

Environmental Assessment

For

Four Wildlife Guzzlers

Environmental Assessment

CA-660-08-07

Bureau of Land Management
California Desert District
Palm Springs-South Coast Field Office

August 2008

Palm Springs-South Coast Field Office, California Desert District, Bureau of Land Management

PROPOSED ACTION TITLE/ TYPE: Four Wildlife Guzzlers to be built in eastern Riverside County to support the large wildlife in that area.

APPLICANT / PROPONENT: California Department of Fish and Game (CDFG) and Desert Wildlife Unlimited.

LOCATION OF PROPOSED ACTION:

Leg Bone Walla	T8S, R17E, Section 1
Old 8 Walla	T7S, R18E, Section 10
Prison Walla	T7S, R19E, Section 22
Bench Walla	T7S, R15E, Section 32

PURPOSE AND NEED FOR THE PROPOSED ACTION:

Like many other species of desert wildlife, mule deer are attracted to water during drier, hotter periods of the year (Hervert and Krausman 1986, Elder 1956). Research indicates that water benefits animals in several ways during these times. Water helps animals maintain a more stable body temperature through evaporative cooling, assists in maintaining appropriate electrolyte balance for metabolism, and allows more efficient digestion of food.

The purpose of the proposed action is to provide permanent, reliable water sources to deer and other wildlife at four locations in eastern Riverside County. Development of these water sources would help satisfy the objectives of the California Department of Fish and Game (CDFG) D12 Deer Herd Management Plan (Schaefer and Davis 1995), specifically Prescription D 3 of the Habitat Element which prescribes the installation of permanent water sources.

- Completion of the proposed project (with associated burro fencing as needed) would have positive effects upon such limiting factors as:
- Lost access to Coachella Canal water,
- Reduced access to foraging habitat,
- Limited available water,
- Competition with burros for water and forage,
- Human encroachment into deer habitat particularly with OHV's and increased winter use of desert lands by "snow birds."
- Global environmental change (demonstrated increases in temperature and decrease in precipitation)

The need for the water development is:

1. To provide additional permanent and dependable water sources for deer and other wildlife as provided for in Chapters 2 and 6 of the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO).
2. To fulfill the statutory requirement of Fish and Game Code Section 1801 which states that it is “the policy of the state to encourage the preservation, conservation and maintenance of wildlife resources under the jurisdiction and influence of the state”. This policy shall include the following objectives:
 - (a) To maintain sufficient populations of all species of wildlife and the habitat necessary to achieve the objectives stated in subsections (b), (c) and (d).
 - (b) To provide for the beneficial use and enjoyment of wildlife by all citizens of the state.
 - (c) To perpetuate all species of wildlife for their intrinsic and ecological values, as well as for their direct benefits to all persons.
 - (d) To provide for aesthetic, educational, and non-appropriative uses of the various wildlife species.
 - (e) To maintain diversified recreational uses of wildlife, including the sport of hunting, as proper uses of certain species of wildlife, subject to regulations consistent with maintenance of healthy, viable wildlife resources, the public safety, and a quality outdoor experience.
 - (f) To provide for economic contributions to the citizens of the state, through the recognition that wildlife is a renewable resource of the land by which economic return can accrue to the citizens of the state, individually and collectively, through regulated management. Such management shall be consistent with the maintenance of healthy and thriving wildlife resources and the public ownership status of the wildlife resources.”
3. To mitigate the historical effects of habitat fragmentation by highways, canals, mining, past and present military use, and railways (Epps *et al.* 2005).

LAND USE PLAN CONFORMANCE:

The proposed action and alternatives are in conformance with both the California Desert Conservation Area Plan and the Northern and Eastern Colorado Desert Coordinated Management Plan.

California Desert Conservation Area Plan of 1980 (CDCA Plan), as amended.

Objective #1 of the Wildlife Element of the CDCA Plan is to “Avoid, mitigate or compensate for impacts of conflicting uses on wildlife populations and habitats and to promote wildlife populations through habitat enhancement projects so that balanced ecosystems are maintained and wildlife abundance provides for human enjoyment.”

Objective #2 of the Wildlife Element of the CDCA Plan, in part, is to “Develop and implement detailed plans to provide special management for: “b) areas with habitat which is sensitive to conflicting uses...”

Desert Mule Deer Management--Goals and Objectives

Desert mule deer within this project area is a native species managed by the California Department of Fish and Game under the Burro Deer Herd Management Plan (Celentano and Garcia 1984) and the D-12 Deer Herd Action Plan (Schaefer and Davis 1995) . This unit is one of two statewide, managed under a separate action plan. This is an indication of the uniqueness of this deer subspecies (*Odocoileus hemionus eremicus*). Deer are included in this section because artificial waters are proposed in NECO to help support their population. Deer would also benefit from prescriptions related to protecting and enhancing habitat for both bighorn sheep.

The objective of this effort is to provide for the aesthetic, educational, and recreational uses of desert mule deer.

Desert Mule Deer Strategy

The desert mule deer populations within the Northern and Eastern Colorado Desert planning area would be managed as two populations identified by their current CDFG hunting zone designation: D-12 and D-17. Desert mule deer would continue to be conserved as a native species and would continue to be managed as a game species. While deer is a native species found in Joshua Tree National Park (JTNP) and Chocolate Mountains Serial Gunnery Range (CMAGR), hunting is not allowed on those lands. In addition, in JTNP there would be no game management consideration for deer, including artificial waters, but there is in CMAGR in support of hunting that occurs outside CMAGR. Therefore, the bulk of this strategy will be limited to BLM and CMAGR lands.

1. Manage deer in deer habitat throughout its range as currently prescribed in the state's Burro Deer Herd Management Plan.
2. CDFG would continue to construct, improve, and maintain existing natural and artificial water sources and exclosures around them where required and coordinate such work through other agencies and volunteer groups according to CDFG standards and Memoranda of Understanding (MOUs) with BLM and CMAGR.
3. Artificial waters proposed for construction would be considered as a grouped proposal as noted for waters proposed for bighorn sheep (see section 2.3) and addressed in a NEPA review on a yearly basis for administrative efficiency. Since about half of the proposed artificial waters for bighorn sheep and desert mule deer are mutually beneficial, they would also be considered simultaneously.

Objective A. Provide for the aesthetic, educational, and recreational uses of desert mule deer.

Action: New water developments would be constructed to expand usable habitat for desert mule deer. Map 2-19 Appendix A shows 101 prospective areas for the new water developments in the Sonoran WHMA. Of the 101 sites, 53 are common to both deer and bighorn sheep. Design, construction, and maintenance information is provided in Appendix M. Proposed sites have been generally mapped.

