
Appendix B

Biological Resources

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
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November 12, 2003
File No. 1-5-04-SP-408

Memorandum

To: Supervisor, Renewable Resources, Las Vegas Field Office, U.S. Bureau of Land Management, Las Vegas, Nevada

From: Field Supervisor, Nevada Fish and Wildlife Office, U.S. Fish and Wildlife Service, Las Vegas, Nevada

Subject: Species List for the Las Vegas Valley Disposal Boundary Environmental Impact Statement, Clark County, Nevada

This is in response to your memo received on October 14, 2003, regarding the subject project area, which includes approximately 20,000 to 50,000 acres of public lands for sale or use under the 1998 Southern Nevada Public Land Management Act and 2002 Clark County Conservation of Public Land and Natural Resources Act in the following townships: 18 South (R 59, 60 East); 19 South (R 59, 60, 61, 62 East); 20 South (R 59, 60, 61, 62 East); 21 South (R 59, 60, 61, 62, 63 East); 22 South (R 59, 60, 61, 62, 63 East); and 23 South (R 60, 61, 62, 63 East). The following federally listed species may occur in or near the vicinity of the subject project area:

- Bald eagle (*Haliaeetus leucocephalus*), threatened
- Desert tortoise (*Gopherus agassizii*) (Mojave population), threatened

This list fulfills the requirement of the Fish and Wildlife Service (Service) to provide information on listed species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended (Act), for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern, are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or are in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

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For a list of sensitive species by county, visit Heritage's website at www.heritage.nv.gov. For a specific list of sensitive species that may occur in the project area, you can obtain a data request form from the website or by contacting Heritage at 1550 East College Parkway, Suite 137, Carson City, NV 89706, 775-687-4245. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Endangered Species Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

We are concerned that the disposal of these lands may impact the Las Vegas bearpoppy (*Arctomecon californica*) and the Las Vegas buckwheat (*Eriogonum corymbosum* var. *glutinosum*), species listed as sensitive under the Heritage Program. These species are also listed as critically endangered by the State of Nevada under Nevada Revised Statutes (NRS) 527.260-.300. For these species, no member of its kind may be removed or destroyed at any time by any means except under special permit issued by the State Forester (NRS 527.270). It should be noted that many of the plant species on the State's critically endangered list are not federally listed by the Service because of the protection afforded to them under the State law. Consideration of these species during project impact evaluation and planning, as well as early coordination with the State is important to assist with species conservation efforts and to prevent the need for Federal listing actions in the future.

Additionally, we are concerned that the project may impact the Gila monster (*Heloderma suspectum cinctum*), a species listed as sensitive under the Heritage Program and as a protected species under Nevada State law. The banded Gila monster resides primarily in the Mojave desert scrub and salt desert scrub ecosystems in southern Nevada, southeastern California, southwestern Utah, and western Arizona. The Gila monster is one of only two venomous lizard species in the world. Gila monsters are difficult to locate as they spend the majority of the year in underground burrows; however, illegal collection, construction of roads, and loss of habitat continue to threaten this sensitive. Given that the Gila monster may occur within the project area, we ask that you evaluate and minimize impacts to any existing populations and suitable habitat for this species.

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 et seq.), we are concerned about potential impacts the proposed project may have on migratory birds in the project area, particularly on lands near or adjacent to protected habitat, e.g., Desert National Wildlife Range, Sloan Canyon National Conservation Area, Red Rock National Conservation Area, etc. Direct impacts to migratory birds on project lands and indirect impacts to migratory birds on these protected areas should be considered during project evaluation.

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Finally, it is important that the project analysis consider any impacts to the conservation efforts being implemented and the 79 species covered under Clark County Multiple Species Habitat Conservation Plan, a plan permitted under section 10 of the Act, that occur within the Las Vegas Valley Disposal Boundary.

Please reference File No. 1-5-04-SP-408 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact Amy LaVoie in our Southern Nevada Field Office at (702) 515-5230.



for Robert D. Williams

cc:

Reptile Biologist, Nevada Department of Wildlife, Las Vegas, Nevada
Regional Forester, Southern Region, Nevada Division of Forestry, Las Vegas, Nevada

