

**U.S. Department of the Interior
Bureau of Land Management**

ENVIRONMENTAL ASSESSMENT

DOI-BLM-AZ-C020-2014-0003-EA

**Scaddan Tank Wildlife Water Development
Near Dripping Springs in La Paz County**

Applicant: Arizona Game and Fish Department
Region IV

La Paz County, AZ

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1. CHAPTER 1 - INTRODUCTION

A. Project Location

The proposed project site is located in the Plomosa Mountains (Appendix A) in La Paz County, Arizona. It is located approximately 8.2 miles southeast of the Town of Quartzsite, Arizona (Crystal Hill, AZ: T. 3N R. 18W Sec 11 SW ¼). The Plomosa Mountains run north and south to the East of U.S. Highway 95. Interstate 10 divides the Plomosa Range into a north and south section. The project site is 4.2 miles south of Interstate 10, from exit 26 Gold Nugget Road.

B. Project Background

The southern portion of the Plomosa Mountains ranges in elevation from 1400' near Scaddan Wash to 3402' at Dripping Springs Peak. The topography of the Plomosa Mountains include deep cut washes, bajadas, steep faced cliffs, high peaks and ridges.

The southern Plomosa Mountains run approximately 8.6 miles from Interstate 10 south to the northern boundary of the Kofa National Wildlife Refuge. Within this area there are three perennial water sources; Dripping Springs, a natural seep that has water except in times of extreme drought; Nugget Tank, an improved tinaja at the southwest portion of the New Water Mountain Wilderness; and Brintley Well, a manmade wildlife water catchment (AZGFD #983) located on a lower bajada. All three of these waters are located south of the proposed project site, with the closest being 2.68 miles away. Currently, there are no other perennial waters in the northern half of this area.

The Plomosa Mountains are home to a desert bighorn sheep (*Ovis canadensis mexicana*) population that has historically provided source animals for translocation to other ranges throughout Arizona (i.e. Bighorn Capture plans 2001, 2003, and 2005). Bighorn sheep are surveyed within each Game Management Unit by the Arizona Game and Fish Department (AZGFD) using helicopters on a three year cycle, occasionally more frequent as needed. In the past 20 years, the population of Game Management Unit 44B South reached an estimated high of 133 in 1997, then 120 in 2002, and most recently 85 animals were estimated in 2011. This population has been impacted by on-going drought, predators (mountain lion), and increased recreational and human activities.

C. Purpose and Need for the Proposed Action

Building a perennial water source north of Dripping Springs would provide sheep and other wildlife an alternative water source and help disperse wildlife populations further north across the range and natural resources.

Due to increased human visitation and disturbance at the existing natural water source, the AGFD identified the need to build an alternative wildlife water source in the vicinity of Dripping Springs. The objective for building Scaddan Tank is to create a perennial water source and improve overall habitat value for bighorn sheep and other local wildlife populations. Increased Off Highway Vehicle (OHV) use and human visitation at Dripping springs has decreased the wildlife value of that water source. AGFD has requested the Bureau of Land Management

(BLM) grant AGFD permission to install the proposed new perennial water source that would be known as Scadden Tank.

The purpose of this Environmental Assessment is to evaluate AGFD's proposal and alternatives for determining if BLM should authorize AGFD to build an alternative wildlife water source in the vicinity of Dripping Springs and improve overall habitat value for bighorn sheep and other local wildlife populations.

The need for the Proposed Action is to ensure continued water availability to wildlife in the surrounding area.

D. Decision to be Made

The BLM will decide whether to authorize AZGFD to build the proposed or alternative wildlife water system or not.

E. Scoping and Issues

The Proposed Action was presented to the BLM interdisciplinary team by AGFD on November 27, 2012.

The following scoping issues were identified as present and potentially affected during the project process review:

- Areas of Critical Environmental Concern
- Cultural Resources
- Climate Change (drought concerns)
- Minerals
- Native American Religious Concerns
- Rangeland Health
- Recreation
- Soils
- Threatened & Endangered Species
- Vegetation
- Visual Resources
- Wildlife

BLM YFO received the draft EA from AGFD on March 6, 2014.