NECO CMP/FEIS, July 2002 Appendix B, Standards and Guidelines, Pages B-4 – B-6

Resource Advisory Council Direction

At a minimum, State or regional guidelines must address the following:

- 6. Maintain, restore, or enhance water quality to meet management objectives (e.g., meeting wildlife needs);
- 9. Maintain or promote the physical and biological conditions to sustain native populations and communities;

Cultural Resources Review

Under the Federal Land Policy and Management Act of 1976 (FLPMA), the BLM is charged with managing public lands in a manner that will “protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values”. Section 106 of the National Historic Preservation Act, as implemented at 36 CFR Part 800, requires Federal agencies to take into account the effects of their undertakings on historic properties. The Revised State Protocol Agreement (2007) between the California State Director of the Bureau of Land Management (BLM) and the California and Nevada State Historic Preservation Officers (SHPOs), defines the roles and relationships between the SHPOs’ offices and the BLM under the National Programmatic Agreement. The State protocol is intended to insure that the California BLM operates “efficiently and effectively in accordance with the intent and requirements of the NHPA.” The protocol streamlines the 106 process by not requiring case by case consultation with the SHPO on most individual undertakings.

PROJECT ALTERNATIVES

Alternative A: Proposed Action

The CDFG proposes to construct, operate, and maintain four Desert Wildlife Unlimited (DWU) style water sources (Lesicka and Hervert, 1995) to be named Leg Bone Walla, Old 8 Walla, Prison Walla, and Bench Walla(Appendix A-location map). The proposed water developments would consist of a small concrete dam, a metal pipeline, a buried 10,000 gallon storage tank, and a 2,500 gallon wildlife accessible subterranean drinker. The total area of permanent surface disturbance for all four construction sites would be 10,280 square feet or approximately .25 acre. The permanent disturbance at each location would be slightly different based upon unique environmental conditions at each site. Unique to the DWU guzzler system are a number of factors that contribute to the efficiency and reduction of required maintenance. The design simplicity, lack of mechanical parts, and the ability to collect and store large amounts of water from small rain events has reduced costly repairs and/or replacements experienced by different guzzler designs. The number of inspections, monitoring visits and water hauling trips is also

minimized. Additional attributes include low visual impact as the system is completely buried except for the drinker and small dam (and occasionally short sections of pipe which are exposed at ground level), increased availability of water for multiple species use, and the drinker is safe for desert tortoises.

1. Site Excavation

At each site a trench would be excavated and backfill materials would be placed to the side of the trench adjacent to the wash. The tank and drinker would be placed in the trench below the dam area but outside the wash and the excavated rock and soil would be replaced and smoothed back to the surrounding gradient, with the installation buried as described below.

The installation sites would be excavated for the burial of a 10,000 gallon fiberglass tank and a 2,500 gallon drinker. Both would be completely buried, except for a 1.5 inch diameter screened U-vent pipe on the storage tank, as well as the drinker lip, opening and concrete overflow apron which would be exposed at ground level. The tank would be covered to a depth of two feet while the drinker top would be buried to ground level. All excavated materials from the cavity formed for the installation of the tank and drinker would be placed adjacent to the excavation. The tank would be placed at the rear of the cavity, which would be excavated to a depth low enough to bury the tank two feet below the surface. The drinker would be set up to 10 feet away at or just slightly below the level of the tank. Excavated rock and soil would be replaced, smoothed and contoured to best reflect the surrounding surface contours so that the buried tank and drinker would become part of the landscape.

Individual washes would be partially dammed depending on the site. Construction of dams would require mixing of cement. The construction material storage areas would be located approximately 25 feet away from the wash, on flat ground adjacent to the wash area. A screened intake in the dam face would provide water to a pipe which would then deliver it to both storage tank and drinker. All excess cement would be cleaned up and removed from the site.

2. Storage Tank and Drinker

Each 10,000 gallon storage tank would be a 30-foot long x 8-foot diameter fiberglass cylinder. The drinker would be comprised of a 2,500-gallon, 16 foot long by 4 foot wide by 8 foot deep fiberglass tank with a ramp. The drinker would be buried underground, adjacent to the tank, and the two would be connected by a 2 inch flexible schedule 40 PVC jacuzzi pipe to allow for naturally occurring soil movement such as settling or earthquakes. Only the walk-in drinker opening would be exposed. The concrete overflow apron is at the entrance of the drinker opening and would be the width of the drinker, 4 feet wide, extending 6 to 8 feet to the front. The entrance to the drinker would be a ramp with steps so that animals having access to the water can escape easily. Steps would descend into the drinker at 1 foot intervals and be 2.5 feet wide. The remaining 0.75 foot on each side of the steps would be roughed, and allow for small animal ingress and egress. The concrete steps would be constructed on-site.

3. Dam

Runoff from seasonal rainfall would be detained behind the short dam and flow through a buried 6-inch ABS pipe. The exposed intake at the dam would be covered with wire mesh to prevent entry of debris. Water would be gravity fed through the pipe to the tank and drinker. After the tank and the drinker are filled, excess runoff would flow out of the drinker or over the dam and return to the wash.

The dam would be constructed of reinforced concrete and faced with native stone collected at the site so as to blend into the surrounding landscape. The dam would partially block water flow in the wash and be no more than 3 feet tall from the bottom of the wash. Up to 2 cubic yards of sand would be removed from the wash for mixing concrete. A mobile water tank would be utilized to haul all water for construction purposes and would be towed to the site by vehicle. Concrete would be mixed using a gasoline engine cement mixer and conveyed to the dam and drinker site by wheelbarrow. Approximately 20 gallons of concrete rinse water would be generated and disposed of onsite. Natural forces are expected to fill in the upstream side of the dam with wash materials and replace those removed for construction and for mixing concrete.

4. Burro Fencing

After installation of the drinkers, those sites which show sign of consistent use by burros would have exclusion fences added. These fences would consist of 1 1/2 inch diameter steel pipe lashed with wire to braced tee posts (See Figure 1).



Figure 1. Wildlife Guzzler with burro fencing

5. Vehicles, Construction Equipment and Access

Site access would be along existing routes that have been designated as open routes under the NECO plan. There would be no road construction or grading associated with this project.

Vehicles would be utilized to carry work tools (shovels, picks, rakes) as well as materials, tow one 1,000 water tank, one 10,000 gallon fiberglass tank and one 2,500 gallon drinker (both on trailers), and one portable gas-powered cement mixer.