**TABLE B-1
CLARK COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN
COVERED SPECIES LIST**

Common Name	Scientific Name	Common Name	Scientific Name
Silver-haired bat	<i>Lasionycteris noctivagans</i>	Clockey eggvetch	<i>Astragalus oophorus</i> var. <i>clokeyanus</i>
Long-eared myotis	<i>Myotis evotis</i>	Blue Diamond cholla	<i>Opuntia whipplei</i> var. <i>multigeniculata</i>
Long-legged myotis	<i>Myotis volans</i>	Threecorner milkvetch	<i>Astragalus geyeri</i> var. <i>triquetrus</i>
Palmer's chipmunk	<i>Tamias palmeri</i>	Rough angelica	<i>Angelica scabrida</i>
American peregrine falcon	<i>Falco peregrinus anatum</i>	Sticky ringstem	
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Charleston pussytoes	<i>Antennaria soliceps</i>
Vermillion flycatcher	<i>Pyrocephalus rubinus</i>	Las Vegas bearpoppy	<i>Arctomecon californica</i>
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	White bearpoppy	<i>Arctomecon merriamii</i>
Phainopepla	<i>Phainopepla nitens</i>	Rosey king sandwart	<i>Arenaria kingii</i> ssp. <i>rosea</i>
Summer tanager	<i>Piranga rubra</i>	Clockey milkvetch	<i>Astragalus aequalis</i>
Blue grosbeck	<i>Guiraca caerulea</i>	Spring Mountains milkvetch	<i>Calochortus striatus</i>
Arizona bell's vireo	<i>Vireo bellii arizonae</i>	Alkali mariposa lily	<i>Calochortus striatus</i>
Desert tortoise	<i>Gopherus agassizii</i>	Clockey paintbrush	<i>Castilleja martinii</i> var. <i>clokeyi</i>
Banded gecko	<i>Coleonyx variegatus</i>	Clockey thistle	<i>Cirsium clokeyi</i>
Desert iguana	<i>Dipsosaurus dorsalis</i>	Jaeger whitlowgrass	<i>Draba jaegeri</i>
Western chuckwalla	<i>Sauromalus obesus obesus</i>	Charleston draba	<i>Draba paucifruca</i>
Western red-tailed skink	<i>Eumeces gilberti rubricaudatus</i>	Inch high fleabane	<i>Erigeron uncialis</i> var. <i>conjugans</i>
Large-spotted leopard lizard	<i>Crotaphytus wislizenii</i>	Forked (Pahrump Valley) buckwheat	<i>Eriogonum bifurcatum</i>
Great Basin collared lizard	<i>Crotaphytus bicinctores</i>	Sticky buckwheat	<i>Eriogonum viscidulum</i>
California kingsnake	<i>Lampropeltis</i>	Clockey greasebush	<i>Glossopetalon clokeyi</i>
Glossy snake	<i>Arizona elegans</i>	Smooth pungent (dwarf) greasebush	<i>Glossopetalon pungens</i> var. <i>glabrum</i>
Western long-nosed snake	<i>Rhinocheilus lecontei lecontei</i>	Red Rock Canyon astar	<i>Ionactis caelestis</i>
Western leaf-nosed snake	<i>Phyllorhynchus decurtatus perkinsi</i>	Hidden ivesia	<i>Ivesia cryptocaulis</i>
Sonoran lyre snake	<i>Trimorphodon biscutatus lambda</i>	Jaeger beardtongue	<i>Penstemon thompsoniae</i> ssp. <i>jaegeri</i>
Sidewinder	<i>Crotalus cerastes</i>	Jaeger ivesia	<i>Ivesia jaegeri</i>
Speckled rattlesnake	<i>Crotalus mitchellii</i>	Hitchcock bladderpod	<i>Lesquerella hitchcockii</i>
Mojave green rattlesnake	<i>Crotalus scutulatus</i>	Charleston pinewood lousewart	<i>Pedicularis semibarbata</i> var. <i>charlestonensis</i>
Relict leopard frog	<i>Rana onca</i>	White-margined beardtongue	<i>Penstemon albomarginatus</i>
Dark blue butterfly	<i>Euphilotes enoptes purpurea</i>	Charleston beardtongue	<i>Penstemon leiophyllus</i> var. <i>keckii</i>
Spring Mountain icariodes blue	<i>Icaricia icarioides austinorum</i>	Parish's phacelia	<i>Phacelia parishii</i>

TABLE B-1
CLARK COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN
COVERED SPECIES LIST

Common Name	Scientific Name	Common Name	Scientific Name
Mt. Charleston blue butterfly	<i>Icaricia shasta charlestonensis</i>	Clockey catchfly	<i>Silene clokeyi</i>
Spring Mountain acastus checkerspot	<i>Chlosyne acastus robusta</i>	Charleston tansy	<i>Sphaeromeria compacta</i>
Morand's checkerspot butterfly	<i>Euphydryas anicia morandi</i>	Charleston kittentails	<i>Synthyris ranunculina</i>
Carole's silverspot butterfly	<i>Speyeria zerene carolae</i>	Charleston grounddaisy	<i>Townsendia jonesii var. tumulosa</i>
Nevada admiral	<i>Limenitis weidemeyerii nevadae</i>	Limestone violet	<i>Viola charlestonensis</i>
Spring Mountains springsnail	<i>Pyrgulopsis deaconi</i>	Menzies' anacolia moss	<i>Anacolia menziesii</i>
Spring Mountains comma skipper	<i>Hesperia colorado mojavenis</i>	Bryophyte spp.	<i>Claopodium whippleanum</i>
Southeast Nevada springsnail	<i>Pyrgulopsis turbatrix</i>	Bryophyte spp.	<i>Dicranoweisia crispula</i>
		Bryophyte spp.	<i>Syntrichia princeps</i>

Source: Clark County MSHCP/EIS.