2. CHAPTER 2 - PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action (Alternative 3)

The Proposed Action is to develop a perennial wildlife water catchment with an approximate capacity of 7500 gallons about 1 mile west-northwest of the natural seep, Dripping Springs. This system would use modern design and materials including buried PVC pipes with a passive collection point and walk-in drinker. (Appendix C). AGFD's minimum required criteria for the new development location includes: sheep habitat close to Dripping Springs, topographic features to remain roadless, and compatible for buried wildlife water system.

Design Features of the Proposed Action

Scaddan Tank would consist of four parallel buried 24" diameter PVC pipe 80' long and a passively plumbed 30" deep walk-in drinker buried flush with the ground. Water would be collected from a small wash using a 1'x8' rock and mortar dam and a 6" x 50' feed line.

The project would require excavation of a trench 3' deep, by 10' wide, and 80' in length for the main storage. An adjacent excavation of 8'x3' would be made to accommodate the walk-in drinker. Excavation of the trench would be accomplished by using hand tools and hand held power tools. Excavation and installation of the storage pipe, walk-in trough, collection dam and pipeline would take place over 10 days, on two consecutive weekends. With sufficient numbers of volunteers, installation may be accomplished using only the first scheduled weekend.

Due to the weight and size of the material, and ruggedness of the terrain, all materials would be transported to and from the site via helicopter. Volunteers and staff would hike or be ferried by helicopter to the project location.

Disturbance to vegetation would be kept to a minimum. All native plants reasonably capable of being transplanted would be salvaged from the disturbed area and replanted at or near their original site. No saguaro cactus would be disturbed by this project. In addition, all surface rocks in the disturbed area would be salvaged and used to resurface the disturbed area after the remaining fill is contoured to blend with the surrounding terrain. BLM and AGFD staff would closely monitor the site for invasion by non-native flora. The agencies would make every effort to ensure non-native species do not become established at the project sites by inspecting and cleaning equipment of residual soil or vegetation (or life stages thereof), before transportation into the area. All surface rocks with patina would be saved and replaced with proper orientation to minimize visual obtrusion.

Workers would camp outside the project site in a predetermined location agreed to by BLM and AGFD representatives. The entire project is estimated to take approximately 8-10 days to complete, sometime between January 1 and April 1, 2015. All work would occur during daylight.

The development would continue to be inspected periodically to determine water level and condition of materials. It would be monitored relative to effectiveness of the water collection and storage systems and wildlife use. Components of the new catchment system would be maintained and/or replaced as needed by AGFD.

Water should not need to be hauled to the new system after the initial filling, except during times of extreme drought. However, water would be hauled by aircraft to the catchment, when needed, to maintain a consistent source of water for wildlife.

B. No Action Alternative (Alternative 1)

Under the No Action Alternative, development of Scaddan Tank wildlife water would not take place. AGFD would monitor Dripping Springs for additional signs of reduced usage by desert bighorn sheep.

C. Alternatives Considered but Eliminated From Detailed Analysis

Additional development locations were eliminated. Several aerial searches were conducted to locate a suitable development site within close proximity to Dripping Springs. There were few locations within quality sheep habitat that had not experienced extensive mineral exploration or route proliferation. The proposed site was the only site that met all the following AGFD required criteria; sheep habitat close to dripping springs, topographic features to remain roadless, and compatible for buried wildlife water system.

An above ground tank in the same location was also considered but eliminated due to it not following the AGFD required criteria for new developments.

D. Conformance with Land Use Plan

The Proposed Action is in conformance with the *Yuma Field Office Resource Management Plan* (RMP) which was approved on January 29th, 2010. The Proposed Action is in conformance with the applicable RMP because it is specifically provided for in the following RMP decision(s):

AA-093: Coordinate with AGFD and CDFG regarding their management objectives for big game species when YFO management actions may affect those objectives (including development of water catchments).

