FINDING OF NO SIGNIFICANT IMPACT

El Centro Field Office

EA Number: CA-670-2009-20

Case File No: N/A

Proposed Action Title/Type: Two Wildlife Guzzlers for All-American Canal Lining Project (AACLP)

Applicant/Proponent: Imperial Irrigation District (IID) and Desert Wildlife Unlimited

Location of Proposed Action: Imperial County, CA.

TUMS Tank	32 Degrees; 50 Minutes; 47.5 Seconds North Latitude 114 Degrees; 52 Minutes; 03.4 Seconds West Longitude
AFRICA Tank	32 Degrees; 54 Minutes, 13.6 Seconds North Latitude 114 Degrees; 56 Minutes; 05.1 Seconds West Longitude

Conformance with Applicable Land Use Plan(s):

The proposed action and alternatives are in conformance with the following approved land use plans, as required by 43 CFR 1610.5.

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…"

Northern and Eastern Colorado Desert Coordinated Management Plan and Final Environmental Impact Statement, 2002. Chapter 2, Section 2.3.2, pages 2-50 and 2-51.

Summary of Alternatives:

The proposed action, Alternative A, allows for the construction and maintenance of

2 big game guzzlers.

Alternative B is the no action alternative. Under this alternative, no big game guzzlers would be constructed.

Rationale and Management Considerations:

Alternative A is preferred over Alternative B for the following reasons:

- Alternative A most closely conforms to the action item goals in CDCA and NECO.
- Alternative A provides a water source for big game animals away from canals and will enhance wildlife habitat.
- With the mitigation measures listed below, the adverse environmental impacts of Alternative A are not significant and will only be nominally greater than those attributable to Alternative B.

Description of Mitigation Measures:

The following mitigation measures shall be applied to ensure there are no adverse impacts to Desert Tortoise. These measures were developed based on the Biological Opinion for Small Disturbances in Desert Tortoise Habitat (August 22, 1997 1-8-97-F-17) and recommendations from FWS:

a. The following mitigation measures 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.

c. 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.

d. Cross-country access shall be the standard for temporary activities. There will be no construction of new roads. 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. Driving off route is not permitted for routine inspection of the guzzlers. Subsequent maintenance may require vehicle use and thus will require restoration of temporary impacts.

e. 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.

f. 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.

g. 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.

h. If a dead or injured tortoise should be found, 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.

i. Except on county maintained roads, vehicle speeds shall not exceed 10 miles per hour through desert tortoise habitat.

j. 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.

k. No dogs shall be allowed at a work site.

l. 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.

m. 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.

n. 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.

Consultation and Coordination:

The Bureau of Land Management has worked collaboratively with the Imperial Irrigation District and Desert Wildlife Unlimited for the development of the environmental assessment. Since the proposed guzzler locations are within Desert Tortoise habitat, BLM initiated informal consultation with the United States Fish and Wildlife Service and they provided input into the EA and some mitigation measures. USFWS concurred with BLM's determination of not likely to adversely affect and no adverse modification on March 10, 2009 and July 20, 2009 (personal communication with Tannika Engelhard).

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determined that the proposed action with the mitigation measures described above and below will not have any significant impacts on the human environment and that an EIS is not required. I have determined that the proposed project is in conformance with the approved land use plans.

Environmental impacts associated with the proposed action and alternatives have been assessed by an interdisciplinary team and described in Environmental Assessment (EA) CA-670-2009-20. The context of the EA was determined to be at a local and regional scale in Imperial County, California. The effects of the action are not applicable on a national scale since no nationally significant values were involved.

In making this Finding of No Significant Impact (FONSI), the following criteria have been considered, in accordance with the Council on Environmental Quality (CEQ), 40 CFR. 1508.27:

1. *Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.*

   Beneficial Effects: Increased access and habitat enhancement for many animals, including deer.

   Adverse Effects: A small area will be altered to build the guzzlers. Minimal amounts of common plants will be removed. Dust and noise levels could be temporarily increased.

2. *The degree to which the proposed action affects public health, safety and sanitation.*

   The proposed project will have no effect on public health and safety other than the beneficial aspect of increased availability for water for deer and other wildlife.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

   The construction of these big game guzzlers will not occur in proximity to park lands, prime farmlands, wild and scenic rivers, or ecologically critical areas. The proposed project has been sited so as to avoid cultural or historic resources.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

   It is not likely that construction of the guzzlers will result in impacts to the quality of the human environment that will be highly controversial. The areas in which the guzzlers will be sited are currently used for wildlife viewing, off-highway vehicle recreation and camping. These uses will continue by similar numbers of people. These guzzlers are not going to be constructed in wilderness.