**TABLE B-2
NOXIOUS WEEDS AND INVASIVE SPECIES KNOWN TO OCCUR IN THE LAS VEGAS
VALLEY DISPOSAL PLANNING AREA**

Common Name	Scientific Name	Location and Other Characteristics
Upland Species		
Russian knapweed	<i>Acrotilon repens</i>	Annual weed along ditches, roadsides, and fields in creosote bush scrub.
Spotted knapweed	<i>Centaurea masculosa</i>	Annual weed along ditches, roadsides, fields, lots, and waste places.
Puncturevine	<i>Tribulus terrestris</i>	Annual weed, two-spined, found along roadsides, fields, deserts, and wastelands.
Johnsongrass	<i>Sorghum halepense</i>	coarse perennial grass, toxicity moderate to high, found in fields, fencerows, and ditch banks.
Yellow star thistle	<i>Centaurea solstitialis</i>	Annual weed, spineless, found along roadsides, disturbed areas, and fields.
Sow thistle	<i>Sonchus arvensis</i>	Fleshy annual, found in waste areas, along roadsides, and disturbed places.
Musk thistle	<i>Carduus nutans</i>	Biennial, spiny, found in rangeland, along roadsides and in fields.
Scotch thistle	<i>Onopordum acanthium</i>	Biennial herb, found along along roadsides, ditches and fields.
Dalmatian toadflax	<i>Linaria dalmatica</i>	Perennial herb, found along roadsides, fields, and wastelands.
Hoary cress	<i>Cardaria draba</i>	Perennial weed, found along roadsides, fields, and wastelands.
White horse-nettle	<i>Solanum elaeagnifolium</i>	Perennial herb, poisonous with spines, found along roadsides and fields.
Camelthorn	<i>Alhagi camelorum</i>	Woody shrub, thorny branches, found in agricultural areas and along washes.
Riparian Species		
Tamarisk	<i>Tamarix ramosissima</i>	Deciduous, highly saline tolerant, forms thickets along washes, streams, ditches and moist areas.
Tall whitetop	<i>Lepidium latifolium</i>	Disturbed alkali soils of desert shrub or riparian communities, highly competitive with native species once established.
Purple loosestrife	<i>Lythrum salicaria</i>	Herbaceous above, woody below, moist to wet ground along ditches, streambanks, meadows, waste ground, prairies, roadsides, railroads.

