1 2 3 4 5 6 7 8 9 10	
3	1 2 3 4 5 6 7 8 9 10	
4	1 2 3 4 5 6 7 8 9 10	
5	1 2 3 4 5 6 7 8 9 10	
1	1 2 3 4 5 6 7 8 9 10	
2	1 2 3 4 5 6 7 8 9 10	OS2
3	1 (2) 3 4 5 6 7 8 9 10	
4	1 2 3 4 5 6 7 8 9 10	
5	1 2 3 4 5 6 7 8 9 10	

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

PEROGNATHUS / CHAETODIPUS

Notes:

Project Manager sign-off:

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey
Native Grasslands - Burn Area

Page 1 of 1

Site: Burn NG 1 + NG2
Date: 6 / 20 /02
Start Survey Time: 06 30
End Survey Time:

Team Members: Bo West, Will Kolton, Jennifer Alvarez

Weather: Temp: 72 F; Wind: 10 mph from W; Clouds: ∅; Precip: ∅
Other Site Conditions:

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
632	NG1	L2 #9		Pm	–	A	Good		

escape

Trap check-off

Trap Line #	Trap number
1	1 2 3 4 5 6 7 8 9 10
2	1 2 3 4 5 6 7 8 (9) 10
3	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
5	1 2 3 4 5 6 7 8 9 10
1	1 2 3 4 5 6 7 8 9 10
2	1 2 3 4 5 6 7 8 9 10
3	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
5	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Pm 1

Notes: Grasshopper - Pregnant mouse
Von Kontrol... - N. End of Range possibly

Project Manager sign-off: [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey
NATIVE GRASSLAND POST

Page _____ of _____

Site: NG 1 & 2 (BOWN) + SEEP

Date: 6/21/02 Start Survey Time: 0530 End Survey Time: 0618

Team Members: ED WEST WILL KORN JENNIFER ALVAREZ

Weather: Temp: 59 F; Wind: 25+ mph from NW; Clouds: ϕ ; Precip: ϕ

Other Site Conditions: _____

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
NO	CAPTURES	AT	BOTH	NG 1 & 2					
Lower	Seep	TRAP 3		PM	♀	A	PREG		Y
		TRAP 6		PM	♂	A	DEC TESTS		Y
Upper	Seep	TRAP 2		RM	♂	A	NEW SCRT		Y
		TRAP 6		RM	♀	A	MANY PRES NONPREG		Y

Trap check-off

Trap Line #	Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

(8) (2)

(3) (6)

Notes: MANY TRAPS BLOWN DOWN WELL BY WIND; UNABLE TO DETERMINE ORIGINAL LOCATION OF MANY
SEEP TRAPLINE: NO WATER IN SEEP EXCEPT BY ROAD
10 TRAPS ABOVE ROAD
10 TRAPS BELOW ROAD
TRAPS NUMBERED FROM ROAD
10 → 1 | 1 → 10

Project Manager sign-off: UPPER LOWER

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: LLNL Site 300 Small Mammal Survey
NATIVE GRASSLAND AND SEEP

Page 1 of 1

Site: NG 1 & 2 BURN AREA
Date: 6 /22 /02 Start Survey Time: 540 End Survey Time: 640

Team Members: ED WEST Will Koth Jennifer Alvarez

Weather: Temp: 58 F; Wind: 10 mph from W; Clouds: ∅; Precip: ∅
Other Site Conditions:

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
550	NG2	L2 #3		PM	♂		1 SCROTAL	N	—
0602	NG1	L3 #3		PM	♂		SCROTAL	NO	—
0606	NG1	L4 #10		PM	♂		LAC	NO	—
Seep	South			RM	♂		SCROT	NO	—
0628		LS #4		↓	↓		↓	↓	
0630		LS #6		PM	♀		NON LAC	YES	—
Seep	NORTH			9 TRAPS					
0635		LN #3		RM	♂		SCROTAL	NO	

TRAPS

Trap Line #	Trap check-off: Trap number
1	1 2 3 4 5 6 7 8 9 10
2	1 2 (3) 4 5 6 7 8 9 10
3	1 2 3 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 10
5	1 2 3 4 5 6 7 8 9 10
1	1 2 3 4 5 6 7 8 9 10
2	1 2 3 4 5 6 7 8 9 10
3	1 2 (3) 4 5 6 7 8 9 10
4	1 2 3 4 5 6 7 8 9 (10)
5	1 2 3 4 5 6 7 8 9 10

NG,

W

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

(3) N

5
(4)
(6)

Notes: WATER IN SEEP CANAL; A NUMBER OF TRAPS GOT WET

Project Manager sign-off: [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones & Stokes LLNL Site 300
Small Mammal Inventory Field Data

Survey Period July 30 – August 1, 2002

Communities Surveyed:

Native Grassland – Post Burn 2
Seep

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Page 1 of 1

Site: N61
Date: 7/30/02

Start Survey Time: 0620 **End Survey Time:** 0640

Team Members: W. Kahn

Weather: Temp: 63 F; **Wind:** _____ mph from _____; **Clouds:** _____; **Precip:** _____
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?

Trap Line #	Trap check-off Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off: _____

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Site: N61
Date: 7/31/02

Start Survey Time: 0627 End Survey Time: 0645

Team Members: W. Kohn

Weather: Temp: 59 F; Wind: Calm mph from ____; Clouds: 0 ; Precip: 0
Other Site Conditions: ____

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?

