

Ivanpah Valley Range Conditions in the Vicinity of the Clark Mountain Burro Herd, San Bernardino County, California

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August 25, 2009

DOCKET
07-AFC-5

DATE 08/25/09

RECD. 07/28/10

In undertaking several informal walking surveys of the proposed Ivanpah Solar Electric Generating Station (ISEGS) site on a large fan east of Clark Mountain, on the west side of Ivanpah Valley, I noted the presence of wild burros, as well as cattle, and took notes on range conditions and plant species composition.

Dates of the site visits:

1. 11 February 2009 – From Yates Well Road, walked 2 miles across fan towards larger hill to northwest in ISEGS project site.
2. 5 April 2009 - From Yates Well Road, walked 3 miles across fan towards a small limestone hill to northwest in ISEGS project site.
3. 7 June 2009 – Powerline Road west from Primm along northern edge of the western Ivanpah Valley by Stateline Wilderness.
4. 12 August 2009 – Southwest side of valley along I-15, walking from Nipton Road turn-off north into proposed ISEGS tortoise translocation sites.

Animals and Sign Encountered: Cattle tracks were seen fairly commonly on the fan and in sandy dry washes in February and April, with a few burro tracks as well. Cattle tracks were more common. On April 5 a single burro was sighted near the small limestone hill on the fan, in creosote-Mojave yucca habitat. Active trails with burro tracks, were present in the area, but not numerous. Another single burro was seen June 7 along Powerline Road in the northern edge of the valley, outside the ISEGS site, within 5 miles of Primm. Dung was common next to Primm, and burro tracks fairly common along the dirt roads here. Both burros seen were very light-colored, whitish-gray.

Forage utilization and impacts: Over the large fan dissected by numerous washes, grazing impacts appeared to be low. Big galleta grass (*Hilaria rigida*) was common and mostly ungrazed during all visits, some bunches with light utilization. Only one in ten grass bunches appeared to be used. Browsing on shrubs also appeared light. Trampling of the ground was light, and much cryptobiotic crust existed abundantly on inter-wash fan surfaces. Introduced weeds were rare, with some Splitgrass (*Schismus* sp.) in areas of the fan, amounting to less than 10% cover. Small amounts of Red Brome (*Bromus madritensis* ssp. *rubens*) was only found on hillsides near to Primm. Bush muhly (*Muhlenbergia*

porteri), a highly palatable and sought-after forage to livestock, was present, indicating the area is not overgrazed. Fluffgrass (*Erioneuron pulchellum*) was common in places on the fan and hills, a valuable Desert tortoise (*Gopherus agassizii*) food, and the grasses did not appear to be grazed.

The area along I-15 in the southwest part of the valley had some burro dung (in the higher fan near the mountains) and abundant cattle tracks, trails, and dung lower in the valley. This area was heavily impacted by the cattle in the lower valley around a corral and old water tank-trough. Here trampling and overgrazing was evident from cattle; no burro sign was seen in this part.

Some grazing and trampling was present within two miles of Primm north of the ISEGS site.

Recommendations: Bureau of Land Management should not permit the ISEGS development from destroying this rich desert fan habitat, and should allow the burro herd to continue using the area. The cattle allotment should be retired, as the use by those animals appears to be heavy in places. The area is very good Desert tortoise habitat, and should be considered for management as an Area of Critical Environmental Concern or special management area for burros and wildlife.

Plant Species composition:

Ephedra Family (Ephedraceae):

Nevada ephedra (*Ephedra nevadensis*)

MONOCOTS

Liliaceae:

Mojave yucca (*Yucca schidigera*)

Poaceae:

Big galleta (*Hilaria [Pleuraphis] rigida*)

Fluffgrass (*Erioneuron pulchellum*)

Purple threeawn (*Aristida purpurea*)

Oniongrass (*Melica frutescens*)

Six weeks grama (*Bouteloua barbata*)

Bush muhly (*Muhlenbergia porteri*)

Desert needlegrass (*Achnatherum speciosum*)

Splitgrass (*Schismus* sp.)(Introduced)

Red brome (*Bromus madritensis* ssp. *rubens*)(Introduced)

DICOTS

Amaranthaceae:

Honeysweet (*Tidestromia oblongifolia*)

Asteraceae:

Bursage (*Ambrosia dumosa*)

Woolly bursage (*Ambrosia eriocentra*)

Baileya (*Baileya multiradiata*)

Bricklebush (*Brickelia* sp.)