Source: Chapter 555.005 of the Nevada Revised Statutes

**TABLE B-3
COMMON WILDLIFE SPECIES**

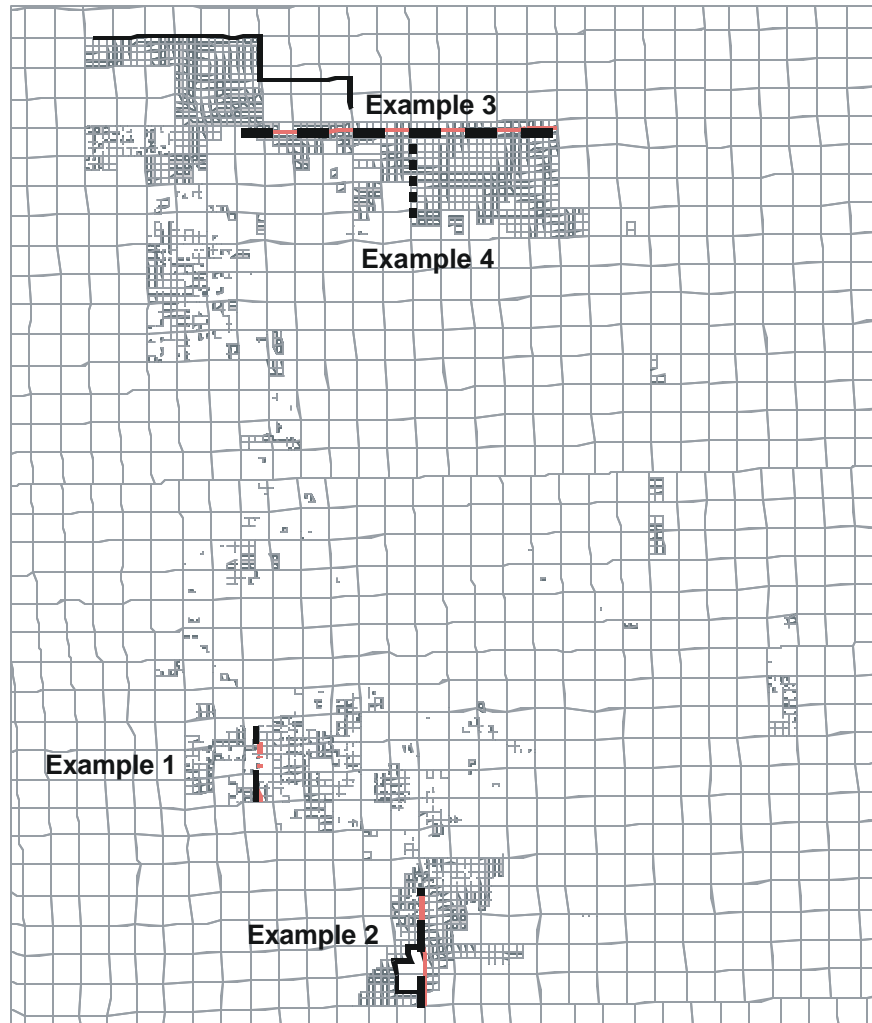
Common Name	Scientific Name	Habitat
Mammals		
Coyote	<i>Canis latrans</i>	Open plains, scrub deserts, farms, towns, and forests.
American badger	<i>Taxidea taxus</i>	Grasslands, sagebrush, farms, and woodlands.
Black-tailed jackrabbit	<i>Lepus californicus</i>	Prairies, scrubby deserts, and farms.
Whitetailed antelope squirrel	<i>Ammospermophilus leucurus</i>	Rocky and gravelly desert scrub.
Merriam's kangaroo rat	<i>Dipodomys merriami</i>	Soft sandy areas and desert scrub.
Cactus mouse	<i>Peromyscus eremicus</i>	Lowland deserts with sandy soils, rocky outcrops.
Canyon mouse	<i>Peromyscus crinitus</i>	Woody vegetation associated with rocky soils.
Desert woodrat	<i>Neotoma lepida</i>	Woody vegetation associated with rocky soils.
Reptiles		
Western whiptail lizard	<i>Cnemidophorus tigris</i>	Open desert scrub without tall grass.
Zebra-tailed lizard	<i>Callisaurus draconoides</i>	Hard-packed bare desert soils.
Desert iguana	<i>Dipsosaurus dorsalis</i>	Sandy creosote bush deserts with rocks.
Side-blotched lizard	<i>Uta stansburiana</i>	Rock outcrops, sagebrush deserts.
Western fence lizard	<i>Sceloporus occidentalis</i>	Desert rock outcrops, boulders, and buildings.
Long-nosed leopard lizard	<i>Gambelia wislizenii wislizenii</i>	Desert with scattered brush.
Desert spiny lizard	<i>Sceloporus magister</i>	Desert scrub habitat.
Desert horned lizard	<i>Phrynosoma platyrhinos platyrhinos</i>	Desert scrub habitat.
Desert common night lizard	<i>Xantusia vigilis vigilis</i>	Rocky outcrops, litter below cacti.
Red coachwhip snake	<i>Masticophis flagellum piceus</i>	Grasslands, desert brush, and brush habitats.
Gopher snake	<i>Pituophis melanoleucus deserticola</i>	Farmlands, grasslands, and sagebrush deserts.
Speckled rattlesnake	<i>Crotalus mitchelli</i>	Rocky areas in deserts and canyons.
Mojave rattlesnake	<i>Crotalus scutulatus</i>	Desert scrub, arid plains, mesquite and creosote habitat, and cactus areas. Desert scrub habitat.
Aves		
Mourning dove	<i>Zenaida macroura</i>	Open woodlands, fields, farms, grasslands, and suburbs.
Rock dove	<i>Columba livia</i>	Cities, towns, suburbs, and farms.
Northern mockingbird	<i>Mimus polyglottos</i>	Shrubs, gardens, fields, and cities.
House finch	<i>Carpodacus mexicanus</i>	Cities, residential areas, woods, and deserts.
Black-throated sparrow	<i>Amphispiza bilineata</i>	Desert scrub, sagebrush, and suburbs.
Common raven	<i>Corvus corax</i>	Valleys, open areas, and mountains.
Western kingbird	<i>Tyrannus verticalis</i>	Grasslands, riparian woodlands, and farms.
Gambel's quail	<i>Callipepla gambelii</i>	Desert washes, canyons, towns, and farms.
Red-tailed hawk	<i>Buteo jamaicensis</i>	Woodland edges, scrub, grasslands, and farms.
American kestrel	<i>Falco sparverius</i>	Open grasslands, sagebrush, woodland edges, farms, towns, and deserts.
Turkey vulture	<i>Cathartes aura</i>	Soars over all habitat types in search of carcasses.

Source: LVWCC 2001 and 2002, NPS 2003

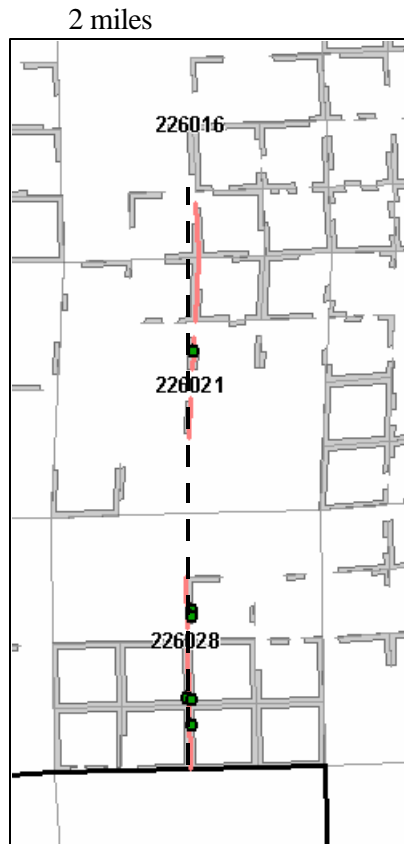
RIGHT-OF-WAY ALIGNMENT ANALYSIS FOR POTENTIAL BIOLOGICAL IMPACTS

Total acres of BLM land identified in ROW alignments within the disposal boundary equals 24,000.