Trap Line #	Trap check-off Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off: [signature]

Jones and Stokes
2600 V Street
Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Site: NG1
Date: 08 / 01 /02

Start Survey Time: 0640 **End Survey Time:** 0654

Team Members:

Weather: Temp: 67 F; **Wind:** 5 mph from West; **Clouds:** ϕ; **Precip:** ϕ
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
None caught									

Trap Line #	Trap check-off Trap number
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off:

Jones and Stokes
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Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Page 1 of 1

Site: N62
Date: 7/30/02

Start Survey Time: 0642 **End Survey Time:** 0702

Team Members: W. Kohn

Weather: Temp: 63 F; **Wind:** _____ mph from _____; **Clouds:** _____; **Precip:** _____
Other Site Conditions: _____

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0648	L2	10		PEMA	F	Ad	Mam present	N	Y
0655	L3	1		MICA	F	Ad	Non repro	N	Y

Trap check-off

Trap Line #	Trap number
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off: _____

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Project Manager: Ed West, Ph.D.
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Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Page 1 of 1

Site: N62
Date: 7/31/02

Start Survey Time: 0647 **End Survey Time:** 0700

Team Members: W. Kohn

Weather: Temp: 60 F; **Wind:** calm mph from ____; **Clouds:** 0; **Precip:** 0
Other Site Conditions:

Trap Survey Results

Time	Site	Location	CI	Species	Sex	Age	Condition	Recapture?	Marked?
	L3	2		PEMA	M	Ad	Non Rep 10	N	Y
	L5	5		PEMA	F	Ad	Mammals Project	N	Y

Trap Line #	Trap check-off Trap number
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off:

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Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: N62
Date: 08 / 01 /02 Start Survey Time: 0655 End Survey Time: 0715

Team Members: J. Alvarez

Weather: Temp: 68 F; Wind: 5 mph from West; Clouds: ø ; Precip: ø
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
		2-1		MICA	M	A	non-repro	N	N
		4-5		PEMA	F	A	lactating	N	N

Trap Line #	Trap check-off Trap number
1	~~1 2 3 4 5 6 7 8 9 10~~
2	(1) ~~2 3 4 5 6 7 8 9 10~~
3	~~1 2 3 4 5 6 7 8 9 10~~
4	~~1 2 3 4~~ (5) ~~6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

Notes:

Project Manager sign-off:

Jones and Stokes
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Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Page 1 of 1

Site: SP2 + 1
Date: 7/30/02

Start Survey Time: 0555 **End Survey Time:** 0620

Team Members: W. Kohn

Weather: Temp: 58 F; **Wind:** Calm mph from ____; **Clouds:** 0 ; **Precip:** 0
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
		4		PEMA	M	Ad	Non-Repro	N	Y
		10		PEMA	UK	Juv		N	Y
		16		REME	F	Ad	Mammaries Pigmented	N	Y
		20		PEMA	F	Ad	~~Preg~~ Preg.	N	Y
		22		REME	M	Ad	Non-Repro	N	Y
		35		PEMA	F	Ad	Mammaries Pigmented	N	Y
		44		REME	M	Ad	Non-Repro	N	Y

Trap Line #	Trap check-off Trap number
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

PEMA 4
REME 4

Seep 1 - upstream
TRAP #'s 26 - 50

Seep 2 - downstream
TRAP #'s 1 - 25

Notes:

Project Manager sign-off:

Jones and Stokes
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Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey**

Page 1 of 1

Site: SPZ #1
Date: 7/13/02

Start Survey Time: 0600 End Survey Time: 0625

Team Members: W. Kobza

Weather: Temp: 57 F; Wind: Calm mph from ____; Clouds: 0; Precip: 0
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
0605		3		REME	F	Ad	Non-repro	N	Y
0610		22		PEMA	M	Ad		Y	Y
0615		35		PEMA	F	Ad		Y	Y

Trap Line #	Trap check-off Trap number
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	~~1 2 3 4 5 6 7 8 9 10~~
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

PEMA 2
REME 1

Notes:

Project Manager sign-off:

Jones and Stokes
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Sacramento CA 95818

Project Manager: Ed West, Ph.D.
Ph: 916/ 503-6681

Jones and Stokes Field Data Form

Project: **LLNL Site 300 Small Mammal Survey** Page 1 of 1

Site: SP2 #1
Date: 08 /01 /02 **Start Survey Time:** 0717 **End Survey Time:** 0750

Team Members: J. Alvarez

Weather: Temp: 69 F; **Wind:** 5 mph from West; **Clouds:** ϕ; **Precip:** ϕ
Other Site Conditions:

Trap Survey Results

Time	Site	Location	Cl	Species	Sex	Age	Condition	Recapture?	Marked?
		S-5		REME	M	A	Non-repro.	N	N
		S-14		PEMA	F	A	Lact	Y	
		S-22		PEMA	M	A	Scrotal	N	N
		N-48		REME	M	A	Scrotal	N	N
		N-50		NEFU	M	A	Non-repro.	N	N

Trap check-off

Trap Line #	South Trap number									
	~~1~~	~~2~~	~~3~~	~~4~~	(5)	~~ϕ~~	~~7~~	~~8~~	~~9~~	~~10~~
	~~1~~	~~2~~	~~3~~	(4)	~~5~~	~~6~~	~~7~~	~~8~~	~~9~~	~~10~~
	1	2	3	4	5	~~ϕ~~	~~7~~	~~8~~	~~9~~	~~10~~
	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	~~9~~	~~10~~
	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	(8)	~~9~~	(10)
	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10

Enter trap line number
If trap is empty - line out trap number
If animal is captured, circle trap number.

N S
50 ← 20 1 → 25

PEMA 2
REME 2
NEFU 1

Notes:

Project Manager sign-off:

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Project Manager: Ed West, Ph.D.
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