APPENDIX A

Precipitation Data For Santa Rosa

1888 - 1992

Source: City of Santa Rosa

Santa Rosa Wetland Baseline Study

SANTA ROSA OFFICIAL STATION CHRONOLOGICAL LISTING JULY THROUGH JUNE PERIOD

RAINFALL YEAR		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1888	1889	0.00	0.00	0.62	0.00	3.48	5.37	1.77	0.35	7.92	1.09	2.93	0.25	23.78
1889	1890	0.00	0.00	0.00	8.78	4.39	15.94	12.84	4.74	6.15	1.82	1.40	0.00	56.06
1890	1891	0.00	0.00	0.20	0.00	0.00	3.93	1.25	10.49	1.22	2.39	1.23	0.00	20.71
1891	1892	0.75	0.00	0.20	0.20	1.50	8.64	3.43	5.07	4.14	2.65	3.78	0.00	30.36
1892	1893	0.00	0.00	0.00	1.44	3.37	6.55	4.13	5.56	6.59	2.07	0.80	0.00	30.51
1893	1894	0.00	0.00	0.25	0.52	4.82	2.61	9.61	3.78	1.31	1.08	1.84	1.30	27.12
1894	1895	0.00	0.00	1.50	2.55	0.89	13.41	18.42	3.35	2.94	1.35	1.39	0.00	45.80
1895	1896	0.33	0.00	0.37	0.00	1.83	2.95	10.57	0.09	3.53	4.70	1.45	0.00	26.42
1896	1897	0.00	0.00	0.46	1.50	5.09	6.42	2.27	6.25	5.50	1.03	0.57	0.83	29.92
1897	1898	0.00	0.00	0.10	1.80	2.16	6.82	1.81	5.32	0.66	0.38	3.32	0.17	22.64
1898	1899	0.00	0.00	0.82	1.07	1.16	1.20	3.77	0.00	0.57	0.67	2.09	0.00	24.15
1899	1900	0.00	0.15	0.00	5.94	5.44	4.78	4.98	0.77	3.72	2.83	0.80	0.16	29.37
1900	1901	0.00	0.00	0.00	4.41	5.60	3.35	6.05	5.77	0.90	3.31	1.12	0.00	30.51
1901	1902	0.00	0.00	1.17	1.16	4.22	2.25	1.79	14.40	4.54	2.61	1.79	0.00	33.93
1902	1903	0.00	0.00	0.00	3.70	5.00	4.43	6.38	2.58	6.49	0.60	0.00	0.03	29.21
1903	1904	0.00	0.00	0.00	0.64	9.65	3.59	1.77	12.23	12.93	2.99	0.24	0.07	44.11
1904	1905	0.00	0.00	4.39	4.60	2.74	4.50	5.53	4.26	5.59	1.45	2.93	0.00	35.99
1905	1906	0.00	0.00	0.00	0.00	1.97	1.81	10.95	5.24	7.95	0.72	3.31	1.23	33.18
1906	1907	0.00	0.00	0.16	0.00	1.88	6.79	7.57	5.17	11.21	0.34	0.32	1.00	34.44
1907	1908	0.00	0.00	0.46	0.87	0.13	6.30	5.61	4.00	1.45	0.30	0.85	0.08	20.93
1908	1909	0.02	0.00	0.00	1.37	2.12	4.00	18.45	6.74	3.98	0.00	0.00	0.07	36.75
1909	1910	0.00	0.00	1.29	1.73	4.53	7.61	4.94	3.75	4.17	0.85	0.08	0.05	29.00
1910	1911	0.00	0.00	0.01	0.68	1.76	1.68	14.20	2.75	4.96	3.04	0.44	0.02	29.54
1911	1912	0.00	0.00	0.00	0.58	0.72	2.41	3.39	1.09	4.69	1.54	2.88	1.14	18.44
1912	1913	0.00	0.00	2.99	1.47	5.11	1.76	6.11	0.58	2.73	1.91	1.26	0.05	24.01

SANTA ROSA OFFICIAL STATION CHRONOLOGICAL LISTING JULY THROUGH JUNE PERIOD

		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	
1913	1914	0.07	0.00	0.00	0.00	7.50	11.15	14.00	5.60	1.49	1.66	0.95	0.41	42.83
1914	1915	0.00	0.00	0.07	1.91	1.30	7.23	9.06	13.52	3.98	0.65	4.82	0.00	42.56
1915	1916	0.00	0.00	0.00	0.20	1.71	8.31	15.20	3.53	1.89	0.00	0.65	0.06	31.58
1916	1917	0.61	0.32	0.32	1.17	2.68	5.92	2.37	5.15	1.22	2.52	0.14	0.02	22.44
1917	1918	0.00	0.00	0.33	0.00	1.49	2.25	1.43	7.06	4.73	0.66	0.03	0.00	18.18
1918	1919	0.00	0.03	2.52	1.04	3.96	2.55	5.59	0.52	2.30	0.50	0.20	0.00	27.21
1919	1920	0.00	0.00	0.58	0.25	0.30	4.35	0.40	1.35	3.06	2.46	0.00	0.50	13.25
1920	1921	0.06	0.00	0.10	3.00	7.78	8.65	9.60	1.83	2.74	0.75	1.19	0.00	35.70
1921	1922	0.00	0.00	0.15	0.63	2.03	8.78	1.10	6.81	3.66	0.25	0.52	0.06	23.99
1922	1923	0.00	0.00	0.00	2.79	4.92	10.84	2.27	1.14	0.05	5.24	0.22	0.44	27.91
1923	1924	0.00	0.22	1.76	0.50	0.48	1.25	4.50	5.58	0.03	0.43	0.33	0.01	15.91
1924	1925	0.01	0.01	0.01	4.34	2.35	7.33	1.88	14.42	3.93	1.77	5.11	0.01	41.17
1925	1926	0.07	0.01	1.17	0.19	3.53	1.53	8.84	6.88	0.25	9.58	0.40	0.00	32.45
1926	1927	0.02	0.03	0.02	1.37	12.64	2.91	6.82	10.93	3.68	3.47	0.43	0.40	42.72
1927	1928	0.01	0.01	0.01	1.98	7.48	3.71	3.10	3.52	6.96	1.97	0.18	0.00	28.93
1928	1929	0.00	0.00	0.00	0.34	4.28	5.02	1.48	2.10	2.10	1.30	0.13	2.48	19.23
1929	1930	0.00	0.00	0.00	0.04	0.00	12.47	5.40	3.91	2.53	1.53	0.62	0.00	26.50
1930	1931	0.00	0.00	0.44	0.87	1.40	0.62	6.52	1.87	2.94	0.49	0.90	0.67	16.72
1931	1932	0.00	0.00	0.00	1.40	2.27	11.29	3.45	1.49	1.21	1.43	1.65	0.00	24.19
1932	1933	0.00	0.00	0.00	0.06	1.69	4.06	6.40	1.51	4.64	0.12	2.23	0.00	20.73
1933	1934	0.02	0.00	0.17	2.02	0.00	8.14	1.75	4.69	1.13	0.73	1.39	1.00	21.04
1934	1935	0.00	0.00	0.03	2.28	5.19	3.45	7.36	3.50	6.31	6.87	0.00	0.00	34.99
1935	1936	0.00	0.12	0.23	1.02	1.47	3.09	7.77	11.81	1.58	1.86	0.61	0.00	30.36
1936	1937	0.00	0.03	0.00	0.22	0.02	2.90	4.02	8.59	6.31	1.87	0.19	1.20	26.33
1937	1938	0.05	0.00	0.00	1.03	7.47	5.40	4.77	9.66	8.03	2.45	0.06	0.00	38.92
1938	1939	0.02	0.00	0.38	2.18	2.22	2.14	3.36	1.61	2.41	0.14	1.12	0.00	15.58
1939	1940	0.00	0.00	0.08	0.52	0.46	2.88	10.87	12.31	7.14	1.84	1.96	0.07	38.13

SANTA ROSA OFFICIAL STATION CHRONOLOGICAL LISTING JULY THROUGH JUNE PERIOD

		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	
1940	1941	0.00	0.00	0.50	1.82	2.59	13.56	11.02	8.22	5.59	6.71	1.84	0.30	52.1
1941	1942	0.00	0.00	0.13	1.53	2.96	9.12	6.50	8.65	3.78	5.58	1.67	0.00	39.9
1942	1943	0.02	0.00	0.15	1.23	5.75	5.80	9.28	2.73	4.85	2.67	0.05	0.00	32.5
1943	1944	0.03	0.00	0.00	0.68	1.16	2.38	5.07	7.66	2.25	2.15	1.58	0.28	23.2
1944	1945	0.00	0.00	0.02	2.45	5.00	4.22	3.13	4.92	5.82	0.33	1.39	0.00	28.1
1945	1946	0.00	0.00	0.00	2.91	4.23	10.37	2.32	2.98	2.20	0.10	0.47	0.00	25.5
1946	1947	0.20	0.00	0.06	0.28	4.08	3.66	0.76	3.82	4.94	0.65	0.40	1.63	20.4
1947	1948	0.00	0.00	0.00	5.28	1.55	1.22	4.18	1.51	5.57	7.61	1.03	0.25	28.2
1948	1949	0.06	0.00	0.13	0.85	1.87	4.67	1.39	3.32	6.83	0.08	0.74	0.00	19.9
1949	1950	0.05	0.04	0.02	0.02	2.12	2.79	10.12	5.15	3.29	1.31	0.56	0.06	25.5
1950	1951	0.00	0.00	0.00	3.46	7.19	9.38	5.14	2.84	1.25	1.27	1.48	0.00	32.0
1951	1952	0.00	0.01	0.04	2.68	6.26	8.01	10.19	2.08	4.62	0.84	0.57	1.38	37.4
1952	1953	0.04	0.00	0.05	0.08	2.73	14.72	6.74	0.06	3.17	3.91	0.57	0.97	33.0
1953	1954	0.00	0.17	0.00	1.31	4.64	0.96	7.80	3.19	5.74	3.23	0.37	0.26	27.6
1954	1955	0.00	1.35	0.00	0.90	5.64	4.43	3.63	1.22	0.60	3.68	0.01	0.00	21.4
1955	1956	0.00	0.00	0.45	0.51	3.28	17.09	11.78	6.15	0.31	2.48	1.28	0.10	44.2
1956	1957	0.00	0.00	0.17	2.28	0.23	0.38	3.85	5.57	2.49	2.32	3.93	0.08	21.3
1957	1958	0.00	0.00	2.16	6.16	0.93	3.99	7.18	11.94	6.07	5.43	0.45	0.44	45.5
1958	1959	0.01	0.01	0.03	0.15	0.29	1.96	7.75	6.24	1.60	0.25	0.16	0.00	18.4
1959	1960	0.00	0.00	3.16	0.14	0.08	1.80	5.65	8.46	6.05	1.38	0.80	0.00	27.5
1960	1961	0.00	0.00	0.01	0.74	3.81	4.50	5.22	3.29	4.60	1.07	0.77	0.16	24.1
1961	1962	0.00	0.03	0.57	0.17	2.98	3.93	2.02	8.79	4.34	0.51	0.06	0.00	23.3
1962	1963	0.00	0.08	0.36	9.47	0.95	4.64	3.75	4.22	4.94	6.57	0.66	0.00	35.6
1963	1964	0.00	0.01	0.09	2.61	7.53	0.81	5.10	0.33	1.97	0.33	0.40	1.10	20.3
1964	1965	0.00	0.02	0.00	2.31	6.12	8.64	6.63	1.24	0.97	5.04	0.00	0.00	30.9
1965	1966	0.01	0.50	0.00	0.23	6.11	3.74	8.62	3.30	0.97	1.31	0.21	0.13	25.1
1966	1967	0.00	0.12	0.35	0.01	7.61	6.55	12.42	0.58	5.86	6.72	0.17	1.94	42.3