Representative Analysis



ROW ALIGNMENT EXAMPLE 1



Area within alignment:

Example 1						
LenFeet	LenMiles	Type	ROW	SqFt	Acres	
1011.954	0.1917	1	100			
800.6468	0.1517	1	100			
413.6412	0.0784	1	100			
628.9396	0.1191	1	100			
319.7297	0.0606	1	100			
3174.911	0.6015			317491.1	7.288594	
1276.097	0.2417	2	200			
1276.097	0.2417	2	200			
672.8378	0.1275	2	200			
650.5383	0.1232	2	200			
320.2425	0.0607	2	200			
4195.812	0.7948			839162.3	19.26452	
					26.55311	Total
LenFeet	LenMiles	Type	ROW	SqFt	Acres	

Resources located within alignment:

Example 1				
WAYPOINT	SNEI_COMMENT	LONGITUDE	LATITUDE	TRS
B28	Burrow	-115.271	36.00054	226028
B49	Burrow	-115.271	36.00209	226028
B50	Burrow	-115.271	36.00202	226028
B1	Burrow	-115.271	36.00692	226028
B2	Burrow	-115.271	36.00655	226028
7GAB2	Burrow	-115.27	36.02114	226021

Tortoise Density: Example 1

OBJECT ID	AREA	ACRES	TRS	SIGN_ACR_1	Total Acres	Estimated Density
867	0.01705565746	0.00000421453	226033	0.0		
774	15326.12181170000	3.78715166295	226016	0.0		
					3.79	Very Low
805	6086.31694585000	1.50395550981	226021	0.2		
805	9083.79789685000	2.24464614947	226021	0.2		

Tortoise Density: Example 1 continued

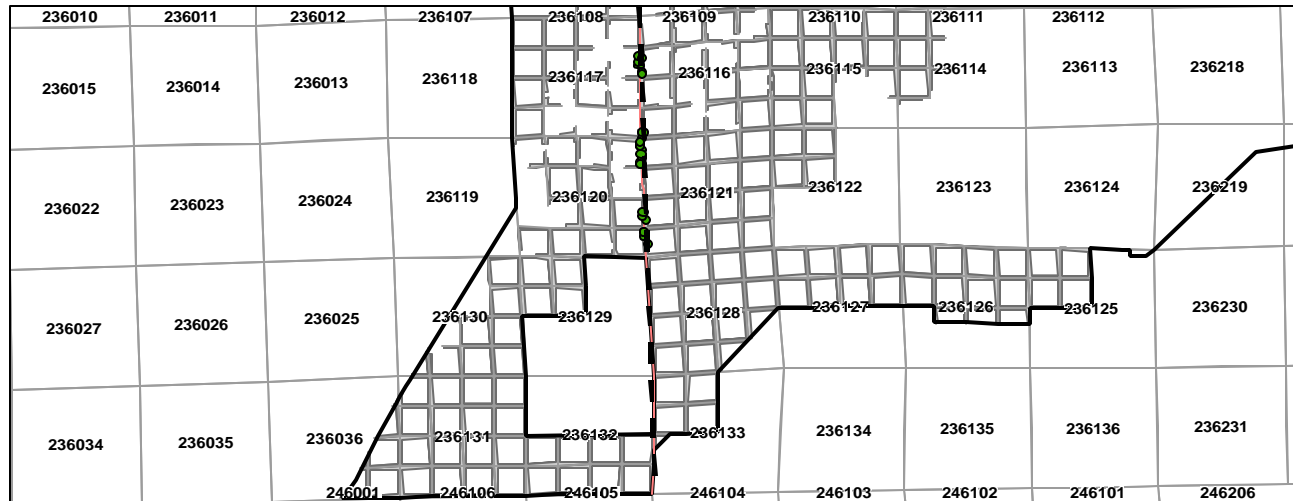
OBJECT ID	AREA	ACRES	TRS	SIGN_ACR_1	Total Acres	Estimated Density
805	18369.98115950000	4.53930260709	226021	0.2		
836	47634.59523130000	11.77071660790	226028	0.4		
836	9181.06788024000	2.26868198736	226028	0.4		
					22.33	Low
					26.11	Total

Cactus/Yucca Density: Example 1

OBJECT ID	AREA	ACRES	TRS	DENSITY	Total Acres	Estimated Density
805	6086.32000000000	1.50395520102	226021	3		
805	9083.80000000000	2.24464625472	226021	3		
805	18370.00000000000	4.53930254308	226021	3		
774	15326.10000000000	3.78715185216	226016	5		
836	47634.60000000000	11.77071712364	226028	10		
836	9181.07000000000	2.26868236194	226028	10		
					26.11	Low

ROW ALIGNMENT EXAMPLE 2

4 miles



Area within alignment:

Example 2						
LenFeet	LenMiles	Type	ROW			
1314.581	0.249	1	100			
1314.581	0.249	1	100			
1314.581	0.249	1	100			
1315.87	0.2493	1	100			
1315.87	0.2493	1	100			
1315.87	0.2493	1	100			
1315.87	0.2493	1	100			
304.6747	0.0577	1	100			
296.3164	0.0561	1	100			
342.8393	0.0649	1	100			
1009.074	0.1911	1	100			
670.7851	0.1271	1	100			
313.5877	0.0594	1	100			
658.402	0.1247	1	100			
12802.9	2.4252			1280290	29.39142	
1315.779	0.2492	2	200			
1315.779	0.2492	2	200			
1315.779	0.2492	2	200			
1050.584	0.199	2	200			
1058.943	0.2006	2	200			
652.9337	0.1237	2	200			
359.4862	0.0681	2	200			
346.1849	0.0656	2	200			
331.4059	0.0628	2	200			
656.179	0.1243	2	200			
8403.054	1.5917			1680611	38.58152	
					67.97293	Total