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risk.*

   Effects of the proposed action are well understood and will not involve any unique or unknown risks.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

   The proposed action will not establish precedents for future actions or represent a decision in principle about a future action.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.*

   Cumulative impacts of the proposed action on the environment will not be significant or related to any other action with significant cumulative impacts. There are no large projects in the area to which this small guzzler project will contribute adversely.

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

   No significant scientific, cultural or historical resources will be affected by the proposed action.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

   Desert Tortoise occurs throughout the project area. BLM has implemented mitigation measures to minimize risk to the Desert Tortoise. Because of these mitigation measures, BLM determined that this project is not likely to adversely affect Desert Tortoise or adversely modify habitat. USFWS concurred with BLM's determination of not likely to adversely affect and no adverse modification on March 10, 2009 and July 20, 2009 (personal communication with Tannika Engelhard).

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*

    The proposed action does not threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

Based on the findings discussed herein, I conclude that the proposed action is not a major Federal action and will result in no significant impacts to the environment. Preparation of an environmental impact statement to further analyze possible impacts is not required pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969.

Administrative Remedies

Administrative remedies may be available to those who believe they will be adversely affected by this decision. Appeals may be made to the Office of Hearings and Appeals, Office of the Secretary, U.S. Department of Interior, Board of Land Appeals (Board) in strict compliance with the regulations in 43 CFR Part 4. Notices of appeal must be filed in this office within 30 days after publication of this decision. If a notice of appeal does not include a statement of reasons, such statement must be filed with this office and the Board within 30 days after the notice of appeal is filed. The notice of appeal and any statement of reasons, written arguments, or briefs must also be served upon the Regional Solicitor, Pacific Southwest Region, U.S. Department of Interior, 2800 Cottage Way, E-1712, Sacramento, CA 95825.

Reviewed By: /s/ Carrie Simmons Date: 8/13/09
Carrie Simmons, Acting Environmental Coordinator

Approved By: /s/ Vicki L. Wood Date: 8/19/09
Vicki L. Wood, Field Manager

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
El Centro Field Office
1661 S. 4th Street
El Centro, CA 92243
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August 2009

Two Wildlife Guzzlers for All American Canal Lining Project (CA-670-2009-20)
Decision Record

1.0 Introduction and Background

Like many other species of desert wildlife, desert bighorn sheep and mule deer need drinking water and are attracted to water during drier and/or 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.

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the guzzler construction proposed by the Imperial Irrigation District and Desert Wildlife Unlimited. The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action.

2.0 Decision

2.1 Alternatives Considered but not Selected

Under the No Action alternative, no guzzlers would be built. This alternative would not conform to NECO and the CDCA Plan.

2.2 Decision and Rationale

Based on information in the EA, the project record, and consultation with my staff, I have decided to implement the project as described in the EA.

Development of these water sources would help satisfy the mitigation objectives of the Environmental Commitment Plan and Addendum to the 1994 EIS/EIR for the AACLP which identifies six (6) alternatives to mitigate for the presence of deer along the proposed concrete-lined parallel AAC. A combination mitigation approach (Mitigation Alternative 6 consisting of two or more of the mitigation alternatives in the ECP & Addendum) was selected consisting of

the construction of two rainfall catchment type animal drinkers in the desert north, northeast of the construction zone and exclusion fencing to be installed in the area of deer usage.

The construction of these guzzlers is needed to provide supplemental water for habitat improvement. The project is not expected to adversely impact any resources.

3.0 Consultation and Coordination

Since the project area has been identified as Desert Tortoise habitat, informal consultation with USFWS was initiated. BLM found that the project may affect, but is not likely to adversely affect Desert Tortoise. USFWS concurred with BLM's determination of not likely to adversely affect and no adverse modification on March 10, 2009 and July 20, 2009 (personal communication with Tannika Engelhard).

4.0 Plan Consistency

Based on information in the EA, the project record, and recommendations from BLM specialists, I conclude that this decision is consistent with the 1980 California Desert Conservation Plan (as amended), the Northern and Eastern Colorado Desert Routes of Travel Designations (NECO), the Endangered Species Act, the Native American Religious Freedom Act, other cultural resource management laws and regulations, Executive Order 12898 regarding Environmental Justice, and Executive Order 13212 regarding potential adverse impacts to energy development, production, supply and/or distribution.

5.0 Administrative Remedies

Administrative remedies may be available to those who believe they will be adversely affected by this decision. Appeals may be made to the Office of Hearings and Appeals, Office of the Secretary, U.S. Department of Interior, Board of Land Appeals (Board) in strict compliance with the regulations in 43 CFR Part 4. Notices of appeal must be filed in this office within 30 days after publication of this decision. If a notice of appeal does not include a statement of reasons, such statement must be filed with this office and the Board within 30 days after the notice of appeal is filed. The notice of appeal and any statement of reasons, written arguments, or briefs must also be served upon the Regional Solicitor, Pacific Southwest Region, U.S. Department of Interior, 2800 Cottage Way, E-1712, Sacramento, CA 95825.