Excavation equipment would consist of a Case 680 rubber-tired backhoe and a model 270 John Deere flat-tracked excavator (or equivalents). A trailer-mounted 1,000 gallon water tank (gravity-fed or with a gasoline-powered motorized pump if necessary) would be used for the initial charging of the 2,500 gallon drinker. An additional 300 gallons would be used for mixing concrete. Access to all sites would be along designated routes of travel.

6. Post Construction Activities

The project areas would be flagged prior to construction activities and flagging would be removed upon project completion. Upon completion of the project, areas disturbed by the project would be restored to as natural condition as possible and re-vegetated with any native plants that were removed during construction. All disturbed soil surfaces would be contoured and raked to match the surrounding terrain. Any rocks that would be removed would be scattered over the disturbed area. Upon completion of construction activities disturbed areas around the dam, piping, drinker and storage tank would be re-contoured and/or raked to match the surrounding terrain.

7. Personnel

Approximately 20 people would be at each work area for a maximum of five days for the installation. Some people may camp near the sites. All personnel would be briefed daily on site stewardship and safety. All trash created on site would be properly disposed in a raven-proof container and removed upon completion of the project. Supplies, tools and materials would be stored, when not in use, at this location and a first-aid/safety area would be established.

8. Monitoring

CDFG and/or its agents would drive to the sites to monitor the new artificial water sources as needed for water level and quality. Other monitoring would consist of photographic data and guzzler operation (water levels, inspection of facility). CDFG/agents would discuss and/or provide to BLM an annual anecdotal summary of observations regarding burrows, scat, or remains of desert tortoises and observations of corvid species that were made near or in the mule deer guzzlers during construction, routine maintenance and periodic visits. If impacts to desert tortoises are evident from the mule deer guzzlers, then additional monitoring of the guzzler sites would be discussed between CDFG/Agents and BLM.

9. Repair and Refill

The anticipated lifespan of the tank (when buried underground, protected from UV light) is greater than 50 years. Other components of the system (i.e. concrete dam, concrete steps, and ABS pipe) may deteriorate or require repair due to weathering or infrequent environmental events such as earthquakes or severe floods.

Refill activities are anticipated when storm events do not provide sufficient water to the system. When the system is full, the water would be expected to last for approximately two and a half years without needing any natural recharge or refill. CDFG or its agents would fill the guzzlers on an as needed basis. Refill would involve a vehicle with water tank or trailer to fill the guzzler tank.

10. Area Description

This project would occur in the Colorado Desert subsection of the Sonoran Desert. The climate is that of the low desert with very hot summers and warm winters. Rainfall averages about 3 inches per year with the bulk occurring in the late summer and winter. Vegetation here is best characterized by Sonoran creosote bush scrub, but many areas are cut by desert washes inhabited by microphyll woodlands. The soils range from very coarse sand and gravel in the washes to rock and desert pavement in the upland areas. Common wildlife species in this area include mule deer, coyotes, bobcats, ringtail, wild burros, and a wide variety of reptiles, birds and insects. The federally threatened desert tortoise is known to inhabit this area. No federally or state listed plants are known from the area.

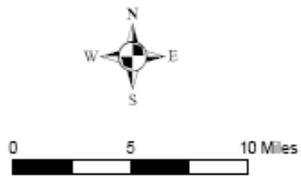
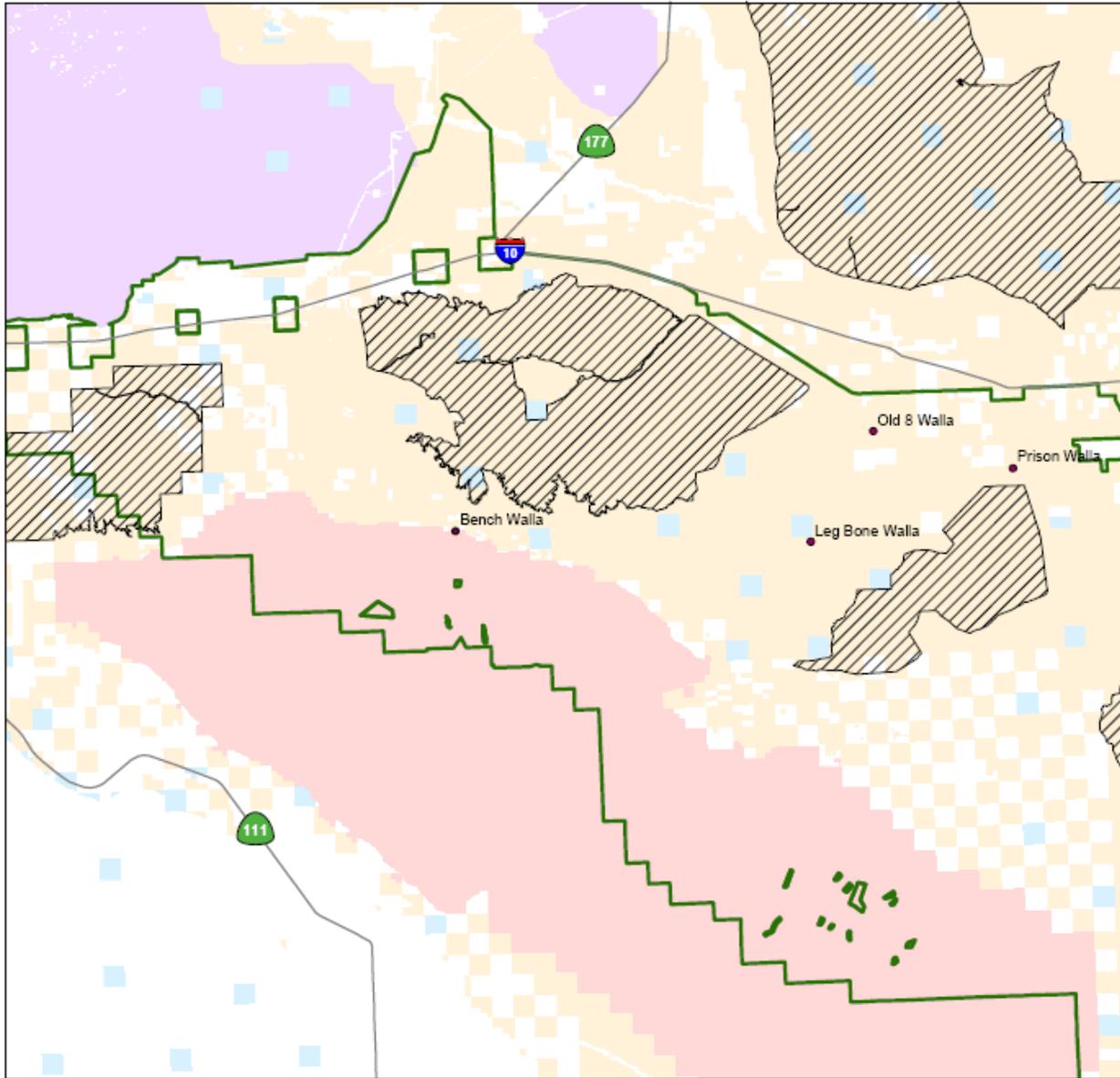
Leg Bone Walla Tank: The project site is on the north slope of the Chuckwalla Mountains next to a wooded wash, northwest of Graham Pass. Principal plant species include ironwood, palo verde, burro-bush, brittle-brush, creosote, catclaw acacia and pencil cholla. The footprint of the construction site is 100' x 200'. Total permanent disturbance at this site would be 500 square feet.