Resources located within alignment:

Example 2				
WAYPOINT	SNEI_COMMENT	LONGITUDE	LATITUDE	TRS
B+158	Burrow	-115.172839	35.939573	236120
B+159	Burrow	-115.172735	35.939283	236120
B+160	Burrow	-115.172738	35.939121	236120
B+161	Burrow	-115.172483	35.938639	236121
B+162	Burrow	-115.172563	35.938064	236121
B+163	Burrow	-115.172567	35.937901	236121
B+164	Burrow	-115.172725	35.9373	236120
B+165	Burrow	-115.172698	35.937038	236120
B+169	Burrow	-115.172415	35.94018	236116
B+170	Burrow	-115.172124	35.930178	236121
B+172	Burrow	-115.171938	35.927201	236121
B14	Burrow	-115.172728	35.939149	236120
B3	Burrow	-115.172558	35.93775	236121
B4	Burrow	-115.172672	35.938162	236120
B5	Burrow	-115.172716	35.937074	236120
B60	Burrow	-115.172546	35.928101	236120
B61	Burrow	-115.17255	35.928691	236120
B62	Burrow	-115.172585	35.928763	236120
B63	Burrow	-115.17259	35.930687	236120
B64	Burrow	-115.172561	35.931177	236120
T2	Live Tortoise	-115.172831	35.939583	236120
B28	Burrow	-115.17265	35.949084	236117
B31	Burrow	-115.172768	35.949475	236117
T7	Live Tortoise	-115.172709	35.950082	236117
B80	Burrow	-115.172186	35.949844	236116
B81	Burrow	-115.172385	35.94814	236116
B83	Burrow	-115.172338	35.940808	236116
T8	Live Tortoise	-115.17226	35.94804	236116

Tortoise Density: Example 2

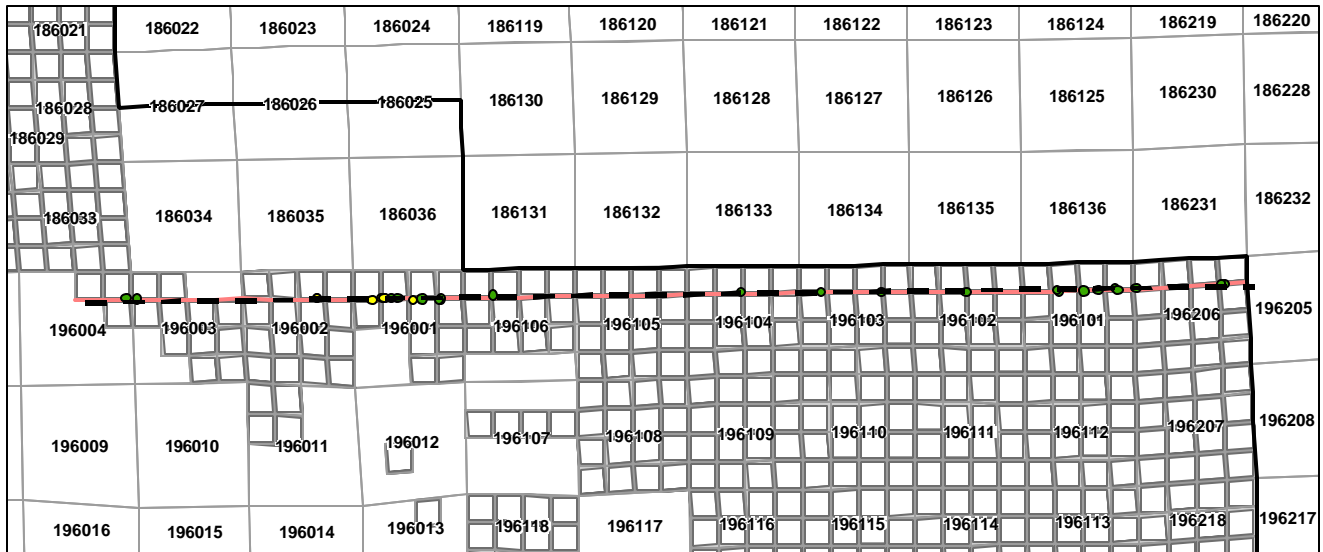
OBJECT ID	AREA	ACRES	TRS	SIGN_ACR_1	Total Acres	Estimated Density
1048	24427.97373610000	6.03625904151	236132	0.1		
955	3203.21714469000	0.79152895203	236117	0.1		
955	15891.34124090000	3.92681985347	236117	0.1		
955	0.59082261833	0.00014599485	236117	0.1		
955	15248.51998020000	3.76797591133	236117	0.1		
					14.52	Very Low
1047	1.28154004988	0.00031667415	236133	0.2		
1047	29647.15126990000	7.32594061388	236133	0.2		
1015	48558.74829420000	11.99907886760	236128	0.3		
986	3084.95839402000	0.76230669804	236120	0.3		
986	37074.82563760000	9.16135140333	236120	0.3		
985	46565.12276020000	11.50644528760	236121	0.4		
952	42022.01015560000	10.38382231310	236116	0.6		
					51.14	Low
					65.66	Total