SM-027: Except for prior existing rights, discretionary Mineral Resource Management and Lands and Realty actions, including but not limited to mineral materials disposals and ROW facilities, would not be authorized inside the Dripping Springs ACEC 640-acre core area. Discretionary actions within the ACEC, but outside of the core area, would be avoided to the extent practicable. Installations of facilities to protect, interpret, or manage ACEC resource values would be allowed within the entire ACEC, including the core area.

SM-020: Provide protection for relevant and important resource values within designated ACECs, including special status species, wildlife, scenic, riparian, and significant cultural resources.

TM-017: Roads traversing bighorn sheep habitat may be closed, limited, or rerouted during the lambing season in specific areas consistent with safety and maintenance requirements of authorized uses in corporation with AGFD and CDFG.

TM-057: Close the Dripping Springs ACEC 640-acre core area around the spring to public use during extreme or severe drought conditions to protect desert bighorn sheep populations, as recommended by AGFD.

WF-009: The undesirable effects to fish and wildlife populations resulting from human activities are minimized, especially during critical life stages, through mitigation of potential impacts.

WF-011: Construct, maintain, restore, redevelop, or enhance wildlife waters to provide perennial water sources for native wildlife species-populations. Water developments would include design features to ensure safety and accessibility to water by wildlife.

WS-024: After completion of BLM-authorized surface disturbing activities, disturbed surfaces would be restored to a natural condition as far as possible.

E. Relationship to Statutes, Regulations, or Other Plans

The Proposed Action is in conformance with the following plans:

U.S. Fish and Wildlife (USFWS) 2000 Strategy, as described in Mountain Sheep Ecosystem Management Strategy for the 11 Western States and Alaska .

Master Memorandum of Understanding between United States Department of the Interior Bureau of Land Management Arizona State Office and State of Arizona, Arizona Game and Fish Commission.

Yuma Field Office La Posa Interdisciplinary Management Plan (IMP) approved on July 1, 1997.

AGFD's Wildlife 20/20 Strategic Plan.

AGFD Capture Plans 2001, 2003, 2005.

3. CHAPTER 3 - AFFECTED ENVIRONMENT

This section describes the existing conditions of the affected environment. The table below summarizes the resources and concerns reviewed for this project. Resources not present within the project study area, as well as those present and not affected, are not discussed. Those resources that have been identified by an interdisciplinary team as present and potentially affected are discussed below.

Resources / Concerns

The following table is a list of resources/concerns that were considered in this Environmental Assessment. Resources/concerns either not present or would not be affected by the Proposed Action will not be addressed further in this Environmental Assessment.

PROJECT RESOURCE REVIEW				
Resources & Programs Considered	Not Present	Present and Not Affected	Present and/or Potentially Affected	Rationale
Air Quality*	X			Project Area not within a PM10 Attainment Area, so air quality is not analyzed in this document.
Areas of Critical Environmental Concern			X	See Section 3.1 for analysis
Climate Change			X	See Section 3.2 for analysis
Cultural, Historic & Paleontological Resources*			X	See Section 3.3 for analysis
Environmental Justice*	X			No minority or low income group would be disproportionately impacted by health or environmental effects.
Farmlands (Prime or Unique)	X			There are no prime or unique farmlands in the project area.
Fish Habitat*	X			There is no fish habitat in the project area.
Floodplains*	X			There are no floodplains in the project area.
Fuels/Fire Management	X			There is no history of wildfires within the project area.
Grazing	X			There is no grazing within