SANTA ROSA OFFICIAL STATION CHRONOLOGICAL LISTING JULY THROUGH JUNE PERIOD

		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	
1967	1968	0.00	0.00	0.07	0.86	2.68	4.01	7.63	4.82	4.20	0.48	0.26	0.00	25.0
1968	1969	0.00	1.68	0.02	2.07	3.39	9.09	13.25	8.23	1.79	3.23	0.03	0.04	42.8
1969	1970	0.00	0.00	0.03	2.42	1.19	11.79	15.89	2.89	3.44	0.07	0.00	0.44	38.1
1970	1971	0.00	0.00	0.00	2.24	8.97	10.78	3.13	0.19	4.05	1.22	0.24	0.05	30.8
1971	1972	0.00	0.03	0.34	0.49	2.39	5.49	1.89	3.49	1.02	1.79	0.09	0.13	17.1
1972	1973	0.05	0.11	0.66	3.47	6.87	5.12	15.38	7.17	3.48	0.65	0.03	0.00	42.9
1973	1974	0.00	0.00	0.74	2.37	13.23	5.33	6.48	3.54	6.67	2.87	0.09	0.00	41.3
1974	1975	1.61	0.00	0.00	1.27	1.20	3.80	1.98	9.88	7.84	1.71	0.02	0.10	29.4
1975	1976	0.00	0.21	0.02	6.44	1.58	0.89	0.39	2.61	0.92	2.62	0.00	0.03	15.7
1976	1977	0.00	0.78	0.66	0.46	1.76	1.15	2.01	1.93	2.65	0.23	1.43	0.00	13.0
1977	1978	0.00	0.00	1.18	0.65	0.22	5.22	9.81	7.60	5.30	2.29	0.08	0.00	40.3
1978	1979	0.00	0.00	1.38	0.00	2.45	0.41	11.74	7.12	2.74	1.38	0.80	0.00	28.0
1979	1980	0.01	0.00	0.09	4.14	5.99	7.71	7.09	8.82	1.52	2.00	0.19	0.27	37.8
1980	1981	0.00	0.00	0.00	0.38	0.50	6.98	7.81	2.60	3.58	0.20	0.63	0.00	22.6
1981	1982	0.02	0.00	0.24	2.76	8.91	11.29	8.72	5.23	6.50	4.00	0.00	0.03	47.7
1982	1983	0.00	0.00	0.97	4.30	8.44	3.61	8.39	9.88	15.74	3.46	0.92	0.00	55.6
1983	1984	0.00	0.75	0.24	1.20	11.21	11.33	0.65	2.45	2.25	1.18	0.11	0.13	31.5
1984	1985	0.00	0.17	0.09	2.36	10.92	2.60	1.87	3.01	4.61	0.20	0.04	0.02	25.8
1985	1986	0.03	0.00	1.16	1.40	4.50	3.72	8.64	15.94	5.90	0.83	0.82	0.00	40.9
1986	1987	0.00	0.00	2.75	0.55	0.20	2.65	5.01	5.45	4.83	0.16	0.08	0.01	21.6
1987	1988	0.01	0.00	0.00	1.37	4.45	6.11	6.99	0.40	0.02	1.53	0.73	0.49	22.1
1988	1989	0.00	0.00	0.00	0.11	4.89	4.07	1.47	1.53	10.22	1.22	0.13	0.22	23.8
1989	1990	0.00	0.04	2.72	2.65	1.71	0.00	5.74	3.27	2.03	0.24	5.46	0.01	23.8
1990	1991	0.00	0.00	0.27	0.62	0.44	1.16	0.75	4.72	13.74	0.33	0.13	0.72	22.8
1991	1992	0.00	0.05	0.01	1.74	1.15	2.91	2.03	9.34	4.09	4.69	0.09	0.79	27.4
MONTHLY	AVG	0.04	0.07	0.44	1.66	3.67	5.37	6.18	5.08	4.16	1.99	0.93	0.26	29.6

APPENDIX B

Biological Accounts for:

Burke's goldfields (*Lasthenia burkei*)

Sebastopol meadowfoam (*Limnanthes vinculans*)

Baker's blennosperma (*Blennosperma bakeri*)

Santa Rosa Wetland Baseline Study

Lasthenia burkei (Greene) Greene — Burke's goldfields

Family: Asteraceae

Synonymy: *Baeria fremontii* in part in Munz and Keck (1959), also referred to as *Baeria burkei* Greene

Status: Federal (FWS 1991): Endangered — State (CDFG 1988): Endangered

Description: Burke's goldfields is a small annual wildflower that grows to about 10 inches tall (occasional up to 15). It is rather slender and inconspicuous when in the vegetative state, as it typically grows in shallow pools and wet swales, and it generally has only one main stem. Its leaves are filiform or linear, 2 to 8 cm long, opposite, and mostly entire, although the lower leaves and those of plants in drier situations are often pinnately divided into small (mostly linear) spreading lobes. The lower stems are nearly glabrous while the upper are finely pubescent. The flower heads are typically numerous (although diminutive plants in dry situations often have only one) and occur on long peduncles. Robust plants frequently have more than 20 flower heads per plant. The individual flower heads are composed of a widely varying number of yellow disk flowers (from one or 2 on up to about 20) surrounded by up to 15 showy yellow ray flowers (rays to about 6 mm long). The achenes are 1 to 1.5 mm long and are very characteristic for this species in that they have only one long awn (often with additional very small scales). The involuceres are also relatively characteristic in that they are only slightly grown together at the base.

Related species include *L. glaberrima*, another vernal pool species that has very inconspicuous rays and a nearly fully fused involucre. These species are virtually identical in appearance before flowering and they often grow together.

Distribution and Range: Burke's goldfields is endemic to the central Coast Range region and has been reported historically from Mendocino, Lake, and Sonoma counties. The California Natural Diversity Data Base reports it from approximately 20 historic sites, most of which are situated in and around the city of Santa Rosa. Two interesting locations (where some morphological variation can be observed) are in Lake County, one at Manning Flat and one at the Steurmer Winery.

Habitat: This species of goldfields grows in vernal pools (typically from only a few inches up to about 20 inches deep) and occasionally in wet swales. While it can also apparently grow in mesic upland habitats (as it has at several of the translocation sites), but is presumably precluded from successful growth there by interspecific competition. It grows in a wide variety of habitats, in high density in shallow or deep natural vernal pools, in low density in seasonally wet swales and ephemeral drainageways, and has been observed growing in perched depressions with a gravel surface (Sonoma County Airport), in artificial drainage ditches, in orchards and vineyards, and even at the base of eucalyptus trees. It is able to withstand a certain level of grazing and actually appears to be favored by light to moderate horse grazing. It has also been observed growing vigorously in disked fields and cultivated cropland. The site at Shiloh road has also burned without significant observable declines.

Growth and Phenology: Burke's goldfields begins its annual growth cycle in the fall with the advent of the rainy season. It grows relatively slowly through much of the winter and early spring, often completely underwater. Plants that are exposed during the winter grow faster, but are still slender and somewhat small. With the evaporation of the pools in the spring, this species puts forth a final burst of vegetative growth and flowers as the pool bottom dries. The flowering period is quite variable depending on weather and rainfall patterns. Plants have been observed flowering as early as late March and as late as mid-June. The primary blooming period is between mid-April and mid-May. This species appears to be quite adaptable to weather patterns as it has been observed to begin flowering as the pools dry initially in early April, only to be re-flooded again with later rains in late April. Some whole colonies have been completely re-submerged by these late storms, with virtually all the plants being in full bloom. A more typical seasonal progression is one in which the vegetative plants begin to shoot up as the pool water recedes sometime in mid-winter, followed by additional shoot growth with later submergence. The result is shoots that

tend to be long and drawn out, often creeping horizontally along the muddy pool bottom, finally sending up erect flowering stems as the pool dries for the last time.

Threats and Endangerment: Burke's goldfields has suffered significant habitat losses and associated population decline because of land use conversions to agriculture, housing and roads, and general landscape alteration. It is, however, relatively tolerant of low and moderate disturbance as long as seasonally wet conditions are still available. For example, the entire Sonoma County Airport was graded and converted to runways, infields, etc. in the 1940's, at which time any pools that were present were at least completely altered and/or destroyed. Since that time, however, this site has come to support over 100,000 goldfields plants in more than 20 separate colonies. One unusual threat to many of the currently existing colonies appears to be the removal of grazing. In shallow, marginal habitats, grazing gives this species an advantage by keeping the competing grasses (*Pleuropogon, Hordeum, Lolium*) down. In several cases, where such low-to-moderate grazing has been eliminated, the goldfields have essentially disappeared as the dense grass growth (including thick dead thatch) has returned. While this species has a relatively high tolerance for light disturbance, its main threat comes from simple destruction of seasonal wetland habitat. Burke's goldfields is protected at at least 3 major locations, including the county airport and two mitigation sites, one at Alton Lane and one at the Abramson Road preserve. This species shows an excellent ability to colonize new suitable habitat and often forms dense, nearly pure stands in shallow, uniform depth pools. Continued housing development and intensified agriculture are ongoing threats, while wastewater irrigation is a newer and potentially very significant threat.

Potential for transplantation and/or reintroduction: This species has excellent potential for transplantation and reintroduction into suitable habitats. It grows quite abundantly in suitable habitats, including disturbed situations and incidentally created low places. It requires seasonal inundation (or at least saturation), but does not appear to have any soil restrictions. This species produces abundant viable seed, although it does seem to have the potential for strong dormancy. It has been grown successfully from hand seeding of seasonal wetland habitats, from shovel transplantation of live plugs, and from scraped and respread topsoil. It is relatively tolerant of light to moderate grazing and other disturbance. In natural stands it is an excellent competitor, often forming nearly pure, unbroken cover.

Limnanthes vinculans Ornduff — Sebastopol meadowfoam

Family: Limnanthaceae

Synonymy: none

Status: Federal (FWS 1991): Endangered — State (CDFG 1988): Endangered

Description: Sebastopol meadowfoam is a small winter annual wildflower that grows to about 15 inches tall (occasional up to 20). It has rather slender stems that often lean against associated vegetation (e.g., *Juncus*). It is usually multi-stemmed and forms a broad, sprawling base. Its stems often extend outward along the ground before ultimately turning upward. Its leaves are narrow, 5 to 15 cm long, alternate, and mostly few lobed. A key character is the fact that the first leaves are entire with no lobes. The later leaves are typically divided into 3 to 5 short, narrow lobes. Typically the lobes are rounded at the tips, unlike those of the closely related *L. douglasii* complex. The stems are quite glabrous and relatively delicate or even succulent in appearance. The flowers are typically numerous (although diminutive plants in dry situations often have only a few) and occur on long leafy stems. Robust plants frequently have more than 20 flowers per plant. The flowers grow singly in the leaf axles and consist of 5 white petals (12 to 18 mm long with a band of hairs near the base) within a calyx of 5 distinct sepals. The petals reflex at maturity. The nutlets are 3 to 4 mm long with small tubercles.

Distribution and Range: This meadowfoam is a highly restricted and localized endemic,

growing almost exclusively in Sonoma County, generally between Two Rock and Cotati to the south, northward to Graton and Forestville in the north. One small colony was recently discovered in Napa County. This plant was only described in the late 1960's and it probably was more abundant and perhaps more widely distributed prior to regional human settlement and development. It is currently known from about 30 sites, most of which are along the western side of the Cotati-Santa Rosa Valley. Several of the best remaining sites are located along the Laguna de Santa Rosa near Sebastopol and Cunningham. It was historically known from a number of locations in and around Santa Rosa proper, but most of these sites have been extirpated.

Habitat: This species grows in shallow-to-deep vernal pools (typically from only a few inches up to about 20 inches deep) and wet swales. It grows in a variety of habitats, but is not usually found in areas that have been extensively disturbed. It can tolerate some grazing, but appears to need the associated lushness of an undisturbed pool community to attain its best growth. It has been observed growing in shallow pools (less than 10 inches when full), but rarely reaches high densities or large size there. Its best development occurs around the edges of the better developed seasonal pools. It grows in man-made ditches at the abandoned Santa Rosa Naval Air Center and has been transplanted to artificial pools at the Alton Lane mitigation site. Some of the best populations are situated in extensive communities of *Eleocharis*, and it commonly grows together with the closely related *L. douglasii* var. *nivea*.