The effective date of this decision (and the date initiating the appeal period) will be the date this notice of decision is posted on BLM's (El Centro Field Office) internet website.

/s/ Vicki L. Wood — 8/19/09

Vicki L. Wood, Field Manager — Date
El Centro Field Office

Environmental Assessment

Two Wildlife Guzzlers For The All-American Canal Lining Project (AACLP)

Environmental Assessment
Number CA-670-2009-20

Bureau of Land Management
California State Office
California Desert District
El Centro Field Office

August 2009

ENVIRONMENTAL ASSESSMENT

EA Number: CA-670-2009-20

El Centro Field Office, California Desert District, Bureau of Land Management

PROPOSED ACTION TITLE/ TYPE:

Construction of Two (2) Wildlife G uzzlers in Imperial C ounty to mitigate/prevent w ildlife visitation to the new concrete-lined All-American Canal.

APPLICANT / PROPONENT:

Imperial Irrigation District (IID) and Desert Wildlife Unlimited (DWU).

LOCATION OF PROPOSED ACTION:

TUMS Tank	32 Degrees; 50 Minutes; 47.5 Seconds North Latitude 114 Degrees; 52 Minutes; 03.4 Seconds West Longitude
AFRICA Tank	32 Degrees; 54 Minutes, 13.6 Seconds North Latitude 114 Degrees; 56 Minutes; 05.1 Seconds West Longitude

Background:

The All-American Canal (AAC) connects the Imperial Irrigation District (IID) to the Colorado River. Approximately 3.1 million acre-feet of Colorado River water is delivered annually through the All-American Canal to the IID and about 500,000 acres of agricultural lands throughout the Imperial Valley (IID 2006). The Bureau of Reclamation concluded that an estimated 67,000 acre-feet per year of water is lost due to seepage along a 23-mile section of the AAC running through the sand dunes from Pilot Knob to Drop 3 (IID 2006). To prevent loss of water by seepage and in accordance with the 1994 EIS/EIR for the project, the IID is constructing a new concrete-lined canal parallel to the existing AAC along the 23-mile section from one-mile west of Pilot Knob to Drop 3.

Deer and other wildlife are attracted to canals as a water source. With the new concrete liner in place, wildlife could become trapped in the canal and drown.

Purpose and Need:

The purpose of the proposed action is to provide deer with permanent, reliable water sources to replace water sources made unavailable by the All American Canal Lining Project (AACLP). Providing guzzlers (wildlife drinkers) for wildlife at two locations (Figure 1) in eastern Imperial County would mitigate the potential for wildlife to seek out water and drown in the new concrete-lined AAC. Development of these water sources would help satisfy the mitigation

objectives of the Environmental Commitment Plan and Addendum to the 1994 EIS/EIR for the AACLP which identifies 6 alternatives to mitigate for the presence of deer along the proposed concrete-lined parallel AAC. A combination mitigation approach (Mitigation Alternative 6 consisting of two or more of the mitigation alternatives in the ECP & Addendum) was selected consisting of the construction of two rainfall catchment type animal drinkers in the desert north, northeast of the construction zone and exclusion fencing to be installed in the area of deer usage.

LAND USE PLAN CONFORMANCE:

The proposed action and alternatives are in conformance with the following approved land use plans, as required by 43 CFR 1610.5.

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

> *Wildlife Objective #1* 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."
>
> *Wildlife Objective #2* in part, is to "Develop and implement detailed plans to provide special management for: "b) areas with habitat which is sensitive to conflicting uses…"

Northern and Eastern Colorado Desert Coordinated Management Plan and Final Environmental Impact Statement, 2002. Chapter 2, Section 2.3.2, pages 2-50 and 2-51:

Desert Mule Deer Management--Goals and Objectives

Desert mule deer is a native species. It is included in this section primarily because it is managed as a game species and because artificial waters are considered a critical tool for its management within the arid southeastern portion of California.

The Desert Mule Deer Strategy also applies to the proposed action.

The objective of this effort is to:

a. provide for the aesthetic, educational, and recreational uses of desert mule deer, to be accomplished by improving habitat availability for deer with a resulting increase in individual and herd health.

PROJECT ALTERNATIVES

Alternative A: Proposed Action

The IID proposes to construct two DWU style water sources (Lesicka and Hervert, 1995) to be

named Tums and Africa Tanks. 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 both construction sites would be less then ¼ acre. The permanent disturbance at each location would be slightly different based upon unique environmental conditions at each site.

The proposed drinkers would be equipped with a roughened ramp as well as steps to allow tortoises and other animals to climb out.