Old 8 Walla Tank: The project site is located on the flats near Chuckwalla Valley Road. Primary plant species are ironwood and creosote. The footprint of the construction site is 80' x 150'. Total permanent disturbance at this site would be 500 square feet.

Prison Walla Tank: The Prison Walla site lies on the flats between the Little Chuckwalla Mountains and Interstate Ten. The project site is next to a shallow wash draining malpais on either side. Plant species include ironwood, creosote, big galleta grass, and brittlebrush. The footprint of the construction site is 100' x 230'. Total permanent disturbance at this site would be 500 square feet.

Bench Walla Tank: The project site is on the Chuckwalla Bench southwest of Black Butte The. Plant species present at the site include wolfberry, ocotillo, brittlebrush, catclaw acacia, jojoba, Spanish bayonet, burroweed, ephedra, cholla and barrel cactus. The footprint of the construction site is 100' x 200'. Total permanent disturbance at this site would be 500 square feet.

Figure 2. Location of the Four Proposed Wildlife Water Developments



Legend

- Guzzlers
 - ▨ Wilderness
 - ▭ DWMA
- Land Status**
- AGENCY**
- Bureau of Land Management
 - Military
 - National Park Service
 - State

Alternative B: No Action

The wildlife water developments would not be built. Animals now excluded from the newly fenced Coachella Canal would not have an alternative sources of drinking water thus the situation would be worse for deer under the no action alternative.

AFFECTED ENVIRONMENT:

Air Quality:

The South Coast Air Quality Control District has air quality jurisdiction over the project area and has developed guidelines for dust control suppression during construction activities. Air quality throughout the project area is generally good. At times, the area does not meet air quality standards due to wind transported pollutants.

Area of Critical Environmental Concern (ACEC):

All four proposed guzzlers are located within the Chuckwalla Desert Wildlife Management Area (DWMA). This (DWMA) was established as an ACEC under the Northern and Eastern Colorado Desert Coordinated Management Plan and Final Environmental Impact Statement in order to protect the desert tortoise.

Cultural Resources:

The Bench Walla Guzzler falls within an area most associated with the Cahuilla Indians, although the project vicinity does not contain specifically identified Cahuilla villages or occupation areas. The remaining four guzzler sites are in an area thought to have been utilized by multiple cultural groups including the Cahuilla, Chemehuevi, Mojave, and Quechan. All of these groups likely utilized travel and trade routes in and around the project area. During the 1950's Francis and Patricia Johnston recorded several segments of trail running between the Big Maria Mountains and San Gorgonio Pass. The Johnston's recorded these trail segments as CA-RIV-53T- a prehistoric travel route with associated ceramic and lithic scatters, occupation sites, and rock art sites.

Diaries from the 1823 Romero expedition represent the earliest recorded accounts of European-American passage through the area. Romero's expedition traveled northeast between the Orocopia and Chuckwalla Mountains. In 1853, railroad exploration and surveys sponsored by the U.S. government followed a route similar to Romero's. This route became known as Frink's Route or Brown's Wagon Road. In 1862 an alternate route, Bradshaw's Trail, was established in the vicinity that served as the main travel corridor between the Colorado River and the California Coast. Use of the Bradshaw Trail declined upon the arrival of the Southern Pacific Railroad in 1877. Use further declined with the development of a county road in the early 1900s, U.S. and State Highway 60 in the 1920s and 1930s, and finally, Interstate Highway 10 in 1968, all of which provided for travel through the Chuckwalla Valley.

Mining in the region began in the 1880's, and the Chuckwalla and Orocopia Mountains contain several historic mining sites as a result. Mining activity tapered off at the end of the century and picked up again in the early 1900's and 1930's. Government decree suspended gold mining during World War II and the emphasis shifted to iron and other industrial minerals that

contributed to the war efforts. The Kaiser Railroad, constructed in 1948, served to move iron ore from the Eagle Mountain Mine to the Southern Pacific Railroad spur at Ferum. Other notable historic uses of the region include the 1930's construction of the Colorado River Aqueduct and Patton's World War II Desert Training Center camps and maneuver areas.

A cultural resources records and literature search of documents and maps on file at the BLM Palm Springs-South Coast Field Office (PSSCFO) was conducted by Chris Dalu, PSSCFO Archaeologist in December 2007. One previously-recorded prehistoric archaeological site was identified within a one mile radius of the project APE. In addition, segments of the Bradshaw Trail were identified as being located 100 feet south of the Bench Walla Guzzler APE.

Chris Dalu conducted a Class III, intensive pedestrian, cultural resources inventory at all four guzzler locations on four occasions between November 30 and December 13, 2007. No historic properties were identified within the APE of the project. However there is a potential that subsurface cultural materials could be present at the Legbone Walla Guzzler. A qualified archaeologist will be present during ground-disturbing activities associated with construction of the Legbone Walla Guzzler. If previously unidentified cultural resources, including artifacts or bone, are encountered during project activities at any of the four guzzlers, all work will cease in the immediate area of the discovery and the PSSCFO Cultural Resources Specialist will be consulted.

No historic properties were identified within the project area: the proposed project will have no effect to properties eligible for or listed on the National Register of Historic Places.

Native American Concerns:

No areas of significance to Native American groups are known to exist within the project area.

Environmental Justice:

This project would not affect environmental justice issues; therefore this element will not be considered further.

Prime & Unique Farmlands:

There are no prime and unique farmlands in the project area; therefore this element will not be considered further.

Floodplains:

While there are numerous washes within the project area that are prone to flash flooding, there are no floodplains near the project areas. The guzzlers are designed to capture surface flow from small peripheral washes during rain events. Excess water would continue to flow downstream. The natural flooding of major wash systems would not be interrupted, therefore this element will not be considered further.