Growth and Phenology: This species, like most California annuals, begins growth in the fall and grows slowly over the winter, usually submerged in vernal pools or similar habitats. It grows vegetatively until March or April when the pool begins to recede. Flowering commences as the plants are exposed and pool bottoms dry. The actual period of flowering varies somewhat depending on the weather patterns. Sebastopol meadowfoam has been observed in flower as early as early April and as late as mid-June. Seed set is usually complete by early June, at which time the plants go dormant for the summer. While this species is vulnerable to widely varying weather patterns (such as unusually dry periods in mid-winter), it also can achieve exceptional growth in responses to alternating inundation and exposure.

Threats and Endangerment: This species has been significantly depleted by loss of habitat, and is still threatened at a number of sites. It is not as threatened by housing development as the other two species discussed here because its main areas of concentration are to the west of Santa Rosa. Still, there are several significant locations (e.g., Santa Rosa Air Center, Springfield) where such development is a threat, and continued intensification of the agricultural uses on rural lands also represents a serious problem. Heavy grazing is a potential problem in that livestock tend to destroy much of the overall cover, even in the wet swale habitats, resulting in no supporting vegetation for the meadowfoam to lean on, as well as simply crushing the *Limnanthes* itself. Removal of grazing is apparently not a threat as this species often escapes denser associated cover by growing upward through it.

Potential for transplantation and/or reintroduction: While there is less available data regarding the transplant potential for this species than for the other two, it, too, appears to have reasonably good possibilities. It grows in disturbed areas (the type locality) and even man-made habitats, and like many vernal pool species, it has great potential to colonize and fill suitable seasonal wetlands. It produces reasonably abundant seed (several dozen to more than 100 seeds per plant) and occurs in sites that are not especially vulnerable to weed invasion. Previous seeding efforts, however, have resulted in relatively low germination and/or success rates, and this may be related to strong seed dormancy. Like the other species discussed, its main problem is one of dwindling physical habitat. As an evolutionarily "new" species with an inherently small range, it seems to have excellent potential for expansion into new areas of suitable habitat conditions.

Blennosperma bakeri Heiser — Baker's blennosperma, Sonoma sunshine, or Baker's sticky seed

Family: Asteraceae

Synonymy: none

Status: Federal (FWS 1991): Endangered State (CDFG 1991): Endangered

Description: Baker's blennosperma is a small annual wildflower that grows to about 20 inches tall, ranging from a single erect stemmed plant to one with numerous lateral branches depending on the local growing conditions. It is generally glabrous and has leaves (to about 10 cm) that are narrow and either entire or with a few narrow lobes. The flower heads are relatively small (0.5 to 1.5 cm across), but showy, with up to 15 fertile, pale yellow ray flowers surrounding 5 to 20 (or up to even 70), sterile disk flowers. The involucre is divided and uniseriate, but with a small thin membrane between the individual phyllaries (which tend to fold over the achenes at maturity). A key character is the red stigma. The achenes are about 3 to 4 mm long, narrowly ovoid, with 4 to 6 prominent edges or angles.

Distribution and Range: Baker's blennosperma occurs in the valley terrain from Windsor in the north, to Cotati in the southwest, to Big Bend and Sonoma in the southeast.

Habitat: This species inhabits vernal pools and wet swales, ranging from moderately deep standing water (12 to 20 inches deep) to the upper edges of shallow pools. It can grow in mesic grassland, but is presumably precluded from establishing colonies there by effective interspecific competition. As a vernal pool species, it typically occurs in the shallower areas, but has been observed growing in mixed stands with *Lasthenia burkei* and other pool-bottom species. This species is relatively tolerant of certain types of disturbance, including light grazing, summer disking, and vehicular disturbance. It has been observed growing in tire ruts and two of the largest colonies have been disked repeatedly. Several sites have shown exceptional blennosperma growth after discing. At one site, a sizable population grew after having been sprayed with an herbicide.

Growth and Phenology: This species germinates and begins vegetative growth in the fall, often enduring substantial time underwater. It grows more rapidly and begins flowering as its wet habitat begins to dry in the early spring. Being a species that tends to prefer the edges of the pools, it usually flowers earlier than many of its associated species, ranging from late February to mid-May. Its primary flowering time is March to April. As with other vernal pool species, its ultimate size and maturation date depend on weather patterns. Plants in dry habitats tend to be small (less than 6 inches tall) and have few flowers per plant (1 to 6). Plants in areas that are alternately inundated and exposed, however, often reach 15 or 20 inches in height and frequently have more than 20 flowers per plant. Stem thickness also varies greatly, with depauperate individuals being only about 2 or 3 mm in diameter, while robust plants can be over 6 mm thick.

Threats and Endangerment: This species, like so many vernal pool plants, has suffered declines due to physical habitat losses. It is able to withstand a relatively great degree of disturbance, but simply has lost the space needed to grow. Agriculture and housing are the two biggest factors, although altered hydrology (diverted and/or enhanced drainage) can also be important. Given a suitable substrate with some seasonal ponding, this species is able to establish and maintain viable populations under a variety of conditions. Grazing's effect is not well known, although there are several sites where moderate grazing is apparently compatible. However, since this species tends to grow in the shallower pools and their edges, it appears to be vulnerable to grass encroachment, especially in dry years when weeds can extend their coverage.

Potential for transplantation and/or reintroduction: This species has good potential for transplantation. It can withstand substantial disturbance and has been observed growing in low wet areas that have been completely altered. It has been successfully grown at several artificial pool sites, some as very robust, productive individuals. Because of its preference for somewhat shallower sites, it is potentially adapted to a relatively wide range of habitat conditions. It also produces an abundance of seed and has shown an ability to fill in and dominate "vacant" seasonal wetland habitat (there were over 600,000 plants at one site, and more than 200,000 at another).

APPENDIX C

Plant Species Checklist

For The

Santa Rosa Plain

Compiled from:

Harrison, 1991
and
Patterson, unpubl. field data

Santa Rosa Wetland Baseline Study

Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Equisetaceae	**Equisetum laevigatum**	horsetail	S
Isoetaceae	**Isoetes howellii**	Howell's quillwort	?
Marsileaceae	**Marsilea mucronata**	clover fern	?
Marsileaceae	**Pilularia americana**	American pill-wort	S
Alismaceae	**Alisma triviale**	water-plantain	C
Alismaceae	**Machaerocarpus californicus**	fringed water plantain	I
Alliaceae	**Allium unifolium**	wild onion	I
Alliaceae	**Allium vineale**	wild garlic	I
Cyperaceae	**Carex barbarae**	sedge	?
Cyperaceae	**Carex densa**	sedge	C
Cyperaceae	**Carex obnupta**	sedge	S
Cyperaceae	**Cyperus eragrostis**	umbrella sedge	C
Cyperaceae	**Eleocharis acicularis**	needle spike-rush	S
Cyperaceae	**Eleocharis palustris**	spike-rush	D
Cyperaceae	**Scirpus acutus**	bulrush	S
Cyperaceae	**Scirpus koilolepis**	tiny bulrush	?
Cyperaceae	**Scirpus microcarpus**	small-friuted bulrush	S
Hydrocharitaceae	**Elodea sp.**	elodea	r
Iridaceae	**Sisyrinchium bellum**	blue-eyed grass	C
Juncaceae	**Juncus bufonius**	toad rush	C
Juncaceae	**Juncus capitatus**	annual rush	S
Juncaceae	**Juncus effusus var. pacificus**	rush	S
Juncaceae	**Juncus mexicanus**	Mexican rush	C
Juncaceae	**Juncus oxymeris**	rush	C
Juncaceae	**Juncus patens**	spreading rush	C
Juncaceae	**Juncus phaeocephalus var. paniculatus**	brown-headed rush	C
Juncaceae	**Juncus tenuis**	slender rush	C
Juncaceae	**Juncus tenuis var. congestus**	rush	S
Lilaeaceae	**Lilaea scilloides**	flowering quill-wort	C
Liliaceae	**Brodiaea hyacinthina**	white brodiaea	S
Liliaceae	**Brodiaea laxa**	Ithuriel's spear	S
Liliaceae	**Brodiaea appendiculata**	brodiaea	r
Liliaceae	**Brodiaea elegans**	harvest brodiaea	C
Liliaceae	**Brodiaea terrestris**	ground brodiaea	?
Liliaceae	**Calochortus luteus**	yellow mariposa lily	S
Liliaceae	**Calochortus uniflorus**	pink mariposa tulip	S
Liliaceae	**Camassia quamash**	camass lily	I
Liliaceae	**Chlorogalum pomeridianum**	soap plant, amole	C
Liliaceae	**Dichelostemma congesta**	ookow	?
Liliaceae	**Dichelostemma multiflorum**	brodiaea	I
Liliaceae	**Dichelostemma pulchellum**	brodiaea, blue dicks	S
Liliaceae	**Muilla maritima**	muilla	I

Source: unpubl. field data, Patterson, 1984-94; N. Harrison 1978 '91

Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Liliaceae	**Triteleia pedunculata**	pale marsh brodiaea	I
Liliaceae	**Zigadenus fremontii**	Fremont's star lily	S
Orchidaceae	**Spiranthes porrifolia**	ladies' tresses	I
Poaceae	**Agrostis alba**	redtop	I
Poaceae	**Aira caryophyllea**	annual hairgrass	C
Poaceae	**Alopecurus howellii**	annual foxtail	S
Poaceae	**Alopecurus pratensis**	foxtail grass	S
Poaceae	**Anthoxanthum odoratum**	vernalgrass	C
Poaceae	**Avena fatua**	wild oat	D
Poaceae	**Avena sativa**	cultivated oat	C
Poaceae	**Beckmannia syzigachne**	slough grass	?
Poaceae	**Briza maxima**	rattlesnake grass	S
Poaceae	**Briza minor**	little quaking grass	C
Poaceae	**Bromus carinatus**	California brome	S
Poaceae	**Bromus diandrus**	ripgut	D
Poaceae	**Bromus mollis**	soft chess	D
Poaceae	**Bromus rubens**	red brome or foxtail	C
Poaceae	**Bromus tectorum**	cheat grass	I
Poaceae	**Cynodon dactylon**	Bermuda grass	C
Poaceae	**Cynosurus echinatus**	dogtail grass	C
Poaceae	**Dactylis glomerata**	orchard grass	S
Poaceae	**Danthonia californica**	California oatgrass	D
Poaceae	**Deschampsia danthonioides**	hair grass	S
Poaceae	**Elymus glaucus**	wild rye grass	C
Poaceae	**Elymus triticoides**	creeping wild rye grass	S
Poaceae	**Gastridium ventricosum**	nit grass	?
Poaceae	**Glyceria occidentalis**	western manna grass	C
Poaceae	**Holcus lanatus**	velvet grass	C
Poaceae	**Hordeum brachyantherum**	meadow barley	C
Poaceae	**Hordeum hystrix**	Mediterranean barley	C
Poaceae	**Hordeum jubatum**	foxtail barley	D
Poaceae	**Hordeum leporinum**	mousetail barley	C
Poaceae	**Koeleria cristata (K. macrantha)**	Junegrass	?
Poaceae	**Lolium multiflorum**	Italian ryegrass	D
Poaceae	**Lolium perenne**	perennial ryegrass	?
Poaceae	**Panicum sp.**		I
Poaceae	**Paspalum dilatatum**	Dallis grass	I
Poaceae	**Phalaris angustata**	canary grass	S
Poaceae	**Phalaris aquatica (P. tuberosa)**	Harding grass	C
Poaceae	**Phalaris lemmonii**	canary grass	S
Poaceae	**Phalaris minor**		C
Poaceae	**Phalaris paradoxa**		C