Cactus/Yucca Density: Example 2

OBJECT ID	AREA	ACRES	DENSITY	Total Acres	Estimated Density
1047	1.28450036472	0.00031740565	0		
1047	29647.20000000000	7.32594197916	0		
985	46565.10000000000	11.50644702247	4		
955	3203.22000000000	0.79152880952	4		
955	15891.30000000000	3.92681923423	4		
955	0.57755085426	0.00014271534	4		
955	15248.50000000000	3.76797747466	4		
1015	48558.80000000000	11.99908294231	5		
952	42022.00000000000	10.38382278513	5		
				49.70	Low
1048	24428.00000000000	6.03625895579	17		
986	3084.96000000000	0.76230694363	18		
986	37074.80000000000	9.16134930434	18		
				15.96	Moderate
				65.66	Total

ROW ALIGNMENT EXAMPLE 3

10.5 miles



Area within alignment:

Example 3						
LenFeet	LenMiles	Type	ROW			
1326.483	0.2513	1	100			
1318.158	0.2497	1	100			
1318.158	0.2497	1	100			
3962.799	0.7507			396279.9	9.097334	
1326.483	0.2513	2	200			
1318.158	0.2497	2	200			
1313.723	0.2489	2	200			
1318.158	0.2497	2	200			
1313.723	0.2489	2	200			
1314.172	0.2489	2	200			
1313.723	0.2489	2	200			
1313.723	0.2489	2	200			
1314.173	0.2489	2	200			
1314.173	0.2489	2	200			
1314.172	0.2489	2	200			
1326.411	0.2513	2	200			
1326.41	0.2513	2	200			
1326.41	0.2513	2	200			
1326.411	0.2513	2	200			
1328.155	0.2516	2	200			
1328.155	0.2516	2	200			
1328.155	0.2516	2	200			
1328.155	0.2516	2	200			
1330.685	0.2521	2	200			

Area Within Alignment Example 3 Continued

LenFeet	LenMiles	Type	ROW	SqFt	Acres	
1330.686	0.2521	2	200			
1330.685	0.2521	2	200			
1330.686	0.2521	2	200			
1327.35	0.2514	2	200			
1327.35	0.2514	2	200			
1327.35	0.2514	2	200			
1327.35	0.2514	2	200			
1321.596	0.2503	2	200			
1321.596	0.2503	2	200			
1321.596	0.2503	2	200			
1321.596	0.2503	2	200			
1320.615	0.2502	2	200			
1320.615	0.2502	2	200			
1320.615	0.2502	2	200			
1320.615	0.2502	2	200			
1355.492	0.2568	2	200			
1355.491	0.2568	2	200			
1355.491	0.2568	2	200			
1355.491	0.2568	2	200			
51715.59	9.7967			10343119	237.4453	
					246.5427	Total

Resources located within alignment:

Example 3				
WAYPOINT	SNEI_COMMENT	LONGITUDE	LATITUDE	TRS
C10	Carcass	-115.08432	36.331605	196206
B130	Burrow	-115.084739	36.331613	196206
B1	Burrow	-115.202254	36.331886	196106
B16	Burrow	-115.1622	36.331683	196104
B12	Burrow	-115.149467	36.331483	196103
B63	Burrow	-115.139617	36.331367	196103
B50	Burrow	-115.125959	36.331106	196102
B116	Burrow	-115.111033	36.330967	196101
B126	Burrow	-115.111317	36.331217	196101
B41	Burrow	-115.101883	36.331283	196101
B42	Burrow	-115.101517	36.330967	196101
B7	Burrow	-115.098533	36.3312	196206
B73	Burrow	-115.104683	36.33115	196101
B92	Burrow	-115.107017	36.330983	196101
C1	Carcass	-115.2614	36.332351	196004
B23	Burrow	-115.230616	36.331918	196002
B22	Burrow	-115.210581	36.331535	196001
B23	Burrow	-115.210918	36.331494	196001

Resources Within Alignment Example 3 Continued

WAYPOINT	SNEI_COMMENT	LONGITUDE	LATITUDE	TRS
B25	Burrow	-115.213684	36.331604	196001
B3	Burrow	-115.219626	36.331814	196001
B8	Burrow	-115.218627	36.331764	196001
T1	Live Tortoise	-115.217617	36.331815	196001
B20	Burrow	-115.25963	36.33228	196003