Vegetation:

Vegetation in the project area reflects the arid conditions, limited rainfall and generally poor soils of the Sonoran Desert. The project area is a mixture of creosote scrub/ desert pavement and small areas of microphyll woodland areas. Dominant species found within the creosote scrub

areas include creosote bush (*Larrea tridentata*) and brittle bush (*Encelia farinosa*). Dominant species found within the microphyll woodland areas include blue palo verde (*Cercidium floridum*), ironwood (*Olneya tesota*), and smoke tree (*Psoralea argemone*).

Microphyll woodland habitats tend to be fairly tall in height, with trees dispersed and spaced fairly far apart. Many of the washes within this region are inhabited by microphyll woodlands which are of special importance to wildlife and yield a high diversity. This habitat is naturally fragmented due to the xeric nature of the desert and the natural drainage patterns. These woodlands occur in areas subject to increased moisture due to the presence of washes, shallow water tables, or other unique hydrologic features. This habitat provides shelter and forage for all types of desert wildlife. Microphyll woodlands are an extremely important habitat feature to wintering, breeding and transient migratory birds, as well as all other wildlife in the Sonoran desert.

Creosote bush scrub habitat in the project area, on the other hand, tends to be low level vegetation, spaced evenly apart, with other small shrubs dispersed throughout. Usually, in this type of habitat, more dense vegetation can be found near washes. All of the proposed guzzlers are located within the creosote bush scrub.

Invasive/Non-native Species:

Invasive/non-native species in this area include Sahara mustard (*Brassica tournefortii*) Mediterranean grass (*Schismus sp.*) and tamarisk (*Tamarix sp.*). Sahara mustard and Mediterranean grass are present throughout the project areas. These species are annuals that die each year and their seeds lie dormant for long periods of time in the soil. During wet periods these species erupt and cover much of this portion of the desert. These annuals pose a threat to the native community by increasing risk of wildfire by providing light transmission fuels. These species can also compete with native plants. Tamarisk is usually found in association with moisture, either in washes or riparian areas. It can pose a major threat to native plant life by depleting subsurface water and increasing soil salinity. With enough water available, tamarisk would grow in dense monoculture stands and provide little benefit to most wildlife.

Threatened or Endangered Species:

Mojave populations of the desert tortoise (*Gopherus agassizii*) were listed as threatened on April 2, 1990, and the U. S. Fish and Wildlife Service (USFWS) designated critical habitat for the species on February 8, 1994. All four guzzlers are located within the Chuckwalla DWMA and designated critical habitat for the desert tortoise.

Results of the USFWS rangewide monitoring of desert tortoises showed a density of 6.38 tortoises/km² (95% CI = 4.60-8.86) in 2005.

Sensitive Wildlife species identified in the project area:

Table 1 compiles information special status species of wildlife known from the general region of the project sites.

Table 1. Sensitive wildlife in the vicinity of the four guzzler project sites.

Species	Status	Presence at project location
Prairie Falcon (<i>Falco mexicanus</i>)	SSC	Species was not observed, but is likely present. Foraging habitat.
Le Conte's thrasher (<i>Toxostoma lecontei</i>)	SSC, BLM Sensitive	Species was not observed, habitat is present but not optimal.
Gila Woodpecker (<i>Melanerpes uropygialis</i>)	CE	Species was not observed, but is likely present in microphyll woodland
Chuckwalla (<i>Sauromalus obesus</i>)	SSC	Species was not observed, there are no steep rocky slopes in the affected area.
Rosy Boa (<i>Lichanura trivirgata</i>)	SSC	The project site is within the species range, but habitat is not optimal.
Colorado Desert Fringe-toed Lizard (<i>Uma notata</i>)	SSC, BLM Sensitive	The project site is within the species range, but habitat is not optimal, there are no windblown sands in the affected area.
Desert Tortoise (<i>Gopherus agassizii</i>)	FT	Species is likely present on or near the sites.
Pallid Bat (<i>Antrozous pallidus</i>)	SSC, BLM Sensitive	The proposed project is within the range of this species. Suitable seasonal foraging and roosting habitat are present near the project area. No known hibernacula or maternity roosts are present in the area.
Townsend's Western Big-eared Bat (<i>Plecotus townsendii</i>)	SSC, BLM Sensitive	The proposed project is within the range of this species. Suitable seasonal foraging and roosting habitat are present near the project area. No known hibernacula or maternity roosts are present in the area.
Pocketed Free-tailed Bat (<i>Tadarida femorosaccus</i>)	SSC	The proposed project is within the range of these species. Suitable seasonal foraging and roosting habitat are present near the project area. No known hibernacula or maternity roosts are present in

		the area.
California Leaf-nosed bat (<i>Macrotus californicus</i>)	SSC, BLM Sensitive	There are known populations in this area. Suitable seasonal foraging and roosting habitat are present near the project area.
Fringed Myotis (<i>Myotis thysanodes</i>)	BLM Sensitive	The proposed project is within the range of this species. Suitable seasonal foraging and roosting habitat are present near the project area. No known hibernacula or maternity roosts are present in the area.
Desert Bighorn Sheep (<i>Ovis canadensis</i>)	BLM Sensitive	While no bighorn sheep were observed, they are known to inhabit this area.

Wildlife including Migratory Birds:

The project area is inhabited by an abundance of wildlife species, including but not limited to mule deer, bobcat, black-tailed jackrabbit, red-tailed hawk, Gambel’s quail, desert iguana, and zebra-tailed lizard. Microphyll woodlands near the project sites typically supports a higher diversity of wildlife than many other parts of the Colorado Desert. These woodlands are the major reason for the abundance and diversity of wildlife in this area. They provide cover, forage and nesting areas for multitudes of species, and are particularly important to migratory birds. Many species of birds migrate through this area and utilize these woodlands as stopover habitat. This is especially important for these species crossing hundreds of miles of harsh desert. The abundant palo verde, ironwood and catclaw in the washes provide excellent cover and foraging habitat for neotropical migrants. In 2001 microphyll woodlands were designated as an important bird area by the National Audubon Society.

Wild Horses and Burros:

Burros aggressively compete for vegetation and available water in arid environments and actively exclude native wildlife including deer. None of the proposed sites exist within a BLM designated Burro Herd Management Area (HMA). However, burros currently range outside of the closest HMA and within a broad area adjacent to the Coachella Canal. Burros are also located outside the Chocolate/Mule Mountains HMA near the Chuckwalla Bench DWMA and Chuckwalla Valley sites. Recently, burro have moved along the Coachella Branch of the All American Canal far from the closest HMA and are creating problems at temporary and permanent wildlife drinkers along the canal. Attempts by the BLM to round up these burros have been unsuccessful. Alex Niebergs, BLM Wild Horse and Burro Specialist, recently submitted his finding and thoughts regarding these animals in a “Briefing Paper” dated April 23, 2008. While the BLM has stated the removal of these animals is a priority no animals have been caught or removed.