Additionally, during twice annual checks of the guzzlers, any tamarisk found would be removed in an effort to prevent and reduce tamarisk infestations.

During the construction process the following cultural resource stipulations apply:

A. Pursuant to 43 CFR 10.4 the holder of this authorization or its contractor must notify the BLM El Centro Field Office (760-337-4400), by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the Field Office. Protective and/or mitigation measures specified by the Field Office may be required.

B. The holder of this authorization is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts.

C. Previously undiscovered archaeological remains uncovered during any ground disturbing activities will be managed pursuant to regulations at 36 CFR 800.11. If historic or archaeological materials are uncovered during any project or construction activity, the holder of this authorization or its contractor must stop work in the area of the discovery that might further disturb such materials, and immediately contact the Field Office. These finds may include, but are not limited to, paleontological fossils, stone chips or flakes and other stone artifacts, soil containing shell, faunal remains and/or heat-altered rock, pottery, historic trash dumps, or other cultural features. Within five working days the Field Office will inform the holder as to the protective and/or mitigation measures the operator will likely have to undertake before the site can be used (assuming in place preservation is not necessary). These measures shall be the responsibility of the holder.

Pre-Construction

The project area would be flagged. Immediately prior to construction, the site must be surveyed for desert tortoise by a qualified biologist authorized by the BLM to ensure that construction activities do not disturb any tortoises.

Site Excavation

A trench measuring 60 feet by 15 feet 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 site 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 this dam would require mixing of cement. The construction material storage site 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.

Storage Tank and Drinker

The 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.

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.

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 rubber-tired backhoe and 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.

Post Construction Activities

Flagging would be removed upon project completion. 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.

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.

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 pellet transects,

photographic data, and guzzler operation (water levels, inspection of facility). Monitoring would occur at least twice annually. 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. The BLM would provide copies of these annual summaries to the FWS' Carlsbad Fish and Wildlife Office upon receipt from CDFG/agents. 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, BLM and FWS.

Repair and Refill

The anticipated lifespan of each 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.

Alternative B: No Action

The wildlife water developments would not be built.

AFFECTED ENVIRONMENT

General Area Description:

The two drinker sites were selected by California Department of Fish and Game (CDFG) and are dispersed through an area of low desert (300 to 800 feet above sea level) east of the Algodones Dunes, west and north of the Cargo Muchacho Mountains, and southeast of the Chocolate Mountains. The drinker sites are accessible from the Ogilby Road corridor. The area consists of flats and gradually sloping bajadas supporting a complex mosaic of open desert scrub, sand/desert pavement, and numerous seasonal washes supporting microphyll woodland (Desert Dry Wash Woodland, *sensu* Holland 1986).

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.

The desert scrub consists of a sparse mixture of creosote bush (*Larrea tridentata*), burro bush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), ocotillo (*Fouquieria splendens*), box-thorn (*Lycium* sp.), cholla (*Cylindropuntia* sp.), and smoke tree (*Dalea spinosa*). Shrub cover is generally less than about 20% in the open desert.

The Ogilby area is administered and managed by the U.S. Bureau of Land Management (BLM) and current land uses are mining, utility right-of-ways and substations, natural resource conservation and mixed recreational use, including hunting, camping, four-wheel drive vehicle operation, and wildlife viewing. Several relatively small BLM Areas of Critical Environmental Concern occur northwest, northeast, southwest, and southeast of the area of proposed drinker sites, but none are within three miles of any of the specific sites.

Both drinker sites are located at the periphery of an active wash channel, typically on or immediately adjacent to small tributary channels. Both were located in the major, predominantly sandy channel bottoms.

Although both of the drinker sites occur in the same basic vegetation types, a description of the centers and 100-meter buffer zones of each is provided here. Ground-level views of each site are provided below.

Habitat Description of Each Guzzler:

Tums Tank (center: 32^{o}, 50', 47.5" N; 114^{o}, 52", 3.4" W; elevation 370 feet)**:**

Accessible by road only as far as Ted Kipf Road; the remainder of the approach is via the sandy wash. The center of the location occurs on the edge of a wide, sandy terrace within the broad, braided Tumco Wash (Photograph 6). This is the most heavily wooded of the two sites: relatively dense, tall (to 10 meters) mixed microphyll woodland occurs in wide swaths to the northwest and southeast. The wash channels support shrubs such as catclaw acacia and sweet bush.

Africa Tank (center: 32^{o}, 54', 13.6" N; 114^{o}, 56", 5.1" W; elevation 420 feet)**:**

Accessible by road only as far as Ted Kipf Road; the remainder of the approach is via the sandy wash. The center of the location is between two small, shallow channels near the southeast edge of a braided wash system (Photograph 5). This is the least wooded of the two sites, supporting only sparse growth of ironwood with fewer palo verde. Trees are four to six meters tall. Sparse desert scrub occurs on the surrounding flats. Many rodent burrows occur in the vicinity. Additionally, a cluster of three to five dome-shaped burrows was found approximately 50 meters southwest of the center, suggesting the possible occurrence of desert tortoise (*Gopherus agassizii*). No animals were seen at the burrows but the shapes appeared appropriate for this species and the excavations appeared to be recent.