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Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Poaceae	**Pleuropogon californicus**	Calif. semaphore grass	C
Poaceae	**Poa annua**	annual bluegrass	C
Poaceae	**Poa pratensis**	Kentucky bluegrass	?
Poaceae	**Polypogon maritimus**		?
Poaceae	**Polypogon monspeliensis**	rabbit-foot grass	C
Poaceae	**Sitanion jubatum**	squirreltail grass	S
Poaceae	**Stipa pulchra**	purple needlegrass	S
Poaceae	**Taeniatherum caput-medusae (Elymus c.)**	Medusa-head	D
Poaceae	**Vulpia dertonensis**	six-weeks fescue	C
Poaceae	**Vulpia myuros var. hirsuta (F. megalura)**	annual fescue	C
Typhaceae	**Typha angustifolia**	cattail	C
Typhaceae	**Typha latifolia**	cattail	S
Aceraceae	**Acer macrophyllum**	bigleaf maple	I
Amaranthaceae	**Amaranthus albus**	tumbleweed	S
Anacardiaceae	**Toxicodendron diversilobum**	poison oak	C
Apiaceae	**Ammi majus**	bishop's weed	?
Apiaceae	**Conium maculatum**	poison hemlock	C
Apiaceae	**Daucus carota**	Queen Ann's lace	C
Apiaceae	**Eryngium aristulatum**	coyote thistle	C
Apiaceae	**Eryngium armatum**	coyote thistle, button celer	S
Apiaceae	**Foeniculum vulgare**	fennel, wild anis	C
Apiaceae	**Lomatium caruifolium**	caraway-leaved lomatium	S
Apiaceae	**Lomatium utriculatum**	hog parsnip	S
Apiaceae	**Oenanthe sarmentosa**	water parsley	S
Apiaceae	**Perideridia gairdneri ssp. gairdneri**	Gairdner's yampah	R
Apiaceae	**Perideridia kelloggii**	Kellogg's yampah	S
Apiaceae	**Sanicula bipinnatifida**	purple sanicle	S
Apiaceae	**Sanicula crassicaulis**	gambelweed	S
Apiaceae	**Scandix pecten-veneris**	shepherd's needle	S
Apiaceae	**Torilis nodosa**		S
Apocynaceae	**Apocynum cannabinum**	Indian hemp	I
Asclepiadaceae	**Asclepias fascicularis**	milkweed	I
Asteraceae	**Achillea millefolium var. borealis**	yarrow	S
Asteraceae	**Achyrachaena mollis**	blow-wives	S
Asteraceae	**Agoseris grandiflora**	mountain dandelion	I
Asteraceae	**Anthemis cotula**	mayweed	C
Asteraceae	**Anthemis fuscata**	dusky chamomile	S
Asteraceae	**Artemisia douglasiana**	mugwort	S
Asteraceae	**Aster chilensis**	Chile aster	S
Asteraceae	**Baccharis pilularis ssp. consanguinea**	coyote brush	C
Asteraceae	**Baccharis viminea**	mule fat	I

Source: unpubl. field data, Patterson, 1984-94; N. Harrison 1978 '91

Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Asteraceae	**Blennosperma bakeri**	Baker's blennosperma	E
Asteraceae	**Blennosperma nanum**	common blennosperma	I
Asteraceae	**Calendula arvensis**	calendula, pot marigold	I
Asteraceae	**Carduus pycnocephalus**	Italian thistle	C
Asteraceae	**Centaurea calcitrapa**	purple star thistle	S
Asteraceae	**Centaurea melitensis**	star thistle, tocalote	S
Asteraceae	**Centaurea solstitialis**	yellow star thistle	D
Asteraceae	**Cichorum intybus**	chicory	C
Asteraceae	**Cirsium arvense**	bull thistle	C
Asteraceae	**Cirsium vulgare**	common thistle	C
Asteraceae	**Conyza canadensis**	horseweed	C
Asteraceae	**Cotula coronopifolia**	brass buttons	I
Asteraceae	**Evax sparsiflora**	evax	S
Asteraceae	**Filago gallica**	filago	S
Asteraceae	**Gnaphalium chilense**	cotton-batting plant	S
Asteraceae	**Gnaphalium palustre**	lowland cudweed	S
Asteraceae	**Gnaphalium purpureum**	purple cudweed	S
Asteraceae	**Grindelia camporum**	gumplant	I
Asteraceae	**Hemizonia congesta (H. luzulifolia congesta)**	white tarweed	I, R
Asteraceae	**Hemizonia fitchii**	tarweed	C
Asteraceae	**Hemizonia lutescens**	tarweed	C
Asteraceae	**Hemizonia luzulaefolia ssp. rudis**	hayfield tarweed	S
Asteraceae	**Hemizonia multicaulis ssp. vernalis**		I
Asteraceae	**Hemizonia pungens**	tarplant, spikeweed	S
Asteraceae	**Holocarpha virgata**	virgate tarweed	S
Asteraceae	**Holozonia filipes**		S
Asteraceae	**Hypochoeris glabra**	cat's-ear	D
Asteraceae	**Hypochoeris radicata**	cat's-ear	S
Asteraceae	**Lactuca saligna**	wild lettuce	C
Asteraceae	**Lactuca serriola**	prickly lettuce	C
Asteraceae	**Lasthenia burkei**	Burke's goldfields	E
Asteraceae	**Lasthenia californica (Baeria chrysostoma)**	goldfields	I
Asteraceae	**Lasthenia glaberrima**	smooth goldfields	C
Asteraceae	**Lasthenia glabrata**	goldfields	I
Asteraceae	**Layia chrysanthemoides**	smooth tidy tips	S
Asteraceae	**Madia elegans ssp. densifolia**	tarweed	S
Asteraceae	**Madia sativa**	common madia	S
Asteraceae	**Matricaria matricarioides**	pineapple weed	S
Asteraceae	**Microseris douglasii**	Douglas' microseris	?
Asteraceae	**Microseris laciniata**	cut-leaved scorzonella	?
Asteraceae	**Picris echioides**	ox-tongue	C
Asteraceae	**Psilocarphus oregonus**	Oregon woolly-heads	S

Source: unpubl. field data, Patterson, 1984-94; N. Harrison 1978 '91

Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Asteraceae	**Psilocarphus tenellus var. tenellus**	slender woolly-heads	S
Asteraceae	**Senecio vulgaris**	groundsel	C
Asteraceae	**Silybum marianum**	milk thistle	C
Asteraceae	**Soliva daucifolia**		S
Asteraceae	**Soliva sessilis**	common soliva	S
Asteraceae	**Sonchus asper**	sow thistle	C
Asteraceae	**Sonchus oleraceus**	sow thistle	C
Asteraceae	**Taraxacum officinale**	dandelion	C
Asteraceae	**Tragopogon porrifolius**	oyster plant	C
Asteraceae	**Wyethia angustifolia**	narrow-leaved mule ears	S
Asteraceae	**Xanthium spinosum**	spiny clotbur	C
Asteraceae	**Xanthium strumarium**	cocklebur	C
Boraginaceae	**Amsinckia intermedia**	fiddleneck	C
Boraginaceae	**Myosotis laxa**	forget-me-not	S
Boraginaceae	**Plagiobothrys bracteatus**	popcorn flower	C
Boraginaceae	**Plagiobothrys fulvus var. campestris**	popcorn flower	C
Boraginaceae	**Plagiobothrys greenei**	popcorn flower	S
Boraginaceae	**Plagiobothrys nothofulvus**	popcorn flower	C
Boraginaceae	**Plagiobothrys stipitatus var. micranthus**	popcorn flower	S
Boraginaceae	**Plagiobothrys tenellus**	popcorn flower	S
Boraginaceae	**Plagiobothrys undulatus**	popcorn flower	?
Brassicaceae	**Brassica campestris**	field mustard	C
Brassicaceae	**Brassica nigra**	black mustard	C
Brassicaceae	**Capsella bursa-pastoris**	shepherd's purse	C
Brassicaceae	**Cardamine oligosperma**	bitter cress	S
Brassicaceae	**Dentaria californica**	toothwort, milkmaids	S
Brassicaceae	**Nasturtium officianale (Rorippa nas.-aq.)**	watercress	S
Brassicaceae	**Raphanus sativus**	wild radish	C
Brassicaceae	**Rorippa curvisiliqua**	yellow-cress	S
Brassicaceae	**Rorippa islandica**	yellow cress	C
Brassicaceae	**Sisymbrium officianale**	hedge mustard	C
Brassicaceae	**Teesdalia coronopifolia**		?
Brassicaceae	**Thysanocarpus radians**	fringe-pod	S
Callitrichaceae	**Callitriche longipedunculata**	water starwort	C
Callitrichaceae	**Callitriche marginata**	water starwort	S
Campanulaceae	**Downingia concolor**	downingia	C
Campanulaceae	**Downingia cuspidata**	downingia	I
Campanulaceae	**Downingia humilis**	dwarf downingia	R, S
Campanulaceae	**Downingia yina**		r
Caryophyllaceae	**Cerastium glomeratum (C. viscosum)**	mouse-ear chickweed	S
Caryophyllaceae	**Sagina occidentalis**	western pearlwort	S
Caryophyllaceae	**Silene gallica**	windmill pink	C

Source: unpubl. field data, Patterson, 1984-94; N. Harrison 1978 '91

Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Caryophyllaceae	**Spergula arvensis**	spurrey	S
Caryophyllaceae	**Spergularia rubra**	red spurrey	S
Caryophyllaceae	**Stellaria media**	chickweed	C
Caryophyllaceae	**Stellaria nitens**	chickweed	C
Chenopodiaceae	**Atriplex patula ssp. hastata**	fat-hen	S
Chenopodiaceae	**Chenopodium album**	lamb's quarters	S
Convolvulaceae	**Calystegia subacaulis**	stemless morning-glory	?
Convolvulaceae	**Convolvulus arvensis**	morning-glory, bindweed	D
Crassulaceae	**Crassula aquatica (Tillaea a.)**	water pygmy-weed	S
Crassulaceae	**Crassula erecta (Tillaea e.)**	sand pygmy-weed	S
Cucurbitaceae	**Marah fabaceus var. agrestis**	wild cucumber	S
Cuscutaceae	**Cuscuta howelliana**	Howell's dodder	r
Dipsacaceae	**Dipsacus fullonum**	teasel	C
Elatinaceae	**Elatine californica**	California waterwort	?
Elatinaceae	**Elatine heterandra**	waterwort	?
Euphorbiaceae	**Eremocarpus setigerus**	dove weed, turkey mullein	C
Euphorbiaceae	**Euphorbia serpyllifolia**	thyme-leaved spurge	S
Fabaceae	**Lathyrus cicera**	pea	?
Fabaceae	**Lathyrus hirsutus**	hairy pea	S
Fabaceae	**Lathyrus jepsonii ssp. californicus**	Jepson's wild pea	?
Fabaceae	**Lathyrus odoratus**	sweet pea	S
Fabaceae	**Lotus corniculatus**	bird's foot trefoil	C
Fabaceae	**Lotus micranthus**	bird's foot trefoil	S
Fabaceae	**Lotus purshianus**	Spanish clover	C
Fabaceae	**Lupinus bicolor ssp. pipersmithii**	bicolor lupine	C
Fabaceae	**Lupinus densiflorus var. palustris**	lupine	?
Fabaceae	**Lupinus formosus**	pale summer lupine	?
Fabaceae	**Lupinus nanus var. latifolius**	sky lupine	C
Fabaceae	**Lupinus polycarpus**	dove lupine	?
Fabaceae	**Medicago polymorpha var. brevispina**	bur-clover	C
Fabaceae	**Melilotus albus**	white sweet-clover	C
Fabaceae	**Melilotus indicus**	yellow sweet-clover	C
Fabaceae	**Melilotus officianalis**	alfalfa	S
Fabaceae	**Trifolium agrarium**	hop clover	S
Fabaceae	**Trifolium amplectens**	pale sac clover	C
Fabaceae	**Trifolium appendiculatum**	long-keeled clover	S
Fabaceae	**Trifolium barbigerum**	bearded clover	S
Fabaceae	**Trifolium bifidum**	pinole clover	S
Fabaceae	**Trifolium ciliolatum**	tree clover	S
Fabaceae	**Trifolium depauperatum**	clover	C
Fabaceae	**Trifolium dubium**	shamrock	C
Fabaceae	**Trifolium fucatum**	sour clover	C