Wastes (hazardous/solids):

There are no known hazardous wastes at the four proposed guzzler locations, and no hazardous waste would be generated by construction of water developments, therefore this element will not be considered further.

Water Quality:

There are no waterways, natural or manmade, within the project area. This region receives an average of less than 3 inches of rainfall per year. What rainfall that does occur runs off the ground and into the washes very quickly resulting in flash flooding. These floods naturally carry large quantities of soil and rock.

Wetlands/Riparian Zones:

There are no wetlands or riparian zones in the project area, therefore this element will not be considered further.

Wild & Scenic Rivers:

There are no rivers in the project area, therefore this element will not be considered further.

Wilderness:

None of the project locations are located within wilderness areas therefore this element will not be considered further.

Recreation:

The recreation in this area consists of dispersed uses such as hunting, hiking, 4x4 trail riding, camping, and wildlife viewing.

Visual Resource Management:

Lands in the project area are managed according the California Desert Conservation Area Plan as Multiple-Use Class L which is generally consistent with Visual Resource Management (VRM) Class II. According to VRM Class II, wildlife guzzlers may be seen, but should not attract attention of the casual observer. The level of change to the landscape should be low. Changes should repeat the basic elements found in the natural features of the landscape in form, line, color and texture.

ENVIRONMENTAL IMPACTS

The following table summarizes potential impacts to various elements of the human environment, including the “critical elements” (*) listed in BLM Manual H-1790-1, Appendix 5, as amended. BLM considers critical elements of the human environment to fall into 3 categories.

1. Uses of or resources that are not affected by the proposed action (NA);
2. Uses of or resources that are present and that may or may not be affected by the proposed action (PA);
3. Uses or resources not present and not affected by the proposed action (NP).

Table 1. Table of Critical Elements.

Critical Element	Not Present	Not Affected	Possibly Affected
Air Quality*		x	
Areas of Environmental Concern *			x
Cultural Resources*		x	
Native American Concerns*		x	
Environmental Justice	x	x	
Prime or Unique Farmlands*	x		
Floodplains*	x		
Invasive, non-native species			x
Threatened or Endangered Species*			x
Vegetation		x	
Wild Horses and Burros		x	
Waste, Hazardous or Solid*	x		
Water Quality (Surface and Ground)*	x		
Wetlands and Riparian Zones*	x		
Wild and Scenic Rivers*	x		
Wilderness*	x		
Recreation		x	
Visual Resource Management		x	

Environmental Impacts

Air Quality:

There would be negligible air quality disturbance by dust and vehicle emissions during initial construction of the proposed action.

Cultural Resources:

No historic properties were identified within the APE (Area of Potential Effect). A segment of historic road, possibly a variation of the Bradshaw Trail, is located outside the APE near the Bench Walla guzzler. The project would have no direct effect on the road and indirect visual effects would be avoided through restoration of the project area to natural conditions. Above-ground exposures should be limited, and disguised to the extent possible by native plants. If burro fencing becomes necessary at this site, further evaluation will be required to determine if the visual impact would result in an adverse effect.

Although there are no cultural resources present within the APE of the Legbone Guzzler, the depositional environment presents a possibility for subsurface materials to be present. A PSSCFO archaeologist will be present to monitor ground-disturbing activities at the Legbone Guzzler APE. If previously unidentified cultural resources, including artifacts or bone, are encountered during project activities at any of the four guzzlers, all work will cease in the immediate area of the discovery and the PSSCFO Cultural Resources Specialist will be consulted. The project proponent will protect the location from further disturbance until authorized by the BLM to proceed

If these recommendations are followed, there would be no effects to historic properties as a result of project implementation.

The No Action alternative would have no effects to historic properties.

Vegetation:

Past studies have addressed foraging questions and have found that sheep (Wehausen and Hansen 1986) and deer (Marshal *et al.* 2004 and 2005a), both exist at low densities, have little impact on vegetation used as browse and forage. Marshal *et al.* (2005b) specifically looked at vegetation near water sources in the Sonoran Desert in California and failed to measure any impact to vegetation by native ungulates attracted to water sources.

Invasive/Nonnative Species:

Sahara mustard and Mediterranean grass are already prevalent throughout the project area. It is not anticipated that construction and maintenance of the guzzlers would result in an appreciable increase in these species. There is currently no tamarisk in close proximity to the proposed guzzlers. However, during routine checks of the guzzlers, if tamarisk is found it would be removed.

Threatened or Endangered Species:

The installation of the guzzlers would directly impact about 0.27 acres of desert tortoise habitat. Construction of the 6 drinkers would be within the Chuckwalla DWMA, which is also designated critical habitat.

Construction of the guzzlers would result in temporary disturbance of 96,600 sq. feet (2.2 acres), and permanent disturbance of 3,000 square feet (0.07 acre). Once the guzzlers are in place the sites would be restored to their natural condition. Further impacts to habitat would be limited to wildlife entering and leaving the guzzler locations to drink, and routine visits by CDFG personnel to inspect the guzzler.

Andrew *et al.* (2001) examined 13 guzzlers in this region for signs of drowned tortoises. Her study found no tortoise remains. Hoover (1995) in a similar study of 86 small game drinkers found the remains of 17 tortoises. It is impossible to determine whether the remains were washed in the guzzlers from routine filling or if tortoises fell in and became trapped. Hoover recommended installation of a roughened matt or abraded surface for tortoises to be able to have traction to escape the drinker. Although the proposed large animal drinkers are of a different design than the small game drinkers examined by Hoover, the proposed drinkers would be

equipped with a roughened ramp as well as steps to allow tortoises to climb out. Because of the escape ramp and mitigation measures used for construction and maintenance this project is not likely to adversely affect desert tortoises or adversely modify critical habitat.

Ravens and crows can be attracted to unnatural water sources, such as mule deer guzzlers. The common raven is a subsidized predator of the desert tortoise (McIntyre 2004). Raven predation on juvenile tortoises is believed to be one of the most important threats to the desert tortoise (McIntyre 2004). There is a potential for predation by ravens on immature desert tortoises. Therefore, a monitoring program would be implemented by CDFG and/or its agents. The Colorado Desert does not support the high abundances of ravens seen in parts of the Mojave Desert. A study conducted by Fauna West Wildlife Consultants (1989) found low densities of ravens in this region (approximately 2 per 100 transect miles compared to 40 per 100 transect miles in the West Mojave Desert). In 1995 during weekly raven surveys, McKernan saw a range from 14 ravens per month to 0 ravens per month. The average number of ravens per month was 1.1 (SD 0.39). Daily average totals ranged from 0 to 3. Much of this raven activity was centered near roads or at campsites in the Imperial Sand Dunes. (McKernan 1995)

The no action alternative would result in no disturbance to desert tortoise habitat.