				the project area.
Invasive & Non-Native Species			X	See Section 3.9 for analysis.
Lands & Realty	X			There are no existing Lands and Realty authorizations.
Migratory Birds*			X	See Section 3.11 for analysis.
Minerals			X	There are no active mining claims within the project area.
Native American Religious Concerns*			X	No concerns are known in the project area.
Rangelands and Forests*	X			There is no range or forest within the project area.
Recreation			X	See Section 3.6 for analysis.
Socioeconomics		X		A wildlife catchment is not tied to socioeconomics.
Soils			X	See Section 3.7 for analysis.
Threatened or Endangered Species*			X	See Section 3.8 for analysis
Travel Management		X		No change in Travel Management route designation would occur due to this project.
Vegetation			X	See Section 3.9 for analysis.
Visual Resources			X	See Section 3.10 for analysis.
Wastes (Hazardous or Solid)*	X			There are no wastes within the project site.
Wetlands/Riparian Zones*	X			There are not any wetlands or riparian zones within the project area.
Wild & Scenic Rivers*	X			There are no wild and scenic rivers within the project area.
Wild Horses/Burros	X			The project area is not within the Herd Area or the Herd Management Area.
Wilderness*	X			There is no wilderness within the project area.
Wildlife			X	See Section 3.11 for analysis.

1. Area of Critical Environmental Concern

The proposed project area is located within the Dripping Springs Area of Critical Environmental Concern (ACEC); which was designated for its perennial water source, desert bighorn sheep habitat, an important petroglyph site, and the remains of several historic stone structures. The project area is just outside of the 640-acre core area identified in the Yuma Field Office Record of Decision and Approved Resource Management Plan (2010).

2. Climate Change

The proposed project area is greatly affected by climate change through the effects of drought. US Geological Society (USGS) estimates that over the next 50 years, La Paz County would show an increase in annual mean temperature of five degrees and a 5% reduction in precipitation.

3. Cultural Resources

The proposed project area was evaluated for the presence of cultural resources on September 11, 2012. No cultural resources were identified in the project area.

4. Minerals

There are locatable minerals claimants and projects within the Southwest quarter of Section 11. From 1981 through 1993 a Mine Plan of Operation for gold occupied portions of Sections 11, 14, 10, 3 and 2 in this Township. Section 11 has four active placer mining claims in the NE quarter of the section. There are 74 active lode and placer claims in the 8 adjacent sections to section 11. There is a high potential for future gold exploration projects, but there are no claims within the parcel of the Proposed Action.

Mineral Materials are present in the immediate and close proximity to the project area. Potential users of these materials are not close to proposed location. Larger quantities and higher quality sources of Mineral Materials are found closer to the points of use and marketplaces.

Due to the presence of placer gold in the washes under and adjacent to the project area it may be expected casual use operations utilizing only hand tools would be attracted to the proposed wildlife water.

5. Native American Religious Concerns

The project area is located within the ancestral lands of several Native American Tribes.

6. Recreation

The project area receives recreation use from hunters, sightseers, and hikers. The project area is within the La Posa Destination Special Recreation Management Area and the Dripping Springs Heritage Recreation Management Zone. This RMZ encompasses the Dripping Springs ACEC. Cultural resource viewing opportunities are available within this RMZ, along with exemplary opportunities to view native vegetation and wildlife. Outstanding visual resources provide an exquisite backdrop for all of these activities.

7. Soils

The dominant soils are gravelly loams developed in old alluvium. The sandy soils are almost totally confined to the many washes. Desert or stone pavement is found throughout most of the lower elevations of the proposed project area. It is characterized by highly varnished pavements

of gravel formed by the removal of fine sediment between coarser material by wind and rain.

8. Threatened and Endangered Species

The Sonoran population of desert tortoise (*Gopherus agassizii*), may occur within 3 miles of the project area and impacts to this species is evaluated because it is currently listed as a candidate species by the USFWS. The proposed project is located in category III Sonoran desert tortoise habitat.

Other sensitive species in the area that may occur in the vicinity include the Gila monster (*Heloderma suspectum*), Chuckwalla (*Sauromalus obesus*), Arizona Toad (*Bufo microscaphus microscaphus*), Western burrowing owl (*Athene cunicularia hypugena*), Ferruginous hawk (*Buteo regalis*), Pale Townsend's big-eared bat (*Corynorhinus townsendii*), Yuma myotis (*Myotis yumanensis*), Cave myotis (*Myotis velifer*), and Spotted Bat (*Euderma maculatum*).