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Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Fabaceae	**Trifolium gracilentum**	pin-point clover	S
Fabaceae	**Trifolium grayi**	Gray's clover	S
Fabaceae	**Trifolium hirtum**	rose clover	C
Fabaceae	**Trifolium incarnatum**	crimson clover	S
Fabaceae	**Trifolium microcephalum**	maiden clover	S
Fabaceae	**Trifolium microdon**	Valparaiso clover	S
Fabaceae	**Trifolium pratense**	red clover	S
Fabaceae	**Trifolium repens**	white clover	C
Fabaceae	**Trifolium subterraneum**	sub-clover	C
Fabaceae	**Trifolium tridentatum**	tomcat clover	C
Fabaceae	**Trifolium variegatum**	white-tip clover	C
Fabaceae	**Vicia benghalensis**	vetch	C
Fabaceae	**Vicia pannonica**	vetch	S
Fabaceae	**Vicia sativa var. angustifolia**	narrow-leaved vetch	C
Fabaceae	**Vicia sativa var. sativa**	spring vetch	C
Fabaceae	**Vicia villosa**	purple vetch	C
Fagaceae	**Quercus agrifolia**	coast live oak	C
Fagaceae	**Quercus douglasii**	blue oak	S
Fagaceae	**Quercus garryana**	Oregon white oak	I
Fagaceae	**Quercus kelloggii**	California black oak	S
Fagaceae	**Quercus lobata**	valley oak	C, D
Fagaceae	**Quercus wislizenii**	live oak	I
Gentianaceae	**Centaurium floribundum**	canchalagua	S
Gentianaceae	**Centaurium trichanthum**	centaury	S
Gentianaceae	**Microcala quadrangularis**		S
Geraniaceae	**Erodium brachycarpum (E. obtusiplic.)**	filaree	C
Geraniaceae	**Erodium cicutarium**	cut-leaf filaree	C
Geraniaceae	**Erodium moschatum**	white-stemmed filaree	C
Geraniaceae	**Geranium dissectum**	cut-leaf geranium	C
Geraniaceae	**Geranium molle**	wild geranium	C
Hydrophyllaceae	**Nemophila menziesii**	baby blue-eyes	S
Hydrophyllaceae	**Nemophila menziesii ssp. atomaria**	white nemophila	S
Hypericaceae	**Hypericum perforatum**	Klamath weed	I
Lamiaceae	**Lamium amplexicaule**	henbit	S
Lamiaceae	**Lamium purpureum**	red henbit	S
Lamiaceae	**Mentha pulegium**	common mint, pennyroyal	C
Lamiaceae	**Pogogyne douglasii ssp. parviflora**	Douglas' pogogyne	R
Lamiaceae	**Stachys ajugoides**	hedge-nettle	?
Lamiaceae	**Stachys rigida ssp. quercitorum**	hedge-nettle	S
Lamiaceae	**Trichostema lanceolatum**	vinegar weed	S
Limnanthaceae	**Limnanthes alba**	white meadowfoam	S
Limnanthaceae	**Limnanthes douglasii var. douglasii**	common meadowfoam	S

Source: unpubl. field data, Patterson, 1984-94; N. Harrison 1978 '91

Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Limnanthaceae	**Limnanthes douglasii var. nivea**	snowy meadowfoam	C
Limnanthaceae	**Limnanthes vinculans**	Sebastopol meadowfoam	E
Linaceae	**Linum bienne**	blue flax	S
Lythraceae	**Ammannia coccinea**		?
Lythraceae	**Lythrum hyssopifolia**	loosestrife	C
Malvaceae	**Malva nicaeensis**	bull mallow, cheeseweed	S
Malvaceae	**Malva rotundifolia**	round-leaved mallow	C
Malvaceae	**Malvella leprosa (Sida hederacea)**	alkali mallow	C
Malvaceae	**Sidalcea calycosa**	annual sidalcea	S
Malvaceae	**Sidalcea diploscypha**	annual checker	?
Malvaceae	**Sidalcea malvaeflora**	checkerbloom	C
Onagraceae	**Boisduvalia densiflora**	boisduvalia	S
Onagraceae	**Boisduvalia glabella**	boisduvalia	S
Onagraceae	**Boisduvalia stricta**	boisduvalia	S
Onagraceae	**Camissonia ovata (Oenothera o.)**	sun cups	C
Onagraceae	**Clarkia purpurea ssp. quadrivulnera**	clarkia, wine cup	C
Onagraceae	**Epilobium paniculatum**	willow-herb	C
Onagraceae	**Epilobium watsonii var. franciscanum**	willow herb	S
Papaveraceae	**Eschscholzia californica**	California poppy	C
Papaveraceae	**Platystemon californicus**	cream cups	S
Plantaginaceae	**Plantago erecta**	California plantain	S
Plantaginaceae	**Plantago lanceolata**	English plantain	D
Polemoniaceae	**Navarretia bakeri (N. leucocephala bakeri)**	Baker's navarretia	R
Polemoniaceae	**Navarretia cotulaefolia**	yellow navarretia	?
Polemoniaceae	**Navarretia intertexta**	needle-leaved navarretia	C
Polemoniaceae	**Navarretia plieantha (N. leucocephala p.)**	many-flowered navarretia	R
Polemoniaceae	**Navarretia squarrosa**	skunkweed	S
Polemoniaceae	**Navarretia tagetina**	marigold navarretia	?
Polemoniaceae	**Navarretia viscidula**	viscid navarretia	?
Polygonaceae	**Polygonum aviculare**	knotweed	C
Polygonaceae	**Rumex acetosella**	sheep sorrel	D
Polygonaceae	**Rumex conglomeratus**	clustered dock	C
Polygonaceae	**Rumex crispus**	curly dock	C
Polygonaceae	**Rumex fueginus**	golden dock	?
Polygonaceae	**Rumex pulcher**	fiddle dock	?
Polygonaceae	**Rumex salicifolius**	willow-leaved dock	?
Portulacaceae	**Calandrinia ciliata var. menziesii**	red maids	C
Portulacaceae	**Claytonia hallii**	Hall's montia	?
Portulacaceae	**Claytonia perfoliata**	miner's lettuce	C
Portulacaceae	**Montia fontana (M. verna or hallii ?)**	Hall's montia	?
Primulaceae	**Anagallis arvensis**	scarlet pimpernel	C
Primulaceae	**Anagallis minima**	chaffweed	?

Source: unpubl. field data, Patterson, 1984-94; N. Harrison 1978 '91

Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Ranunculaceae	**Delphinium variegatum**	larkspur	?
Ranunculaceae	**Ranunculus alismaefolius**	buttercup	S
Ranunculaceae	**Ranunculus aquatilis var. hispidulus**	aquatic buttercup	?
Ranunculaceae	**Ranunculus arvensis**	spiny buttercup	S
Ranunculaceae	**Ranunculus californicus**	California buttercup	C
Ranunculaceae	**Ranunculus lobbii**	aquatic buttercup	R
Ranunculaceae	**Ranunculus muricatus**	buttercup	C
Ranunculaceae	**Ranunculus orthorhynchus var. bloomeri**	Bloomer's buttercup	?
Ranunculaceae	**Ranunculus pusillus**	buttercup	S
Rosaceae	**Acaena californica**	acaena	S
Rosaceae	**Rosa californica**	California wild rose	S
Rosaceae	**Rosa eglanteria**	sweet-brier	I
Rosaceae	**Rubus discolor (R. procerus)**	Himalayan blackberry	C
Rosaceae	**Rubus vitifolius**	California blackberry	S
Rubiaceae	**Galium aparine**	bedstraw	S
Rubiaceae	**Galium divaricatum**	bedstraw	?
Rubiaceae	**Sherardia arvensis**	field madder	S
Salicaceae	**Salix lasiolepis**	arroyo willow	C
Saxifragaceae	**Lithophragma affinis**	woodland star	?
Scrophulariaceae	**Bellardia trixago**	bellardia	I
Scrophulariaceae	**Collinsia heterophylla**	chinese houses	S
Scrophulariaceae	**Collinsia sparsiflora var. arvensis**	collinsia	?
Scrophulariaceae	**Gratiola ebracteata**	hedge hyssop	S
Scrophulariaceae	**Kickxia elatine**	fluellin	S
Scrophulariaceae	**Limosella aquatica**	mudwort	?
Scrophulariaceae	**Mimulus guttatus ssp. guttatus**	monkey-flower	S
Scrophulariaceae	**Mimulus tricolor**	ditch monkeyflower	S
Scrophulariaceae	**Orthocarpus attenuatus**	owl's clover, valley tassels	S
Scrophulariaceae	**Orthocarpus campestris**	field owl's clover	?
Scrophulariaceae	**Orthocarpus castillejoides**	paintbrush owl's-clover	?
Scrophulariaceae	**Orthocarpus densiflorus**	pink owl's clover	?
Scrophulariaceae	**Orthocarpus erianthus**	butter-and-eggs	?
Scrophulariaceae	**Orthocarpus faucibarbatus**	owl's clover	D
Scrophulariaceae	**Orthocarpus lithospermoides**	cream sacs	S
Scrophulariaceae	**Orthocarpus purpurascens**	purple owl's clover	S
Scrophulariaceae	**Orthocarpus pusillus**	dwarf owl's clover	S
Scrophulariaceae	**Parentucellia viscosa**	hawksbill, parentucellia	C
Scrophulariaceae	**Scrophularia californica ssp. floribunda**	bee plant	S
Scrophulariaceae	**Verbascum blattaria**	mullein	S
Scrophulariaceae	**Verbascum thapsis**	mullein	S
Scrophulariaceae	**Veronica anagallis-aquatica**	brooklime	C
Scrophulariaceae	**Veronica peregrina ssp. xalapensis**	speedwell	C

Source: unpubl. field data, Patterson, 1984-94; N. Harrison 1978 '91

Appendix C. Plant species checklist, Santa Rosa Plain, Sonoma County

Family	PLANT SPECIES	COMMON NAME	Abund.
Urtaceae	**Urtica dioca ssp. gracile var. holosericea**	stinging nettle	**S**
Verbenaceae	**Lippia nodiflora**	garden lippia	**S**
Zygophyllaceae	**Tribulus terrestris**	puncture vine	**S**

Abundance:
D = dominant; C = common, generally widespread; S = scattered; I = infrequent; r = rare in study area, but not listed; R = rare, listed by CNPS or CDFG; E = federally listed as Endangered

Source: unpubl. field data, Patterson, 1984-94; N. Harrison 1978 '91

APPENDIX D

Lists Of Sites With Rare Plants

On The

Santa Rosa Plain

Compiled from:
Patterson, Guggolz, and Waaland, 1994
(Attachment 1)

The lists on the following pages represent the most significant sites that are known to or have historically supported sensitive plants. There are four separate lists, one each for the three species of primary concern: Burke's goldfields (*Lasthenia burkei* - LABU), Sebastopol meadowfoam (*Limnanthes vinculans* - LIVI), and Baker's blennosperma (*Blennosperma bakeri* - BLBA), plus a fourth list of ensemble sites. Data for the listed sites may be out of date, and there may be other sites not yet discovered that belong here. In general, each list starts with the sites that are already in public ownership (or with a conservation easement), followed by the most significant privately owned sites, the sites with potential for significant resources (but whose current resource status is not known), and sites known to be essentially destroyed or extirpated. A small number of sites for each species are not included due to their small size or very small populations.