Pincushion (*Chaenactis* sp.)

Whiteleaf rabbitbrush (*Chrysothamnus nauseosus* var. *hololeucus*)

Black-banded rabbitbrush ☒(*Chrysothamnus paniculatus*)

Virgin River brittlebush ☒(*Encelia virginensis*)☒☒

Rayless brittlebush (*Encelia frutescens*)

Woolly sunflower (*Eriophyllum wallacei*)

Cooper goldenbush (*Ericameria cooperi*)

Paper daisy (*Psilotrophe cooperi*)

Desert dandelion (*Malacothrix glabrata*)

Wire lettuce (*Stephanomeria pauciflora*)

Sand-wash groundsel (*Senecio flaccidus* var. *monoensis*)

Matchweed (*Gutierrezia sarothrae*)

Cooper dyssodia (*Dyssodia cooperi*)

Cheesebush (*Hymenoclea salsola*)

Desert chicory (*Rafinesquia neomexicana*)

Desert star (*Monoptilon bellioides*)

Mojave aster (*Xylorhiza tortifolia*)

Bignoniaceae:

Desert willow (*Chilopsis linearis*)

Boraginaceae:

Fiddleneck (*Amsinckia tessellata*)

Cryptantha (*Cryptantha* spp.)

Comb-bur (*Pectocarya* sp.)

Brassicaceae:

Tansy mustard (*Descurainia pinnata*)

Jewelflower (*Streptanthus* sp.)

Buddlejaceae:

Panamint butterfly bush (*Buddleja utahensis*)

Cactaceae:

Silver cholla (*Cylindropuntia echinocarpa*)

Buckhorn cholla (*Cylindropuntia acanthocarpa* var. *coloradensis*)

Pencil cholla (*Cylindropuntia ramosissima*)

Beavertail (*Opuntia basilaris*)

Desert barrel cactus (*Ferocactus cylindraceus*)

Calico cactus (*Echinocereus engelmannii*)

Cottontop cactus (*Echinocactus polycephalus* var. *polycephalus*)

Common fishhook cactus (*Mammillaria tetrancista*)

Euphorbiaceae:

Rattlesnake weed (*Chamaesyce albomarginata*)

Fabaceae:

Catclaw acacia (*Acacia greggii*)

Elegant lupine (*Lupinus concinnus*)

Honey mesquite (*Prosopis glandulosa* var. *torreyana*)

Geraniaceae:

Filaree (*Erodium cicutarium*)(Introduced)

Hydrophyllaceae

Lacey phacelia (*Phacelia distans*)

Fremont phacelia (*P. fremontii*)

Purple mat (*Nama demissum*)

Krameriaceae:

Range rhatany (*Krameria parvifolia*)

Lamiaceae:

Paperbag bush (*Salazaria mexicana*)

Blue sage (*Salvia dorrii*)

Loasaceae :

White-stemmed stick-leaf (*Mentzelia albicaulis*)

Malvaceae :

Apricot mallow (*Sphaeralcea ambigua*)

Nyctinaginaceae:

Wishbone bush (*Mirabilis californica*)

Giant Four O'Clock (*Mirabilis multiflora*)

Oleaceae:

Spiny menodora (*Menodora spinescens*)

Onagraceae

Brown-eyed evening primrose (*Camissonia claviformis*)

Papaveraceae:

Little gold poppy (*Eschscholzia minutiflora*)

Polemoniaceae

Broad-flowered gilia (*Gilia latiflora*)

Polygonaceae:

Trumpet buckwheat (*Eriogonum fasciculatum* ssp. *polifolium*)

California buckwheat (*Eriogonum fasciculatum*)

Flat-top buckwheat (*Eriogonum dextriflexum*)

Spiny-herb (*Chorizanthe rigida*)

Rosaceae:

Desert almond (*Prunus fasciculata*)

Rutaceae:

Desert rue (*Thamnosia montana*)

Solanaceae:

Ground cherry (*Physalis* sp.)

Cooper's boxthorn (*Lycium cooperi*)

Anderson's boxthorn (*Lycium andersonii*)

Wild tobacco (*Nicotiana obtusifolia*)

Zygophyllaceae:

Creosote (*Larrea tridentata*)