There are no known populations of sensitive plant species found within the project area.

9. Vegetation, Native and Non-Native

There are two Sonoran Desertscrub Biome subdivisions found in the project area: the Lower Colorado River Valley and the Arizona Upland (Turner and Brown 1982).

The major biome subdivision in the proposed project area is the Lower Colorado River Valley. Vegetation includes: white bursage (*Ambrosia dumosa*) and creosotebush (*Larrea tridentata*). This type is found on the broad alluvial valleys. Major grass species include big galleta (*Pleuraphis rigida*), bush muhly (*Mulenbergia porteri*), and the exotic Mediterranean grass (*Schizmus barbatus*). Desert drainages with mixed riparian scrub interlace these valleys and contain ironwood (*Olneya tesota*), blue palo verde (*Parkinsonia floridum*), honey mesquite (*Prosopis glandulosa*), as well as other shrubs and grasses.

The second Biome Subdivision, the Arizona Upland, is found on foothills, bajadas and mountainsides. This habitat type is dominated by foothill palo verde (*Parkinsonia microphyllum*), ironwood (*Olneya tesota*), catclaw (*Acacia greggii*), brittle-bush (*Encelia farinosa*), and cholla cactus (*Cylindropuntia* ssp). Saguaro cactus (*Carnegeia gigantea*), barrel cactus (*Ferocactus acanthodes*), range ratany (*Krameria parvifolia*), ocotillo (*Fouquieria splendens*), big galleta, bush muhly, and Mediterranean grass and a wide variety of other shrubs and grasses also occur.

No non-native invasive plant species were observed at the project site.

10. Visual Resource Management

BLM inventories and classifies public lands in order to identify and maintain areas that contain important scenic qualities. BLM lands fall into one of four Visual Resource Management (VRM) classes, with Class I offering the most visual resource protection and Class IV offering the least visual resource protection.

The general panorama throughout much of the project area is desert plains, foothills and mountains supporting a palo verde and mixed cacti plant community. Mountainous terrain in portions of the area provides excellent aesthetic qualities. Visual Resource Management (VRM)

for this area is Class II where the desired condition is to maintain natural characteristics and the level of change to the landscape should be very low and not attract attention. (BLM RMP page 2-136)

11. Wildlife including Migratory Birds

Three big game species occur within the Plomosa Mountains: desert bighorn sheep (*Ovis Canadensis nelson*), mule deer (*Odocoileus hemionus*), and mountain lion (*Puma concolor*). Four common species of small game are found throughout the area in desert washes and palo verde-mixed cacti habitats: Gambel's quail (*Callipepla gambelii*), white-winged dove (*Zenaida asiatica*), mourning dove (*Z. macroura*) and desert cottontail rabbit (*Sylvilagus auduboni*). Furbearers found in the plan area include bobcat (*Lynx rufus*), ringtail (*Bassariscus astutus*), gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), and coyote (*Canis latrans*).

Other common mammal species include kangaroo rat (*Dipodomys* spp.), pocket mouse (*Perognathus* spp.), white-throated woodrat (*Neotoma albigula*), black-tailed jackrabbit (*Lepus californicus*), and Harris's antelope ground squirrel (*Ammospermophilus harrisi*).

Common bird species are red-tailed hawk (*Buteo jamaicensis*), black-throated sparrow (*Amphispiza bilineata*), cactus wren (*Campylorhynchus brunneicapillus*), greater roadrunner (*Geococcyx californianus*), Gila woodpecker (*Melanerpes uropygialis*), verdin (*Auriparus flaviceps*), and black-tailed gnatcatcher (*Polioptila melanura*).