Santa Rosa Wetland Baseline Study

KEY

For

Appendix D

(Lists D1 through D4)

*1	Map Code	County (1990) air photo # + sequential # (continued from Waaland, 1989)
*2	A.P. No.s	Sonoma County Assessor's Parcel number(s)
*3	EO No.	Element Occurrence number with CNDDB (# - Species)
*4	Place Name	General location name or description
*5	Geog. Sub-	**W**: Windsor, **L**: Laguna, **U**: urban Santa Rosa (SR), **S**: SW SR, **N**: NW SR, **E**: E SR, **P**: S SR Plain; **R**: rural SR, **C**: Cotati
*6	Site size	Approx. acreage of site (multiple values indicate more than one parcel)
*7	LABU	*Lasthenia burkei*: **E**: extant, **X**: extirp., **H**: hist./abund. class: '**0**': none, **0**: <10 plants, **1**: 10-100, **2**: 100-500, **3**: 500-1000, **4**: 1000-5000, **5**: 5000-10,000, **6**: 10,000-100,000, **7**: > 100,000 / year
*8	LIVI	*Limnanthes vinculans*; (see # 7 for codes)
*9	BLBA	*Blennosperma bakeri*; (see # 7 for codes)
*10	Other R/E	Other sensitive spp: **NAPL**: *Navarretia pleiantha*, **NABA**: *N. bakeri*, **ALAES**: *Alopecurus aequalis sonomensis*; **DOHU**: *Downingia humilis*, **RALO** : *Ranunculus lobbii*; **PODOP**: *Pogogyne douglasii* ssp. *parviflora*, **PEGAG**: *Perideridia gairdneri* ssp. *gairdneri*, **HECO**: *Hemizonia congesta*, **Q**: *Quercus lobata*; (__): hist.
*11	Sens. Wild.	**CTS**: CA tiger salamander, **LO**: CA linderiella, **VPS**: v. p. shrimp, **FS** freshwater shrimp, **R**: raptors, **W**: waterbirds, etc., **Ai**: sig. aquatic invert.s, **Aa**: amphibians; (__): potential habitat; < >: sought, not found
*12	Habitats	Habitats: **V/v**: sig./minor vernal pools, **S/s**: swales, **R/r**: riparian, **P/p**: peren. marsh, **M/m_**: meadow (**_w**: wet, **_d**: dry), **C/c**: creek, **D/d**: ditch / flood channel, **A/a**: farmed wetlands, **F/f**: floodplain, **W/w**: other wetlands, **N/n**: man-made pond, **U_**: other significant upland habitats (**Ug**: native grassland, **Uw**: wildflowers, **Uo**: oak woodland, **Us**: oak savanna); (__): historic; "__" = man-made habitat
*13	Current Use	A = Agriculture (**Aw**: wastewater, **Ao**: orchard, **Ap**: pasture, **Ar**: row crops, **Av**: vineyard, **Ai**: irrigated, **Af**: hayfield); R = Residential (**Rr**: rural, **Ru**: urban); V = Vacant; P = Public (**Pc**: conservation, **Pr**: recreation, park, **Ps**: school, **Pp**: wastewater pond, **Pi**: wastewater irrigation, **Pu**: public utility); C / I: commercial/industrial

Sites are listed in generally descending order of significance.

List D1: most significant LABU sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
	Sites In Public Ownership/ Easement											
20E 01	059-260-010	7-LABU	Sonoma County Airport, preserve	W	11 ?	E/6-7/84;87-89;E/?/90-93			PODOP?		"V", "v", "s", Ug, Uw	Pc
20F 01	059-260-10	9-LABU	Sonoma County Airport, medians	W	15+	E/6/87 E/4/88					"s","w"	Pu, airport infield
20F 10	059-260-010	9-LABU	Sonoma County Airport, south end	W	2	E/6/84 E/6/87 E/6/88					"v"	Pu
26B 03	034-042-77		Alton Lane mitigation site	R	29	?/0/88 E/5/89 E/6/90-94	E/1/93 E/1/94	E/4/88 E/7/89-94	DOHU, RALO, PODOP	LO	"V", "v", S, s, v, md, Uo,	Pc
26D 02	130-223-81	17-LABU	Hall Rd/ Piezzi,SE; (Crinella)	R	4.0	E/4/88 E/6/91 E/6/92 E/3/94	E/1/91 E/1/92 E/1/94		RALO, Q.		s, S, v, Us	Pc pending
26B 29	034-101-70		Abramson Rd NW; Bainbridge (preserve)	R	8	E/4/92			RALO		S, s, V, v, "v", Uo	Pc, Ap
26F 09	060-060-53	1-LABU 4-BLBA 19-LIVI	Todd Road Preserve	L	75	E/1/74,87;5/88 H/0/90,91,94	E/?/79,80;E/3-6/83,87,88,90	E/3/88 E/4/90 E/3/94	PEGAG? RALO		S, s, V, v, Us, Ug, Mw	Pc
20F 04	059-270-60	8-LABU in part	Airport Business Center (Coombs)	W	2	X/4/84 E/4/87 E/4/88 E/5/89		E/2/91 E/2/92 E/3/93	(NAPL/87), PODOP, DOHU		"v"	Pc
26B 31			Alton Lane South	R	6?	-/-/89 E/1/92 E/4/93		-/-/89 E/2/93	PODOP		S, "s", "v"	Pc
26B 24	034-021-22	19-LABU	Pioneer 2000	N	0.2	E/4/88; 0/90,93 1/91,94 2/92					v	Ru
	Sites Presumed Extant; Private											
26B 40	034-022-03		NWSR Annex; Stipinovich	N	5.22	E/6/88, 90,92, 93, E/4/91		E/5-6/88, 90-93	RALO		V, s, Uw, Ug	Rr, Ap
26B 43	034-021-34		Pinercrest Rd/Waltzer, NE (Toso)	N	9.60	E/6/88 E/7/89 E/5/93 E/6/94					s, v	Rr, Ap

List D1: most significant LABU sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
26F 10	060-060-55	4-LABU 5-LIVI 12-BLBA	Dom. Carinalli easement	L		E/5/88 E/5/90	E/6/88	E/1/74 E/0/86			s, V, v, p, Us, F, W	A
26B 33	034-030-70	[illegible]	(Jacobsen)	N	28.49	E/3/88 E/5/90 E/1/92		E/2/88 H/0/90 H/0/92	RALO		S, s, V, v, mw, Uw	Af, Ap, Rr
20C 07	066-021-01		Herb Rd.; blue oaks; Promenade Lane	W	3.96	E/5/89 E/4/90			NABA, DOHU		v, s, Uo	V
26B 38	034-022-02		NWSR Annex (Craigie & Johnson)	N	5.22	E/3/88 E/?/90 E/1/91 E/3/92,					s, v, Ug	Rr, V
20F 07	164-150-24	9-NAPL	Sanders Rd. W; (Gossage)	W	7.39	E/5/84 E/3-4/ 86,88, 92,?/93			NAPL		s, v, c, r	Rr, Ap
26B 44	036-01-46 036-01-49		Piner at Marlow (Crane/ Avellar)	N	7.64	E/2/90 E/4/91 E/4/93			RALO		s, v	Ap, Rr
20F 08	164-150-21	8-LABU in part	Sanders Rd. E; (Hall)	W	10	E/4-6/ 84-88 E/3/92 E/2/93			NAPL, NABA, Trifol. grayi		v, s	Rr, Ap, Ai, Ac
26B 51	036-01-41		Piner Rd. w/ eucalyptus	N	10.41	E/3/89 E/6/90 E/3/91 E/4/93			NABA, RALO, Q.		s, v, d	V
20C 01	161-030-16	18-LABU	Grill	W	4.57	E/4/86 E/2/90 E/3/92 E/2/93			PODOP		V, v, s, Ug, Uw, Ug	C/I, V
20C 08	066-190-26		Grange area	W	13	E/5/84E /3/88					v, s, Ug, Us	
20C 06	066-010-02		Wilcox Rd.	W	5.09	E/4/88 E/4/91					v, s, Us	Rr
26B 18	034-030-71		Francisco elbow	N	3.84	E/2/88 E/4/92		E/3/88 E/5/92	RALO		v, s, Ug	Rr, Af, Ap
20C 04	161-040-07	12-LABU	Starr Rd. No. 2	W	5.87	E/3/88 E/3/91					v, s, Ug	Rr
26B 19	059-070-61		Raplee Terrace	N		E/?/?		?/88	RALO		v, s	Rr, V

List D1: most significant LABU sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
26B 56	057-030-36		Skaug's horse pasture	R	16.11	E/3/90					v, s, Uo, Ug	Ao, Ap, Rr
26B 55	059-030-10		Wood Road at Fulton, NW	R	29.24	E/3/90					v	Ap
26A 01	057-080-26	2-LABU	Denner Ranch	L	364.58	E/?/69 E/?/74 H/?/87			PODOP		S, s, v, R, r, Pm, C	Ap, Ah
26B 25	034-050-26		Wood Road elbow NW	R	4.95	E/4/88 E/?/90					v, s	Ap
	Extirpated or Largely Destroyed											
26B 22	034-023-01 034-023-02 ? 034-023-03		San Miguel Road; (Manes)	N	8.94	E/6/88 E/5/89 H/0/94					s, v	Rr
20F 05	59-271-26 59-271-27	10-LABU in part	Shiloh Rd horse ranch	W	37.5	E/6/84 -88 E/1/92 E/1/94			NABA/H, PODOP		v, V, s, Us, c	Af, Ap
20F 13	164-150-13 164-150-14		N Skylane; Munderloh	W		E/6/84 E/?/91 E/0/92 ?/0/93					s, (v)	Rr, Ap
26B 06c	034-060-12	[illegible]-LABU 15-BLBA	Comalli N; NE corner of Simi parcel	R	1.0 (119.63)	E/?/88 E/5/91 X?/94		E/?/88 E/6/91	RALO		(s, v)	Av
20F 02	59-271-28 59-271-17		Standard Structures NE	W	1.19 78.2 44.07	E/5/88 X/0/92					s, d, a, w	C/I , V
26B 28	034-101-69		Abramson Road No. 4 (Bainbridge east)	R	4.26	E/5/88 E/3/89 X/0/91-93			(NABA), HECO, Q.		s, (v), (Ug)	Rr
20F 14	164-150-16		Skylane Business Park	W	5.8	E/4/91 E/4/92 E/3/93 E/1/94			DOHU, Trifol. grayi		v, s, d	V, Ap
20F 17	59-271-13		Piombo W. central	W	51.81	E/4/84 (air) E/?/91 X/0/93					w indust.	C/I
20F 32	59-271-28		Standard Structures south	W	78.25	E/4/89 E/4/92					s, v	V, C/I

List D1: most significant LABU sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
20C 11	subdivided		Kidd Estates	W		E/7/86 E/7/89 X/90			(DOHU, CUHO?)		V, v, s, Us	Ru
26B 02	originally 034-021-17 034-021-32 subdivided		San Miguel Rancho	N	(58)	E/4/88 E/4/89 E/4/90 X/92		E/5/88 E/5/89 E/3/90 X/-/92	(RALO)		(s, V, v)	Ru
26B 14	originally 034-023-14 subdivided		TMB Brown Subdivision	N	10.83	E/4/88 E/3/89 X/93		E/2/88 E/2/89 X/-/93	(RALO) (PODOP)		(v, d, w)	Ru
20C 03	161-26-02 (sudivided)	12-LABU	Starr Road No. 1; (ZAM)	W	12.98	E/4/88 E/3/89 X/90						Ru
26B 16	034-023-16		San Miguel Est. No. 2 north	N	3.33	E/5/88 E/5/89 X/93		E/2/88 X/-/93	(RALO)		(w)	Af, Rr
26B 15	subdivided	0-BLBA 20-LABU	San Miguel Rd; San Miguel Est. No. 1	N	7.96	E/4/86, 89; H/0/91 X/92-93		E/5-7/ 78-90 E/2/91 X/93	(RALO)		(V, S, v, s)	Ru

List D2: most significant LIVI sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
	Sites in Public Ownership/ Easement											
26F 09	060-060-53	1-LABU 4-BLBA 19-LIVI	Todd Road Preserve	L	75	E/1/74, 87;5/88 H/0/90, 91,94	E/4-6/ 79,80, 83,87, 88,90	E/3/88 E/4/90 E/3/94	PEGAG? RALO		S, s, V, v, Us, Ug, Mw	Pc
26F 22	035-141-03		'FEMA'	S	61		E/4/90 E/5/93		PODOP, RALO, Q.	CTS, LO	S, V, v, w	V
26F 14	035-211-23		Broadmoor Acres North	S	14		E/4/88 E/4/91 E/3/92 E/1/93		RALO, PODOP, Q.	CTS	s, v, V,Ug, Us, m	Pc
26F 10	060-060-55	4-LABU 5-LIVI 12-BLBA	Dom. Carinalli easement	L		E/5/88 E/5/90	E/6/88	E/1/74 E?/0/86			s, V, v, p, Us, F, W	A
26D 02	130-223-81	17-LABU	Hall Rd/ Piezzi,SE; (Crinella)	R	4.0	E/4/88 E/6/91 E/6/92 E/3/94	E/1/91 E/1/92 E/1/94		RALO, Q.		s, S, v, Us	Pc pending
27E 13	035-191-06 035-191-09 035-191-10		Northpoint Village	S	9.0		E/2-4/ 90-94		PODOP, RALO, Q.	LO	s, v, V, d	Ap
26F 11	060-010-15 060-010-16		Hofbauer easement, Laguna	L			E/2/88				F, p, v, s, Ug, Us	A
26B 03	034-042-77		Alton Lane mitigation site	R	29	?/0?/88 E/5/89 E/6/90-94	E/1/93 E/1/94	E/4?/88 E/7/89-94	DOHU, RALO, PODOP	LO	"V", "v", S, s, v, md, Uo,	Pc
	Sites Presumed Extant; Private											
26D 03	035-051-23 035-051-14		Hall/ Occidental/ Fulton ('Cramer')	R	174	E/2/88 E/3/91-93	E/6-7/ 88, 91-94		NABA, PODOP, RALO, HECO,	CTS	S, s, V, v, d, md, Us, Ug	Ap
26F 17	134-051-12 134-051-13 134-051-09		('Beretta')	R	90.46 318.5 4.13		E/6/88 E/6/93	E/6/88 E/6/93	RALO		S, s, V, v, Us, Uo	Rr, Ap, Ai, Af
26F 04	035-082-11	8-LIVI	Naval Air Station; ('Madera')	S	35	E/2/93	E/?/79 E/?/80 E/4/90-92,		RALO, Q. PODOP	CTS	S, s, V, v, Md, Us, Uw	V
32B 01	062-240-33	15-LIVI 2-ALAES	Llano Rd. at Laguna; ('Gundel-finger')	L	1.60 57		E/5/79 E/?/88 E/6/92		ALAES hist., RALO		s, v, R, r, M, C, Sp, p	Rr, Ap