Air Quality:

The Imperial County 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 locally generated and/or wind transported pollutants.

Cultural Resources:

Background Research

Prior to the archaeological field survey of the locations for the 2 proposed drinkers, a cultural resources records and literature search of documents and maps on file at the South East Information Center (SEIC) was conducted by the ASM Affiliates in September 2008 (Report titled "A Class I Cultural Resources Inventory of Five Proposed Wildlife Drinker Sites for the All-American Canal Lining Project, Imperial County, California"-Confidential). Current site and project information available in the CHRIS Geographical Information System inventory was also examined for known and recorded sites and surveyed areas located within the vicinity of the area of potential effect (APE). The SEIC records search identified 52 previously recorded cultural resources within a 1-mile radius of the originally proposed five drinker locations. Table 3 in the Report summarizes these resources and their distances from the proposed drinkers. The cultural resources record search information for the two proposed tanks analyzed in this environmental assessment is briefly discussed below.

Tums Tank

Five previously recorded resources lie within 1 mile of Tums. None is closer than approximately 1500 feet from the proposed drinker location. The resources include P-13-003424, the historic Southern Pacific railroad line; P-13-003614, a small pile of historic bottle fragments and crockery; P-13-004149, an isolated historic wine bottle base; P-13-009558, a scatter containing seven sherds of aboriginal buffware pottery; and P-13-009607, a scatter with 15 shards of aboriginal brownware pottery.

Africa Tank

Two resources have previously been recorded within 1 mile of Africa. Both are no closer than approximately 2400 feet from the drinker location. These resources include P-13-003424, the historic Southern Pacific railroad line, and P-13-005077, a prehistoric low-density lithic scatter.

Native American Religious Concerns:

The Quechan Indian Tribe and the Cocopah Indian Tribe, two Native American tribes with traditional ties to the project area, have been informed of the proposed project and informally invited into consultation. BLM requested their assistance in identifying any issues or concerns regarding the construction of the wildlife guzzlers. No concerns were expressed to the BLM regarding this project.

Pursuant to 43 CFR 10.4 the holder of this authorization or its contractor must notify the BLM El Centro Field Office (760-337-4400), by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the Field Office. Protective and/or mitigation measures specified by the Field Office may be required.

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.

Botany:

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 microphyll woodland areas within the washes and creosote scrub/desert pavement between the washes. Dominant species found within the microphyll woodland areas include blue palo verde (*Cercidium floridum*), ironwood (*Olneya tesota*), and smoke tree (*Psorothamnus spinosus*). Dominant species found within the creosote scrub areas include creosote bush (*Larrea tridentata*) and brittle bush (*Encelia farinosa*).

The microphyll woodland in this area occurs on the banks of washes and consists of trees of palo verde (*Cercidium floridum*) and ironwood (*Olneya tesota*). The wash channels are either unvegetated sand or support scattered shrubs such as catclaw acacia (*Acacia greggii*), sweet bush (*Bebbia juncea*), and desert lavender (*Hyptis emoryi*). Many trees in this vegetation type support large growths of mistletoe (*Phoradendron* sp.). The density of microphyll woodland on wash margins is variable, from scattered, isolated trees to localized lines of trees providing nearly 100% cover. Generally, the woodland cover is discontinuous.

Microphyll woodland habitats in the project area tend to be fairly tall in height, with trees dispersed and spaced fairly far apart. Many of the washes within this region are lined with microphyll woodlands which are of special importance to wildlife and yield a high diversity. Microphyll woodlands are defined as subtropical leguminous forest. 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. BLM is responsible for management of over 90 percent of the microphyll woodlands in the U.S.

Creosote bush scrub habitats in the project area, on the other hand, tend 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.

Special status plants that occur in or near the project area include fairy duster (*Calliandra eriophylla*), Munz's cholla (*Opuntia munzii*) and saguaro (*Carnegiea gigantea).* No Munz's cholla or Saguaro were detected during field surveys, but may exist nearby.

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.

Listed / Sensitive Wildlife Species:

Sensitive wildlife species are those which, based on a combination of distribution, habitat, threats, and the best information on population trends, warrant special conservation status, ranging from federal and state endangered / threatened listing to preliminary concern designations by local or regional offices of land management agencies (e.g., Bureau of Land Management).

No federal or state listed species were definitively found on the September 12, 2008 field assessment. However, possible burrows of the federally and state threatened desert tortoise were located at the Africa drinker site. Furthermore, several documented locations of this species (U.S. Fish and Wildlife Service 2008) occur within four miles of each of the proposed drinker sites.