Reptiles and amphibians include: sidewinder rattlesnake (*Crotalus cerastes*), speckled rattlesnake (*Crotalus mitchelli*), western diamondback rattlesnake (*C. atrox*), kingsnake (*Lampropeltis getula*), Sonoran gophersnake (*Pituophis melanoleucus affinis*), rosy boa (*Charina trivirgata*), western whiptail lizard (*Cnemidophorus tigris*), desert iguana (*Dipsosaurus dorsalis*), zebra-tailed lizard (*Callisaurus draconoides*), and Gila monster (*Heloderma suspectum*).

4. CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

A. Potential Direct and Indirect Effects

This section describes the environmental consequences of those resources/concerns identified in Chapter 3 as present and/or potentially affected. Resources not present within the project study area, as well as those present and not affected, are not discussed.

1. Areas of Critical Environmental Concern

a) Proposed Action

Several management actions that relate to Areas of Critical Environmental Concern are documented in the Yuma Field Office Approved Resource Management Plan. These actions include a prohibition on new routes within these areas and maintenance of viewsheds and landscape character through the BLM's VRM system. There is also a special management objective to protect the area and prevent irreparable damage to resources or natural systems.

The Proposed Action does not introduce any new routes within the area due to fact that construction would take place aerially. The Proposed Action would also maintain the viewshed

and landscape character of the area as the catchment would be subterranean and would be minimally visible from the surface.

Additionally, the catchment would enhance the desert bighorn sheep habitat by providing a perennial water source. The petroglyph site, the perennial water source mentioned in the designation, and the stone buildings are all located more than one mile away from the proposed project area and would not be impacted by project construction.

b) No Action Alternative

The No Action Alternative would not impact the Dripping Springs Area of Critical Environmental Concern for viewshed and landscape character, however, the desert bighorn sheep within the area would not have the benefit of a perennial water source, which may result in a continued drop in population numbers.

2. Climate Change

a) Proposed Action

The Proposed Action would assist in reducing the effects of drought caused by climate change. Offering a secondary water source for wildlife within an area that is heavily affected by drought would reduce the current stressors that are causing a drop in numbers within the bighorn sheep population.

b) No Action Alternative

The No Action Alternative would negatively impact climate change through continued drought conditions. The reduced population of bighorn sheep would continue to die off and not produce viable offspring. Eventually, with no human intervention, population numbers that reach 20 or below would have minimal genetic variation causing a genetic bottleneck effect which would eventually result in the loss of this population.

3. Cultural, Historic & Paleontological Resources

a) Proposed Action

The Proposed Action would have no effect on cultural resources within the project area as no such resources were identified.

b) No Action Alternative

The No Action Alternative would have no effect on cultural resources within the project area.

4. Minerals

a) Proposed Action

There are no direct or indirect impacts on locatable minerals from implementation of the Proposed Action. At 43 CFR 3809.11(c)(3), the regulation requires a Plan of Operation and an Environmental Assessment for proposed exploration or mining level operations. Per the January 2010 YFO RMP ROD at page 2-180, Management Actions MI-008, MI-015, MI-016 and MI-018 regulate exploration within the ACEC and make it difficult to bring an exploration project into production. If a diligent operator found and developed an economic gold mine, the BLM

could justify requiring that the operator construct replacement water sources for wildlife as part of their mitigation.

The Mineral Materials program would not be impacted by the Proposed Action. Per 43 CFR 3601.6 and 3601.12(c), any request for disposal of mineral materials within the ACEC is discretionary and may not be processed. In the January 2010 YFO RMP ROD at page 2-181, Management Action MI-23 specifically directs the BLM to not authorize any salable mineral materials in the area of the Proposed Action.

Casual use by recreational miners, using only hand tools, would not be impacted by the Proposed Action. Where the Proposed Action creates new disturbance of placer gravels, BLM could expect recreational miners to test the resulting newly exposed materials for gold, however, this kind of disturbance is unlikely to impact the integrity of the sub-surface water collection infrastructure.

b) No Action Alternative

Locatable and mineral material resources would not be directly or indirectly affected by the No Action Alternative. Recreational miners would not be directly or indirectly affected by the No Action Alternative. The absence of any development by the Proposed Action would not encourage these recreational miners to test the resulting gravels for placer gold.