List D2: most significant LIVI sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
26F 18	134-051-08 134-051-15		('Heskett')	R	21 16		E/6/?	E/5/?	PODOP, RALO, DOHU		S, s, V, Us, Uo	
26F 02	035-141-21	8-LIVI	Naval Air Station W; swale N of Madera	S	246		E/4-6/ 79,80, 83,84, 89-94		RALO		"S", "v", R, r, p, Ug, c	V
26F 01	134-051-24	11-LIVI	Todd Road near Llano	R	53		E/5/83 E/5/88				V, s, Us, Ug	C/I, Ap
26D 06	035-141-13	2-LIVI	Finley at Wright	S			E/3-4/ 86,88, 90-94		RALO	CTS	v, Us	V
26F 23	035-211-19		Broadmoor Acres South	S	13		E/?/89 E/3/91 E/4/92 E/4/93				s, v, d	V
26F 06	060-070-23	1-LIVI 8-BLBA	Todd Road 'elbow'	L	22		E/?/77, 80,86 E/3/88, 92,94	E/6/86 E/4/88 E/2/90 E/5/94	RALO		S, s, v, mw, c	Ac
	Sites with Status Unknown											
26F 08	060-060-48	10-LIVI	Laguna at RR bridge; Sebastopol campground	L		E/1/88	E/?/74, 77,79, 80, 83 E/1/88				R, F, s, v, p, Us, Uo	Af, Ai
26F 16	134-151-26		Colgan Cr. pasture near Todd	P			E/2/88				S, s, v	
26F 21			Brown Farm	L			E/2/92 E/3/93?				s, v, Us	
27E 03	045-011-03	4-LIVI 17-BLBA	Scenic at Whistler	P			E/?/75 83;E/ 1-3/86, 88,90	E/1/88 E/1/90	RALO		s, v, Us	V, A
26F 13	134-232-13		Walker Road near Colgan Creek	P	16		E/4/84 E/3/88		RALO		s, v?	Ap
26F 19	063-150-24		Glade Farm	L	16.40		E/3/92				s, R, Us	A
26D 04	035-042-10	3-LIVI	Lion's Memorial; Occidental @ Merced	R	17		E/2/79 E/?/80 E/3/83 E/5/88		PODOP, RALO, Q.		s, v, Us	A

List D2: most significant LIVI sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
26E	060-060-55 060-060-57 060-060-58	6-LIVI 7-BLBA	Carinalli's east end duck pond	L	172	E/2/86 E/2/90	E/?/85 E/4/86	E/4/83 E/3/85 E/2/86 E/5/88			s, v, p	A
26C 04	060-330-27 060-336-25 060-330-26	9-LIVI	H. S. Rd; Laguna at Occidental Road	L	18 4.0 58.49	E/1/79 H/0/81 H/0/88	E/1/79 E/1/81 E/1/88		PODOP, RALO, Q.		s, V, R, r, Us, f	Ap
27E 29	134-225-14		Primrose Ave.	P	2		E/4/93				s, v?, Ug	Rr
26F 07	060-060-30	19-LIVI	Todd Road at Llano, SW	L	30.9		E/2/88				S, s, v, Us	Ap
26F 12	035-182-01	5-LIVI	Pyle/Kirby, E of S. Wright	S	4 3 4		E/?/80		PODOP?		Us, w	V
26F 30	134-232-20 ?		'Benkelman' on Colgan Creek	R	4 ?		E/?/?					
26F 34	134-051-25 134-051-26		'Hale'	R	81 34		E/?/79	E/?/79			S, s, v	Ap
	Extirpated or Largely Destroyed											
26F 20			Mills Farm	R			E/6/? X?/?/93 ?				S, V, v, Us	A
26F 25	035-201-45 035-201-46 035-201-47		Fisher, south of Pyle	S	2.24 2.25 3.92		E/?/83	E/?/83	PODOP		s, v	Rr
33A 12	144-050-02 144-050-03 46-286-03 46-286-07		Bennett Properties - Cotati	C	30		0/88-91 E/1/92 E/1/93		RALO		S, s, v, V	V
26F 26	35-201-06; 07; 12; 13		Between Pyle/Ludwig ('Spring-field')	S	20		E/5-6/92, 93; X/94?		RALO	CTS	s, d	Rr
27E 04	045-022-20	12-LIVI 8-BLBA	Horn Ave. north, near Santa Rosa Ave.	E			E/7/80, 83;H/0/88;X/89,90	E/?/77? E/7/80, 83;			(s, v)	V
27E 05	045-041-26	3-LIVI 18-BLBA	Horn Ave. south, near Santa Rosa Ave.	E			E/?/74 E/5/79 X/88, 90				(s, v)	V, A

List D3: most significant BLBA sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
	Sites in Public Ownership/ Easement											
26F 09	060-060-53	1-LABU 4-BLBA 19-LIVI	Todd Road Preserve	L	75	E/1/74, 87;5/88 H/0/90, 91,94	E/4-6/ 79,80, 83,87, 88,90	E/3/88 E/4/90 E/3/94	PEGAG? RALO		S, s, V, v, Us, Ug, Mw	Pc
26F 10	060-060-55	14-LABU 25-LIVI 12-BLBA	Dom. Carinalli easement	L		E/5/88 E/5/90	E/6/88	E/1/74 E?/0/86			s, V, v, p, Us, F, W	A
26B 03	034-042-77		Alton Lane mitigation site	R	29	?/0?/88 E/5/89 E/6/90- 94	E/1/93 E/1/94	E/4?/88 E/7/89- 94	DOHU, RALO, PODOP	LO	"V", "v", S, s, v, md, Uo,	Pc
26B 31			Alton Lane South	R	6?	-/-/89 E/1/92 E/4/93		-/-/89 E/2/93	PODOP		S, "s", "v"	Pc
26B 06b	034-060-12	21-LABU 15-BLBA	Simi easement (fronts on Piner Rd)	R	0.5	E/2/88 E/2/90 E/2/91		E/6/86 E/2/90 E/2/91			v, s	Pp
20F 04	059-270-60	8-LABU in part	Airport Business Center (Coombs)	W	2	X/4/84 E/4-6/ 87-94		E/2/91 E/2/92 E/3/93	(NAPL/ 87), PODOP, DOHU		"v"	Pc
	Sites Presumed Extant; Private											
33A 01	045-033-44		200 Scenic	P			E/?/93	E/6/93 E/6/94?			S, s, v, V	Ap
26B 58 ıd 26D 05	157-020-03 157-020-08	21-BLBA	'Corrie' (off Guernevill Road)	R	33			E/6/88 E/7/89 E/7/90 E/7/92	Q.		S, s, V, v, Uw	Af
26B 20	157-020-09 157-020-01		Hemmerle/ Pitzel; S of Piner H.S.	R	37.92			E/6/88			S, s, V, v, r, Uo, Us	V
26B 40	034-022-03		NWSR Annex; Stipinovich	N	5.22	E/6/88, 90,92, 93, E/4/91		E/5-6/ 88, 90-93	RALO		V, s, Uw, Ug	Rr, Ap
26F 17	134-051-12 134-051-13 134-051-09		('Beretta')	R	90.46 318.5 4.13		E/6/88 E/6/93	E/6/88 E/6/93	RALO		S, s, V, v, Us, Uo	Rr, Ap, Ai, Af
26B 10	034-101-16		Abramson Road No. 2 (Piner H.S. area)	R	10			E/6/88 E/6/90			S, s, v	Ap

List D3: most significant BLBA sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
26B 30	059-040-04		Bertolone - Wood Road	R	21.27			E/4/93	RALO, DOHU		V, S, s	Rr, Ap
26B 32	034-042-68		Alton Lane E (man-made ditch)	R	3.05	E/2+/91 -93		E/6/91 E/6/92 E/6/93			D	Rr
26B 26	034-091-27	9-BLBA	Piner @ Fulton,SW; SE Piner School	R	12.81			E/5/86 E/4/88 E/4/89-94			s, v, Ug, Us	V
26B 34	034-030-67		'Morrison Homes' WNW ('Ramon')	N	19.59			E/3/88, E/0/91 E/5/92 E/1/93	RALO		S, s, v, w	Rr, Ap, Af
26F 06	060-070-23	1-LIVI 8-BLBA	Todd Road 'elbow'	L	22		E/?/77, 80,86 E/3/88, 92,94	E/6/86 E/4/88 E/2/90 E/5/94	RALO		S, s, v, mw, c	Ac
26B 33	034-030-70		(Jacobsen)	N	28.49	E/3/88 E/5/90 E/1/92		E/2/88 H/0/90 H/0/92	RALO		S, s, V, v, mw, Uw	Af, Ap, Rr
26B 18	034-030-71		Francisco elbow	N	3.84	E/2/88 E/4/92		E/3/88 E/5/92	RALO		v, s, Ug	Rr, Af, Ap
26B 11	034-101-15		Abramson Road No. 3 (Piner H.S. area)	R	7			E/5/88 E/5/90	-		S, s, v	Ap, Rr
26B 37	034-030-65		NW Annexation area ('Cia')	N	9.67			E/2/88 E/3/90 E/3/92 E/3/93	RALO		s, v	Ah, Rr
26B 27	034-091-18	19-BLBA	SW of Piner @ Fulton/ Imwalle	R	49.35			E/4/88	DOHU		S, s, v, Ug	Ap, Av
26B 01	034-041-13		San Miguel at Fulton, NE	N	8.74	E/1/88 H/0/90 H/0/91 E/1/92		E/2/88 H/0/90 H/0/91 E/2/92	RALO		s, v	Rr
	Sites with Status Unknown											
26B 06a	034-060-11	15-BLBA in part	Comalli West (oak woodland)	R				H/?/90				Rr, V
26B 19	059-070-61		Raplee Terrace	N		E/?/?		?/88	RALO		v, s	Rr, V