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. This region typically supports a higher diversity of wildlife than many other parts of the Colorado Desert. The hydrology in this area promotes development of microphyll woodlands within the extensive wash systems throughout the region. 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.

This area is 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 cat-claw in the washes provide excellent cover and foraging habitat for neo-tropical migrants. In 2001 microphyll woodlands were designated as an important bird area by the National Audubon Society.

TABLE 1: WILDLIFE SPECIES OBSERVED/DETECTED IN THE OGILBY AREA

Common Name	Scientific Name	Status	Evidence of Occurrence
Invertebrates (Nomenclature from Mattoni 1990 and Opler and Wright 1999)			
Common Sootywing	*Pholisora catullus*		O
Eufala Skipper	*Lerodea eufala*		O
Reptiles (Nomenclature from Collins 1997)			
Desert Tortoise	*Gopherus agassizii*	FT	D?
Zebra-tailed Lizard	*Callisaurus draconoides*		O
Side-blotched lizard	*Uta stansburiana*		O
Western whiptail	*Cnemidophorus tigris*		O
Birds (Nomenclature from American Ornithologists' Union)			
Turkey vulture	*Cathartes aura*	SDC	O
Red-tailed hawk	*Buteo jamaicensis*		O
Mourning dove	*Zenaida macroura marginella*		O
Ringed Turtle-dove	*Streptopelia risoria*		O
Great horned owl	*Bubo virginianus*		O
Lesser nighthawk	*Chordeiles acutipennis texensis*	SDC	O
Say's phoebe	*Sayornis saya*		O
Warbling vireo	*Vireo gilvus swainsonii*		O
Verdin	*Auriparus flaviceps acaciarum*		O
Rock wren	*Salpinctes obsoletus obsoletus*		O
Black-tailed gnatcatcher	*Polioptila melanura*		O
Orange-crowned warbler	*Vermivora celata*		O
Mammals (Nomenclature from Jones et al. 1982)			
Coyote	*Canis latrans*		C
Desert kit fox	*Vulpes macrotis*		D?

Wild Horses and Burros:

Wild burros occur in the on public lands and wilderness areas to the east and northeast of the project area along the Colorado River. Currently there are no burros in the project area due to

the lack of water; however it is possible that burros could move into the area with the establishment of permanent water that would be provided by these guzzlers.

Wastes (hazardous/solids):

There are no known hazardous wastes at the five 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 or wilderness study 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. These guzzlers would be located adjacent to the Imperial Sand Dunes Recreation Area (ISDRA). The ISDRA is the most highly visited OHV recreation area in the United States, with visitation frequently exceeding 200,000 people on holiday weekends during the winter.

Visual Resources:

The project area is characterized by relatively flat land, with desert washes interspersed throughout. The Chocolate Mountains are visible to the east, and the Imperial Sand Dunes are visible to the west from the project area(s).

ENVIRONMENTAL IMPACTS

Table 2 summarizes potential impacts to various elements of the human environment.

TABLE 2: ELEMENTS OF THE HUMAN ENVIRONMENT

Element	Not Present	Not Affected	Possibly Affected
Air Quality*		x	
Areas of Environmental Concern *	x		
Cultural Resources*			x
Native American Religious Concerns*		x	
Environmental Justice		x	
Prime or Unique Farmlands*	x		
Floodplains*		x	
Botany			x
Invasive, non-native species			x
Threatened or Endangered Species*			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			x

Completion of the proposed project would have positive effects upon such limiting factors as:

- Limited available water,
- Reduced access to AAC water,
- Reduced access to foraging habitat,
- Global environmental change (demonstrated increases in temperature and decrease in precipitation)

The need for water development:

- Provide wildlife access to water.
- Prevent wildlife from drowning in the new concrete lined canal.

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 (Andrew et al, 2001).

Air Quality:

Proposed Action

There would be negligible air quality disturbance by dust and vehicle emissions during initial construction of the proposed action. Best management practices would be employed to keep dust emissions at a minimum during construction.

No Action

Since the project would not be implemented, there would be no impacts to air quality.

Cultural Resources:

Proposed Action

The cultural context along with identification and evaluation efforts for the proposed project are described in a report entitled *A Class III Cultural Resources Survey of Three Proposed Wildlife Guzzlers, Imperial Irrigation District, All-American Canal Lining Project (AACLP), Imperial County, California*, prepared by Jerry Schaefer and Arleen Garcia-Herbst (ASM Affiliates, April 2009). No historic properties were identified at the Tums and Africa guzzler locations.