5. Native American Religious Concerns

a) Proposed Action

No religious concerns were expressed during consultation with Native American Tribes for this project; however, the BLM will continue to consult with these Tribes throughout the entire process.

b) No Action Alternative

The No Action Alternative would not result in any impacts to Native American religious concerns.

6. Recreation

a) Proposed Action

The Proposed Action would have no adverse impact on recreation in the immediate project area. Cultural resource, vegetation, wildlife, and landscape viewing would be enhanced by the proposed action. Visitors interested in wildlife for sightseeing and hunting purposes would benefit from the proposed project due to the potential increase in and maintenance of wildlife populations. Addition of the proposed water would allow continued recreational access to Dripping Springs throughout the year without negatively affecting the wildlife population.

b) No Action Alternative

Under the No Action Alternative, Recreation may be negatively impacted from the reduction in wildlife within the project area due to no water being available. The 640-acre core area may be closed during extreme drought, and the expansion of bighorn sheep into an additional 20 square miles of habitat would not be possible due to the lack of water, all resulting is reduced recreational opportunities for the public.

7. Soils

a) Proposed Action

The use of trucks, tractors, and other heavy equipment would contribute to soil compaction at the site. Following construction, disturbed soils would be redistributed over the construction area, with natural debris placed throughout the area to encourage revegetation and to avoid water and wind erosion. The impacts to soil are expected to be minor in the short term and negligible in the long term.

b) No Action Alternative

Under the no action alternative, no impacts to Soils would occur.

8. Threatened and Endangered Species

a) Proposed Action

The Proposed Action may temporarily affect the proposed listed Sonoran Desert Tortoise (SDT) within the project area during construction. Mitigation and monitoring measures, including site contouring are included to reduce and/or eliminate any residual impacts to SDT and their habitat. All stipulations follow the Interagency Desert Tortoise Team Recommendations dated 1998.

b) No Action Alternative

Under the no action alternative, no impacts to Threatened and Endangered Species would occur.

9. Vegetation including Invasive Species

a) Proposed Action

The Proposed Action would remove up to one acre of vegetation including creosote bush, white bursage, and grasses during the construction phase. Following construction with appropriate rain, groundcover vegetation would likely return to similar density and composition as the surrounding area.

The collection, storage, and availability of water for wildlife create an increased opportunity for invasive and noxious weeds to establish themselves in the project area. Invasive weeds have the opportunity to seed in the project area. Any adverse impact of weeds should be mitigated by the BLM construction stipulations.

b) No Action Alternative

Under the No Action alternative, no impacts to Vegetation would occur.

10. Visual Resources

a) Proposed Action

Catchment installation would have a minor short-term adverse effect during construction activities due to the presence of equipment and construction materials, and vegetation disturbance. The Proposed Action meets the management objectives of the VRM Class II areas. The VRM exercise was completed on January 17, 2014, and found that upon construction completion, the proposed catchment would create a low visual impact.

b) No Action Alternative

Under the No Action Alternative, Visual Resource impacts would not occur.

11. Wildlife and Migratory Birds

a) Proposed Action

The short-term loss of vegetation in the project area would reduce wildlife and migratory bird habitat. The cleared land would directly and indirectly impact wildlife (herpetofauna, mammals, and birds) that uses the project area for forage, migration, and breeding. Equipment associated with construction may also affect wildlife due to soil compaction and noise. The increased noise and construction activity would occur only in the short term. Over the life of the project, occasional water catchment maintenance would have a negligible impact on wildlife and migratory birds. Once construction is complete, wildlife, specifically big horn sheep, would be able to expand into an additional 20 square miles of prime habitat that was previously unusable due to the lack of perennial water.

b) No Action Alternative

Under the No Action Alternative, wildlife and migratory birds would suffer negative impacts from the lack of undisturbed perennial water due to the increasing recreational use at the natural Dripping Springs.