List D3: most significant BLBA sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
27E 01	134-162-09		Primrose Ave., SW SR	P				E/5/88			v	Ap
27E 02	134-171-02	17-BLBA	Todd Road at Primrose	P				E/3/88 E/0/90			s, v	Ap, V
27E 03	045-011-03	14-LIVI 17-BLBA	Scenic at Whistler	P			E/?/75 83;E/ 1-3/86, 88,90	E/1/88 E/1/90	RALO		s, v, Us	V, A
27E 06	134-222-01		Scenic and Hargrave	E				E/5/88			s, v	Ap
26F 18	134-051-08 134-051-15		('Heskett')	R	21 16		E/6/?	E/5/?	PODOP, RALO, DOHU		S, s, V, Us, Uo	
26B 06c	034-060-12	21-LABU 15-BLBA	Comalli N; extreme NE corner of Simi	R	1.0 (119. 63)	E/?/88 E/5/91 X?/94		E/?/88 E/6/91 X?/94	RALO		(s, v)	Av
26B 72	054-120-14	6-BLBA	Wood Road Elbow (northeast corner)	R	1.61			H/?/77 H/0/86, 88			v	Rr
26B 08	034-290-19		Oak farm/Frazee	R	1.95			E/2/88			v, Uo, Us	Rr
26B 12	034-091-39		Paradise Lane # 1 (Jinks)	R	15			E/3/88 E/4/90 E/3/92	RALO		S, s, (v)	Rr, Ac
26E	060-060-55 060-060-57 060-060-58	6-LIVI 7-BLBA	Carinalli's east end duck pond	L	172	E/2/86 E/2/90	E/?/85 E/4/86	E/4/83 E/3/85 E/2/86 E/5/88			s, v, p	A
26B 35	034-030-72		'Morrison Homes' South ('Matter')	N	28.83	?/0/88 E/0/93		?/0/88 E/3/90 H/0/91 E/0/92	RALO	LO	s, v, d, Uw	Rr, Ap
26B 13	034-091-12		Paradise Lane # 2	R	3.39			E/2/88 E/2/90			v, s	Rr
26B 47	034-022-04		NWSR Annex. 'Deas'	N	3.58			E/2/90			s, v	Rr
26B 09	034-080-41 034-81-56 034-81-58		Santa Rosa scenic easement 224	R	49.10			E/6/88			V,v, S, s, Us, Ug	Ap

List D3: most significant BLBA sites

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
26B 05	034-050-12 034-050-14		Maccario's oaks (Piner Rd west)	R	50			E/4/88	-		v, s, Uo, Ug	Ap, Af
26B 04	034-05-10		Hartman Road near Piner Road west	R	69.66	E/1/88 E?/-/90		E/4/88 E?/-/90			V, S, v, s, Uo	Ap, Af
26B 07	034-081-33	13-LABU 11-BLBA	Abramson Road No. 1 (Piner H.S. area)	R	8.18	E/?/82 H/0/88		E/2/88 E/2/90	PODOP		s, v	Rr, Av
26F 34	134-051-25 134-051-26		'Hale'	R	81 34		E/?/79	E/?/79			S, s, v	Ap
	Extirpated or Largely Destroyed											
26F 25	035-201-45 035-201-46 035-201-47		Fisher, south of Pyle	S	2.24 2.25 3.92		E/?/83	E/?/83 X/92?	PODOP		s, v	Rr
27E 04	045-022-20	12-LIVI 8-BLBA	Horn Ave. north, near Santa Rosa Ave.	E			E/7/80, 83;H/0 /88;X/ 89,90	E/?/77? E/7/80, 83;X/8 89,90			(s, v)	V
26B 21	034-021-29 now subdivided		Rancho San Miguel No. 2	N	(2+)			E/2/88 X/92			(s, v)	Ru
26B 02	originally 034-021-17 034-021-32 subdivided		San Miguel Rancho	N	(58)	E/4/88 E/4/89 E/4/90 X/92		E/5/88 E/5/89 E/3/90 X/92	(RALO)		(s, V, v)	Ru
26B 14	originally 034-023-14 subdivided		TMB Brown Subdivisior	N	10.83	E/4/88 E/3/89 X/93		E/2/88 E/2/89 X/93	(RALO) (PODOP)		(v, d, w)	Ru
26B 16	034-023-16 subdivided		San Miguel Est. No. 2 north	N	3.33	E/5/88 E/5/89 X/93		E/2/88 X/93	RALO		(w)	Af, Rr
26B 15	subdivided	10-BLBA 20-LABU	San Miguel Rd; San Miguel Est. No. 1	N	7.96	E/4/86, 89; H/0/91 X/92-93		E/5-7/ 78-90 E/2/91 X/93	RALO		(V, S, v, s)	Ru

List D4: ensemble rare plant sites, Santa Rosa Plain

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
	LABU, LIVI, & BLBA All Together											
26F 10	060-060-55	14-LABU 25-LIVI 12-BLBA	Dom. Carinalli easement	L		E/5/88 E/5/90	E/6/88	E/1/74 E?/0/86			s, V, v, p, Us, F, W	A/E
26F 09	060-060-53	1-LABU 4-BLBA 19-LIVI	Todd Road Preserve	L	75	E/1/74, 87;5/88 H/0/90, 91,94	E/4-6/ 79,80, 83,87, 88,90	E/3/88 E/4/90 E/3/94	PEGAG? RALO		S, s, V, v, Us, Ug, Mw	Pc
26E	060-060-55 060-060-57 060-060-58	6-LIVI 7-BLBA	Carinalli's east end duck pond	L	172	E/2/86 E/2/90	E/?/85 E/4/86	E/4/83 E/3/85 E/2/86 E/5/88			s, v, p	A/E
26B 03	034-042-77		Alton Lane mitigation site	R	29	?/0?/88 E/5/89 E/6/90-94	E/1/93 E/1/94	E/4?/88 E/7/89-94	DOHU, RALO, PODOP	LO	"V", "v", S, s, v, md, Uo,	Pc
	LABU and LIVI Together											
26D 03	035-051-23 035-051-14		Hall/ Occidental/ Fulton (Cramer)	R	174	E/2/88 E/3/91-93	E/6-7/ 88, 91-94		NABA, PODOP, RALO, HECO,	CTS	S, s, V, v, d, md, Us, Ug	Ap
26D 02	130-223-81	17-LABU	Hall Rd/ Piezzi,SE; (Crinella)	R	4.0	E/4/88 E/6/91 E/6/92 E/3/94	E/1/91 E/1/92 E/1/94		RALO, Q.		s, S, v, Us	Pc pending
26C 03	130-250-36	14-LABU	Occidental Road horse pasture	L		E/3/86 E/2/88	E/?/86				s, v, Us	Ap
26F 08	060-060-48	10-LIVI	Laguna at RR bridge; Sebastopol campground	L		E/1/88	E/?/74, 77,79, 80, 83 E/1/88				R, F, s, v, p, Us, Uo	Af, Ai
26C 04	060-330-27 060-336-25 060-330-26	9-LIVI	H. S. Rd; Laguna at Occidental Road	L	18 4.0 58.49	E/1/79 H/0/81 H/0/88	E/1/79 E/1/81 E/1/88		PODOP, RALO, Q.		s, V, R, r, Us, f	Ap
26F 04	035-082-11	8-LIVI	Naval Air Station; (Madera)	S	35	E/2/93	E/?/79 E/?/80 E/4/90-92;6/93		RALO, Q. PODOP	CTS	S, s, V, v, Md, Us, Uw	V
	LIVI and BLBA Together											
26F 17	134-051-12 134-051-13 134-051-09		(Beretta)	R	90.46 318.5 4.13		E/6/88 E/6/93	E/6/88 E/6/93	RALO		S, s, V, v, Us, Uo	Rr, Ap, Ai, Af

List D4: ensemble rare plant sites, Santa Rosa Plain

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
33A 01	045-033-44		200 Scenic	P			E/?/93	E/6/93 E/6/94?			S, s, v, V	Ap
26F 06	060-070-23	1-LIVI 8-BLBA	Todd Road 'elbow' (LIVI type)	L	22		E/?/77, 80,86 E/3/88, 92,94	E/6/86 E/4/88 E/2/90 E/5/94	RALO		S, s, v, mw, c	Ac
27E 03	045-011-03	4-LIVI 17-BLBA	Scenic at Whistler	P			E/?/75 83;E/ 1-3/86, 88,90	E/1/88 E/1/90	RALO		s, v, Us	V, A
26F 34	134-051-25 134-051-26		(Hale)	R	81 34		E/?/79	E/?/79			S, s, v	Ap
26F 18	134-051-08 134-051-15		(Heskett)	R	21 16		E/6/?	E/5/?	PODOP, RALO, DOHU		S, s, V, Us, Uo	
27E 04	045-022-20	12-LIVI 8-BLBA	Horn Ave. north, near Santa Rosa Ave.	E			E/7/80, 83;H/0 /88;X/ 89,90	E/?/77? E/7/80, 83;X/88 89,90			(s, v)	V
26F 25	035-201-45 035-201-46 035-201-47		South of Pyle (Fisher?)	S	2.24 2.25 3.92		E/?/83	E/?/83 X/92?	PODOP		s, v	Rr
	LABU and BLBA Together											
26B 40	034-022-03		NWSR Annex; Stipinovich	N	5.22	E/6/88, 90,92-94, E/4/91		E/5-6/ 88, 90-93	RALO		V, s, Uw, Ug	Rr, Ap
26B 18	034-030-71		Francisco elbow	N	3.84	E/2/88 E/4/92		E/3/88 E/5/92	RALO		v, s, Ug	Rr, Af, Ap
26B 33	034-030-70		(Jacobsen)	N	28.49	E/3/88 E/5/90 E/1/92		E/2/88 H/0/90 H/0/92	RALO		S, s, V, v, mw, Uw	Af, Ap, Rr
26B 32	034-042-68		Alton Lane E (man-made ditch)	R	3.05	E/2+/91 -93		E/6/91 E/6/92 E/6/93			D	Rr
26B 19	059-070-61		Raplee Terrace	N		E/?/?		?/88	RALO		v, s	Rr, V
26B 01	034-041-13		San Miguel at Fulton, NE	N	8.74	E/1/88 H/0/90 H/0/91 E/1/92		E/2/88 H/0/90 H/0/91 E/2/92	RALO		s, v	Rr

List D4: ensemble rare plant sites, Santa Rosa Plain

Map Code No.	Sonoma County A.P. No.s	NDDB EO No.	Place Name	Geog. Sub-region	Site Size (ac)	LABU	LIVI	BLBA	Other Rare Plants	Sens. Wildlife	Habitats Present	Current Land Use
*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
26B 06b	034-060-12	21-LABU 15-BLBA	Simi easement (fronts on Piner Rd)	R	0.5	E/2/88 E/2/90 E/2/91		E/6/86 E/2/90 E/2/91			v, s	Pp
26B 31			Alton Ln S (TMD Brown mitig. site)	R	6?	-/-/89 E/1/92 E/4/93		-/-/89 E/2/93	PODOP		S, "s", "v"	Pc
26B 35	034-030-72		'Morrison Homes' South (Matter)	N	28.83	?/0/88 E/0/93		?/0/88 E/3/90 H/0/91 E/0/92	RALO	LO	s, v, d, Uw	Rr, Ap
26B 04	034-05-10		Hartman Road near Piner Road west	R	69.66	E/1/88 E?/-/9(		E/4/88 E?/-/9(			V, S, v, s, Uo	Ap, Af
26B 07	034-081-33	3-LABU 11-BLBA	Abramson Road No. 1 (Piner H.S. area)	R	8.18	E/?/82 H/0/88		E/2/88 E/2/90	PODOP		s, v	Rr, Av
20F 04	059-270-60	8-LABU in part	Airport Business Center (Coombs)	W	2	X/4/84 E/4/87 E/4/88 E/5/89		E/2/91 E/2/92 E/3/93	(NAPL/ 87), PODOP, DOHU		"v"	Pc
26B 06c	034-060-12	21-LABU 15-BLBA	Comalli N; extreme NE corner of Simi	R	1.0 (119. 63)	E/?/88 E/5/91 X?/94		E/?/88 E/6/91 X?/94	RALO		(s, v)	Av
26B 02	originally 034-021-17 034-021-32 subdivided		San Miguel Rancho	N	(58)	E/4/88 E/4/89 E/4/90 X/92		E/5/88 E/5/89 E/3/90 X/92	(RALO)		(s, V, v)	Ru
26B 14	originally 034-023-14 subdivided		TMB Brown Subdivisior	N	10.83	E/4/88 E/3/89 X/93		E/2/88 E/2/89 X/93	(RALO) (PODOP)		(v, d, w)	Ru
26B 16	034-023-16		San Miguel Est. No. 2 north	N	3.33	E/5/88 E/5/89 X/93		E/2/88 X/93	RALO		(w)	Af, Rr
26B 15	subdivided	10-BLBA 20-LABU	San Miguel Rd; San Miguel Est. No. 1	N	7.96	E/4/86, 89; H/0/91 X/92-93		E/5-7/ 78-90 E/2/91 X/93	RALO		(V, S, v, s)	Ru