The BLM has determined that the overview and inventory efforts are adequate to identify historic properties on public lands that might be affected by this undertaking. No historic properties were identified within the APE on public lands for this undertaking and the BLM staff archaeologist has recommended that the construction of the two proposed guzzlers would have no effect on historic properties.

Pursuant to the State Protocol Agreement between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer (2007) and in accordance with 36 CFR Part 800, the BLM has reviewed this undertaking, has made a reasonable effort to identify historic properties that may be located within the Area of Potential Effect (APE), and has assessed the effect of this undertaking on historic properties. The BLM has found that there will be no historic properties affected by this undertaking.

No Action

Since the project would not be implemented under this alternative, there would be no impacts to cultural resources.

Botany:

Proposed Action

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 and 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. There could be an increase in consumption of forage by deer as their populations increase in size and distribution with the addition of new guzzlers. Consumption will be greatest nearest the water source. Because these native ungulates, in even greater numbers in the past, have coexisted with the native plant community, effects, if any, on community structure or composition would be sustainable.

No Action

The no action alternative would result in no impacts to plant life as animal movement and foraging habits would not be altered.

Invasive/Non Native Species:

Proposed Action

The primary impact of guzzlers on invasive species is the spreading of seeds for these invasive plant species. As animals move to and from the drinkers and as construction occurs, seeds of invasive species could be picked up and transported. 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 (*Tamarix* spp.) in the vicinity of the proposed guzzlers. It is possible that if water is spilled from the drinkers or if the tank leaks there could be enough water to support tamarisk to grow. However, during twice annual checks of the guzzlers, any tamarisk found would be removed thus there would be no additional infestations resulting from this development.

No Action

Under this alternative, impacts from non-native species are not anticipated.

Threatened or Endangered Species:

Proposed Action

The installation of the guzzlers would occur in desert tortoise habitat. Both tanks are located outside desert tortoise critical habitat but a potential burrow was identified during the wildlife/habitat surveys.

Construction of the guzzlers would result in temporary disturbance to the sites from construction related activities; noise, dust, etc. 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 big game guzzlers in this region for signs of drowned tortoises. This study found no tortoise remains. Hoover (1996) in a similar study of 86 small game drinkers (of a different design) 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 and other animals to climb out. Because of the escape ramp and standard mitigation measures used for construction and maintenance, including project area clearance of tortoises, monitoring during construction, construction employee education, and trash collection, this project is not likely to adversely affect desert tortoises or adversely modify critical habitat.

Ravens can be attracted to water sources, such as big game guzzlers. The common raven is a predator whose diet is supplemented by human trash, which attracts them to areas of the desert where they become predators 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). However, water source photography taken between 1995 to 2002 in eastern Riverside and Imperial counties showed only 19 ravens among 11,187 wildlife photographs (N. Andrew, CDFG, in preparation). 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 of 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 Glamis (McKernan 1995). The construction of the two guzzlers is not anticipated to increase raven presence in the immediate area.

BLM has determined that the installation and maintanance of the two guzzlers (Tums and Africa) are not likely to affect desert tortoise or adversely affect critical habitat. Informal consultation with FWS was initiated by BLM for this project and FWS concurred with BLM's determination by email on March 10, 2009 and July 20, 2009.

No Action

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

Wildlife including Migratory Birds:

Proposed Action

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.

No Action

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 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 compared to the proposed action.

Wild Horses and Burros:

Proposed Action

No wild horses are known from the project area. Wild burros are known to occur near the project area. Wild burros are anticipated to be unaffected by installation of the two guzzlers. However, if burros are detected during regular monitoring they would be excluded by fencing in order to provide water for mule deer.

No Action

The no action alternative would result in a continued lack of permanent waters in this area.

Wetlands/Riparian Zones:

Proposed Action

There are no wetlands or riparian zones in the project area; however these guzzlers would be located within desert washes. This desert wash habitat hosts a relatively lush vegetative environment compared to the surrounding desert lands. Infrequent flooding of these washes during rain events support a greater abundance of trees and shrubs. Initial construction could result in some damage to vegetation in the construction area. The guzzlers would be located to minimize vegetation damage. Vegetation disturbance would be limited to the minimum amount possible. No removal of trees would be necessary.

No Action

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

Recreation:

Proposed Action

The recreation in this area consists of dispersed uses such as OHV recreation, hunting, hiking, camping, and wildlife viewing. High intensity OHV recreation occurs within the ISDRA, however few riders venture east of the Union Pacific Railroad line. 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. Improvements to wildlife populations in the region could benefit ISDRA visitors by giving them the opportunity to experience more wildlife encounters.

No Action

The no action alternative would result in a continued lack of permanent waters in this area which, compared to the proposed action, 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 Resources:

Proposed Action

The proposed action is anticipated to have a low visual impact, since the system is completely buried, except for the drinker and small dam (and occasionally short sections of pipe which are exposed at ground level). Visual impacts would only be slightly greater under the proposed action alternative as compared to the no action alternative.