Wildlife including Migratory Birds

Some temporary disturbance to wildlife would occur during installation of the guzzlers. After guzzler installation increased movement of wildlife to the immediate area would occur as animals access the water. Species typically seen using these facilities include deer, coyote, bobcat, many types of migratory birds, Gambel's quail and others including the state-listed Gila woodpecker. Amphibians such as red-spotted toads are often found near guzzlers. Insects, particularly honeybees, are abundant near these water sources as well. Some increase in the population of these species is possible if water was previously limiting their numbers. Some small animals and insects could become trapped and drown in the drinker, however construction of an appropriate ramp would minimize this risk. Comparing an artificial water site to a dry site, Cutler and Morrison (1998) found that rodent and reptile populations were affected little, but bird and amphibian abundance and species richness were higher at watered sites.

The drinkers would be especially beneficial to bats and migratory birds. The guzzlers would serve as a permanent water sources for these animals as well as breeding grounds and water resources for forage species (insects). These drinkers would provide excellent resources for stopover habitat for migrating birds. Bats would also benefit from the increased prey abundance and permanent water.

The no action alternative would result in a continued lack of permanent waters in this area which is now further exacerbated by the loss of access to the Coachella Canal. This in turn would provide fewer resources for wildlife and would prevent some wildlife from utilizing greater portions of the available habitat. It would also result in fewer stopovers and lower-quality foraging habitat for migratory birds and bats.

Wild Horses and Burros:

As previously stated in the Affected Environment Section this project is outside any designated Burro HMA. However, feral burros are already outside the HMA and are moving to the north and are headed in the direction of the proposed project. It is the expressed desire of the Department not to install burro exclusion fences for both practical and visual resource management reasons, however, if these proposed water sources are found by burros they will be considered for fencing. Only fencing of a design previously approved in the NECO plan will be installed.

The no action alternative would probably allow for the continued unwanted/illegal movement of burros into other portions of the desert where they can further damage this ecosystem.

Wetlands/Riparian Zones:

There are no wetlands or riparian zones in the project area.

The no action alternative would have no impact on wetlands or riparian zones.

Recreation:

The recreation in this area consists of dispersed uses such as OHV recreation, hunting, hiking, camping, and wildlife viewing. Construction of the guzzlers would not limit public access or otherwise detract from the recreational opportunities in the area. The guzzlers would provide an important resource for wildlife and could increase the populations of some wildlife, which would create better opportunities for hunters and other wildlife enthusiasts.

The no action alternative would result in a continued lack of permanent waters in this area which would provide fewer resources for wildlife and would prevent wildlife from moving into other areas which could limit the areas in which hunters or wildlife viewers could observe animals.

Visual Resource Management:

Very limited visual impacts would occur to the line and texture of the natural landscape due to the proposed action. The project locations are well hidden from view, being in small washes and obscured by natural topography. Most of each guzzler is located underground and the above ground portion would blend in with the surrounding environment. The project locations would fall within the guidelines for Multiple-Use Class L. The only visible portion of the drinker is the dam and the opening to the drinker. The concrete dam would be lined with natural rock from the local region so it would blend in with the landscape. Once construction of the drinker is complete, the area would be restored using vegetation and rock and soil from the site to match the natural contours of the area. In the event that burros damage the vegetation or drinkers, fencing may be installed which would be much more visible. The fencing would be disguised to meet the line, color and texture of the surrounding natural landscape and vegetation to reduce the visibility from the highway or routes in the area to the casual observer.

Visual impacts would be slightly greater under the Proposed Action Alternative compared to the No Action Alternative.

Mitigation Measures:

The following terms based on the Biological Opinion for Small Disturbances in Desert Tortoise Habitat (August 22, 1997 1-8-97-F-17) and FWS review shall be applied:

- a. The project proponent shall designate a qualified biologist (QB) who would be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The QB must be on-site during all project activities. The QB shall have the authority to halt all project activities that are in violation of the stipulations. The QB shall have a copy of all stipulations when work is being conducted on the site. The QB may be a biologist with desert tortoise experience and approved by BLM.

- b. All employees/volunteers of the project proponent who work on-site shall participate in a tortoise education program prior to initiation of field activities. The project proponent is responsible for ensuring that the education program is developed and presented prior to conducting activities. New employees/volunteers shall receive formal, approved training prior to working on-site. The employee education program must be received, reviewed and approved by the BLM Field Office at least 15 days prior to the presentation of the program. The program may consist of a class presented by a qualified biologist (BLM or contracted) or a video. Wallet sized cards or a one page handout with important information for workers to carry are recommended. The program shall cover the following topics at a minimum:
 - _ Distribution of the desert tortoise,
 - _ General behavior and ecology of the tortoise,
 - _ Sensitivity to human activities,
 - _ Legal protection,
 - _ Penalties for violations of State or Federal laws,
 - _ Reporting requirements, and
 - _ Project protective mitigation measures.

- d. The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other limiting factors. Work area boundaries shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying. Special habitat features, such as burrows, identified by the qualified biologist shall be avoided.

To the extent possible, previously disturbed areas within the project site shall be utilized for the stockpiling of excavated materials, storage of equipment, and location of office trailers and parking of vehicles. The qualified biologist, in consultation with the project proponent shall ensure compliance with this measure. Staging areas for this project shall be surveyed for desert tortoise and their burrows and if present, shall be moved and avoided as appropriately determined by BLM.

- e. Cross-country access shall be the standard for temporary activities. To the extent possible, access to the project site shall be restricted to designated "open" routes of travel. A qualified biologist shall select and flag the access route, to avoid burrows and to minimize disturbance of vegetation. All access is to be considered temporary. After the project is completed, the temporary access routes shall be rehabilitated using ripping, raking, and other accepted techniques.

As explicitly stated in the project permit, cross-country vehicle use by employees/volunteers is prohibited during work and nonworking hours. No new permanent road, two-track or otherwise, shall be created from a main road to any of the guzzlers.