Tortoise Density: Example 3

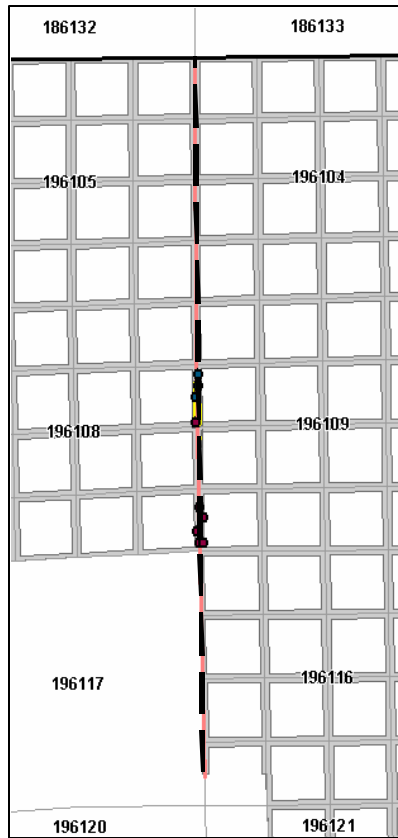
OBJECT ID	AREA	ACRES	TRS	SIGN_ACR_1	Total Acres	Estimated Density
158	37478.23604780000	9.26103587828	196004	0.0		
156	97598.86412850000	24.11710575760	196002	0.0		
154	0.09979468174	0.00002465970	196106	0.0		
154	98565.13833800000	24.35587633660	196106	0.0		
152	98893.49338740000	24.43701430400	196104	0.0		
157	70851.78250120000	17.50778502340	196003	0.1		
155	97657.05608880000	24.13148524520	196001	0.1		
153	98707.59533700000	24.39107808350	196105	0.1		
151	98640.55200070000	24.37451138220	196103	0.1		
150	98210.71119250000	24.26829584040	196102	0.1		
					196.84	Very Low
149	98141.79967870000	24.25126750420	196101	0.2		
148	100728.94550400000	24.89056254140	196206	0.3		
					49.14	Low
					245.99	Total

Cactus/Yucca Density: Example 3

OBJECT ID	AREA	ACRES	TRS	DENSITY	Total Acres	Estimated Density
157	70851.80000000000	17.50778824633	196003	0		
156	97598.90000000000	24.11710471272	196002	0		
158	37478.30000000000	9.26104064878	196004	2		
					50.89	Low
153	98707.60000000000	24.39107752420	196105	17		
152	98893.50000000000	24.43701508973	196104	17		
151	98640.60000000000	24.37451226372	196103	17		
149	98141.80000000000	24.25126832286	196101	17		
155	97657.10000000000	24.13148420761	196001	18		
150	98210.70000000000	24.26829453136	196102	25		
154	0.09953412369	0.00002459532	196106	35		
154	98565.10000000000	24.35587653791	196106	35		
148	100729.00000000000	24.89056254290	196206	40		
					195.10	Moderate
					245.99	Total

ROW ALIGNMENT EXAMPLE 4

3 miles



Area within alignment:

Example 4						
LenFeet	LenMiles	Type	ROW	SqFt	Acres	
760.3556	0.144	1	100			
1356.862	0.257	1	100			
1356.862	0.257	1	100			
1356.862	0.257	1	100			
4830.941	0.915			483094.1	11.09032	
1331.816	0.2523	2	200			
1331.815	0.2523	2	200			
1331.816	0.2523	2	200			
1331.815	0.2523	2	200			
1302.77	0.2468	2	200			
1302.77	0.2468	2	200			
1302.77	0.2468	2	200			
1302.77	0.2468	2	200			
10538.34	1.9964			2107668	48.3854	
					59.47572	Total

Paleontological Buffer: 4.7027 acres

Resources located within alignment:

Example 4				
WAYPOINT	COMMENT	LONGITUDE	LATITUDE	TRS
Tortoise Sign				
B1	Burrow	-115.171067	36.316483	196109
B31	Burrow	-115.171067	36.315867	196109
B32	Burrow	-115.17125	36.315167	196108
Las Vegas Buckwheat				
PLANT	NORTHING	EASTING	SECTIONS	
EC30-3	4019741	664198	196108	
EC30-4	4019677	664219	196108	
EC32-3	4019589	664180	196108	
EC32-4	4019510	664203	196108	
EC 1-1	4019508	664195	196109	
EC 1-2	4019510	664219	196109	
EC 1-3	4020290	664170	196109	

Acres of Habitat: Example 4

Bearpoppy500						
AREA	PERIMETER	BEARPOPPY_	BEARPOPPY1	INSIDE	ACRES	Total
18982.4	6184.99	8	7	100	4.690644	
						4.69
Buckwheat250						
AREA	PERIMETER	BUCKWHT_25	BUCKWHT_1	INSIDE	ACRES	Total
9429.46	9264.610	8	7	100	2.33006107500	
14367.70	9264.610	8	7	100	3.55031551312	
5950.99	905.754	12	11	1	1.47051532673	
22906.10	9264.610	8	7	100	5.66019429157	
						13.01

Tortoise Density: Example 4

OBJECT ID	AREA	ACRES	TRS	SIGN_ACR_1	Total Acres	Estimated Density
152	48387.74397619990	11.95682295350	196104	0.0		
214	44134.72031710000	10.90588222490	196116	0.1		
184	49473.90922240000	12.22521913150	196108	0.1		
182	49502.38489300000	12.23225559410	196109	0.1		
153	48418.87763760000	11.96451621720	196105	0.1		
					59.28	Very Low

Cactus/Yucca Density: Example 4

OBJECT ID	AREA	ACRES	TRS	DENSITY	Total Acres	Estimated Density
214	44134.70000000000	10.90588454735	196116	0		
184	49473.90000000000	12.22521662830	196108	2		
182	49502.40000000000	12.23225796401	196109	2		
					35.36	Low
153	48418.90000000000	11.96451405769	196105	17		
152	48387.80000000000	11.95682525875	196104	17		
					23.92	Moderate
					59.28	Total