No Action

The no action alternative would have no impacts to visual resources.

Cumulative Impacts:

A total of thirty-seven big game guzzlers have been constructed in eastern Imperial County as of July 2003. These supplement 9 natural springs and 22 tenajas, most of which do not hold water continuously. An additional 44 guzzlers (including the five covered by this EA) are planned for installation in Eastern Imperial County under the terms of NECO (BLM 2002).

Cumulatively, these 37 guzzlers have directly impacted about 1 acre of land, most of which is suitable for the desert tortoise. The desert landscape has recovered from the temporary disturbance associated with their construction. If all 81 guzzlers authorized under NECO are installed these would directly impact about 2 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.

Air Quality:

In addition to the negligible air quality disturbance that is anticipated with the proposed project, air quality could also be affected in the area of the proposed guzzlers due to traffic on Ted Kipf Road, and Walker Road, as well as recreational off-highway vehicle use in the Imperial Sand Dunes Recreation Area. These impacts are not expected to be substantial, and are expected to be brief in nature.

Botany:

In addition to the expected increase in plant consumption in the immediate vicinity of the proposed guzzlers and the minimal loss of vegetation that is expected during construction of the proposed guzzlers, botanical species could also be impacted by increased trampling in the immediate vicinity of the two guzzlers. Cumulative impacts to botanical species in the area of the proposed guzzlers are minimal, and the two proposed guzzlers have been sighted so as to avoid any special status plant species.

Invasive/Non Native Species:

In addition to the minimal spreading of invasive species seeds that is expected to occur with the proposed project, whether by animals spreading the seeds, or by accidental seed spreading during construction of the proposed guzzlers, invasive and non-native species could also be impacted by the traffic and "road effect" that occurs along Ted Kipf Road, adjacent to the proposed project area(s). Invasive species could also be spread in the area of the proposed project by being transported down the many desert washes that are found near the project area(s). This spreading is not expected to be any more substantial than the natural spreading of invasive and non-native species seeds.

Threatened or Endangered Species:

Potential effects to desert tortoise could include changes in the abundance and distribution of ravens, 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 have minimal impact on raven and crow densities in adjacent parts of the desert because water is not recognized as one of the top factors leading to corvid distribution in the desert (Boarman 2002).

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). Most ravens in the area are found near Highway 78 and near Glamis, CA where they can feed on human refuse from the Mesquite Regional Landfill. 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.

In addition, 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.

Wildlife including Migratory Birds:

Possible cumulative effects of the proposed project could be that 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 not documented any forage biomass reductions as a result of existing guzzlers (Marshal 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.

Wildlife species known to access guzzlers including birds of prey, bobcats, foxes, and ringtails are no more likely to found at water sources than at other random points of their habitat. The impact of new water sources relative to predation is expected to be minimal. The overall footprint of the proposed guzzler construction (less than ¼ of an acre) is a small amount of wildlife habitat to be disturbed. The benefits of the proposed project (increased water availability for a variety of wildlife species) would help to off-set the minimal loss of wildlife habitat associated with the proposed project.

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.

Wild Horses and Burros:

The proposed project sites are outside any recognized Herd Management Area, 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 (and the numerous guzzlers that have been constructed throughout the desert areas covered by the NECO plan) may be a further expansion of burros' numbers and range.

Wetlands/Riparian Zones:

The proposed dams associated with the water collection system affect water flow downstream by blocking water passage until the impounded water overflows the barrier. These dams are only designed to impound a couple hundred gallons of water (depending on the size and shape of the wash) before it will overflow and water can continue downstream. It is possible that very small rain events may not generate enough water to overflow the dam; however, the amount of water blocked by such an event would only impact a short distance downstream along the wash. These dams would have a positive benefit to nearby vegetation by impounding water and allowing more water percolation into the soil near the dam. This increased moisture will improve water resources for native vegetation in and around the dam sight.

MITIGATION MEASURES

The following mitigation measures 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.

c. 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.

d. Cross-country access shall be the standard for temporary activities. There will be no construction of new roads. 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. Driving off route is not permitted for routine inspection of the guzzlers. Subsequent maintenance may require vehicle use and thus will require restoration of temporary impacts.

e. 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.

f. 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.

g. 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.

h. If a dead or injured tortoise should be found, 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.

i. Except on county maintained roads, vehicle speeds shall not exceed 10 miles per hour through desert tortoise habitat.

j. 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.

k. No dogs shall be allowed at a work site.

l. 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.

m. 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.

n. 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:

Direct impacts to the desert tortoise would be avoided and indirect impacts would be minimized by the application of provisions of the mitigation measures in the biological opinion.

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Figure 1. Proposed Guzzler Locations