- i. Desert tortoises shall be allowed to move through a project area and shall not be disturbed under any circumstances. All construction activities shall cease until the desert tortoise has moved through the area. No handling of the desert tortoise is allowed.
- j. The qualified biologist shall maintain a record of all desert tortoises observed during the project monitoring. This information would be provided to the BLM/Service with the annual report from CDFG. This information shall include for each tortoise:
 - 1. The GPS location (narrative and maps) and dates of observations;
 - 2. General condition and health, including injuries and state of healing and whether animals voided their bladders;
 - 3. Diagnostic markings (i.e., identification numbers or marked lateral scutes);
 - 4. Photograph of each observed desert tortoise.
- k. No later than 90 days after completion of construction or termination of activities, the QB shall prepare a report for the BLM. The report shall provide an estimate of the actual acreage disturbed by various aspects of the operation. This information shall be reported to the Service by BLM with the assigned file number #FWS-IMP-5425 and may be included with the first annual CDFG/agent report/discussion to BLM.
- l. Upon locating a dead or injured tortoise, the project proponent or agent is to notify the BLM Field Office. The BLM must then notify the appropriate field office (Carlsbad) of the USFWS by telephone immediately for care. Written notification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS Division of Law Enforcement in Torrance. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information. An injured animal shall be transported to a qualified veterinarian for treatment at the expense of the project proponent. If an injured animal recovers, the appropriate field office of FWS should be contacted for final disposition of the animal.
- m. Except on county maintained roads, vehicle speeds shall not exceed 10 miles per hour through desert tortoise habitat.

- n. Workers shall inspect for tortoises under a vehicle prior to moving it. If a tortoise is present, the worker shall not move the vehicle until the tortoise has moved out from under the vehicle on its own volition. Only after it has moved, may the vehicle be moved.
- o. No dogs shall be allowed at a work site.
- p. All trash and food items shall be promptly contained within closed, raven proof containers. These shall be removed from the project site the same day to reduce the attractiveness of the area to ravens and other tortoise predators.
- q. Project proponents shall stockpile any vegetation grubbed or bladed from the project site. The access road is temporary and not graded. Following completion of the project, the access road and project site (a temporary disturbance) shall be re-contoured to approximate pre-project condition and the stockpiled vegetation randomly spread across the re-contoured area.
- r. A qualified biologist with experience conducting surveys for desert tortoise shall be approved by BLM for this project.

Because of the conservation activities undertaken by the Department of Fish and Game for the desert tortoise (habitat acquisition, education, protection), no compensation payment shall be required. In lieu of fencing, the Department shall ensure that no desert tortoises are harmed through the use of a biological monitor during guzzler installation. The drinker would also be equipped with an approved ramp to allow small wildlife, including desert tortoises, to climb out.

Residual Impacts:

After mitigation, less than .25 acres of habitat would remain impacted. It would slowly recover over time; however a portion of it would remain impacted by occasional inspection vehicles. Direct impacts to the desert tortoise would be avoided and indirect impacts would be minimized by the application of provisions of the mitigation measures biological opinion.

Cumulative Impacts:

Twelve big game guzzlers have been constructed in eastern Riverside County south of Interstate 10 and north of the Imperial County line as of December 2007. All were constructed before implementation of the NECO Plan. Under the terms of NECO Plan (BLM 2002) an additional 108 deer and combination sheep and deer water sources (including the four covered by this EA) were approved for installation in Eastern Riverside and Imperial Counties. This project proposal EA represents the Department's first request for the construction of deer drinkers in Riverside County identified in the NECO Plan.

Cumulatively, the existing 37 guzzlers in both Riverside and Imperial Counties have directly impacted less than 1 acre of land, most of which is suitable for the desert tortoise. All of these drinkers were installed before the signing of the NECO Plan. The desert landscape has recovered from the temporary disturbance associated with their construction. If all 108 guzzlers are installed these would directly impact about 3 acres. Indirectly, these guzzlers would alter the existing distribution and abundance of plants and wildlife throughout the area in ways that are

difficult to predict. Areas previously unsuitable for summer use by deer would become occupied during those periods. Improved fawn survival may occur as result of improved water access for does during lactation. This in turn could lead to a larger deer population when water is the limiting factor. Increased browse pressure could occur in areas in close proximity to the guzzlers; however, recent studies have been unable to quantify forage biomass reductions as a result of existing guzzlers (Marshall 2006). At some point free water may cease to be the limiting factor and available forage or thermal cover may prevent increases in the deer population.

Additional cumulative impacts related to guzzler installation could include changes in the insect and plant community pollinated by them. For example, European honeybees often drink from these guzzlers. These bees then pollinate plants in the surrounding area. Potentially those plants pollinated by the bees could increase in relative abundance over the years; however recent research such as that conducted by Rosenstock *et al.* (2004) dispels that notion. The potential effect of displacement of native bees by increased populations of honeybees is unknown.

Other potential effects could include changes in the abundance and distribution of ravens or burros, which are often found in close association with water. Some ravens are known to prey upon juvenile tortoises and a potential for elevation of raven populations from guzzler installation exists because ravens may be drawn to the water. Raven densities are low in this part of Riverside and Imperial Counties and the guzzlers will likely have minimal impact on raven densities in adjacent parts of the desert because water is not recognized as one of the top factors leading to raven distribution in the desert (Boarman 2002). The observed low density of ravens in this portion of the desert is also supported by CDFG water source photography data from eastern Riverside and Imperial Counties. Photographs collected from 1995 to 2005 show the presence of ravens in only 19 of 11,187 wildlife photos (N. Andrew, CDFG, in preparation). Neither is there evidence that raven densities have increased around artificial water sources for wildlife similar to those installed and proposed, nor that the construction of these water sources would result in greater raven numbers.

Coyotes and other predators may increase in number near guzzlers and prey on desert tortoises. Such questions about predator densities and distribution relative to water sources have been addressed and answered by researchers, such as Rosenstock *et al.* (1999 and 2004). Coyotes are the most likely predators to be found in this portion of the desert in Riverside and Imperial Counties. Rosenstock *et al.* (2004) found that radio collared coyotes were no more likely to be found at water sources than other random points in coyote habitat. This holds true for other wildlife species known to access guzzlers including birds of prey, bobcats, foxes, and ringtails. The impact of new water sources relative to predation is expected to be minimal.

The project sites are outside any recognized HMA, but burros have been seen using various existing water sources including the springs, guzzlers and the Coachella Canal. Therefore an unintentional consequence of the proposed guzzlers may be a further expansion of burros' numbers and range.

BLM will be contacted for burro removal after each observation within the project area.

If burros are detected using any new water source(s) a burro exclusion fence could be installed. However, the Department would request the removal of burros from non-HMA lands before installing fencing.

Cumulative impacts associated with the construction and maintenance of these water sources, will have little impact on the abundance and distribution of plants and wildlife in eastern Riverside and Imperial Counties.

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