B. Mitigating Measures for the Proposed Action

Mitigation measures have been identified and incorporated into the design and construction process. These measures include but are not limited to the following:

- A biological monitor will be on site during construction to ensure no Desert Tortoises are affected by construction activities. Monitors will follow all Arizona Game and Fish Regulations specific to handling and relocating tortoises if encountered.
- The project lead will follow all 1998 Interagency Desert Tortoise Team recommendations.
- Limit vehicle use to areas that have been previously disturbed.
- Rake out and recontouring disturbance from vehicle tracks around the replacement catchments.
- Wash earthmoving and hauling equipment to avoid the spread of noxious weeds and to control dust.
- Scrape any topsoil from the project areas into a pile that can be redistributed over the project areas after construction.
- Remove all construction debris, such as PVC pipe, metal fragments, netting, tin, and cement.
- Salvage plants and avoid plants in the construction area.
- Contour disturbed soils and replace vegetation and rock debris in the disturbed construction areas. Dead and down vegetation should be placed over bare areas to mitigate construction activities.
- Install a 150 × 150-foot wildlife friendly pipe-rail fence when necessary to exclude wild burros and horses.
- Visible catchment components need to be of a color that blends with the surrounding area.

C. Cumulative Effects

Additional water catchments are known to be planned for southwestern Arizona. The cumulative impact of wildlife water catchment replacements is expected to be negligible to minor in the

short and long terms. If this wildlife water is created, bighorn sheep will have the opportunity to expand into an additional 20 square miles of suitable habitat that is not currently used due to the lack of water.

D. Residual Impacts

The residual visual and physical impact of installing a wildlife water catchment and subsequent catchment replacements in the future would be the access, water trough, tank vents, and low earthen check-dams. In the short term, vegetation and some wildlife species may be affected, but the impact is expected to be negligible to minor. In the long term, vegetation would return to provide additional habitat for wildlife.

5. CHAPTER 5 - TRIBES, INDIVIDUALS, ORGANIZATIONS OR AGENCIES CONSULTED

Arizona Game and Fish Department Region IV
Desert Big Horn Sheep Society
Mule Deer Foundation
Ak-Chin Indian Community
Chemehuevi Indian Tribe
Cocopah Indian Tribe
Colorado River Indian Tribes
Fort Mojave Indian Tribe
Fort Yuma-Quechan Tribe
Gila River Indian Community
The Hopi Tribe
Hualapai Tribe
Pueblo of Zuni
Salt River Pima-Maricopa Indian Community
Tohono O'odham Tribal Nation
Yavapai-Apache Nation
Yavapai-Prescott Indian Tribe

6. CHAPTER 6 – REFERENCES, GLOSSARY

References Cited

43 CFR 3601.6 and 3601.12(c).

43 CFR 3809.11(c)(3).

AGFD Bighorn Sheep Capture Plans 2001, 2003, 2005.

AGFD's Wildlife 20/20 Strategic Plan.

Bureau of Land Management Yuma Field Office Resource Management Plan 2010.

<http://www.habimap.org/>

<http://www.azgfd.gov/>

<http://swbiodiversity.org/seinet/>

Master Memorandum of Understanding between United States Department of the Interior Bureau of Land Management Arizona State Office and State of Arizona, Arizona Game and Fish Commission.

U.S. Fish and Wildlife (USFWS) 2000 Strategy, as described in Mountain Sheep Ecosystem Management Strategy for the 11 Western States and Alaska.

USGS National Climate Change Viewer, Summary of La Paz County. April 3, 2014.

<http://www.azdeq.gov/environ/air/plan/images/notmeet.jpg>

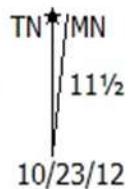
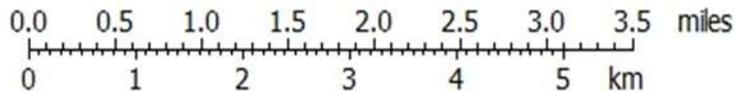
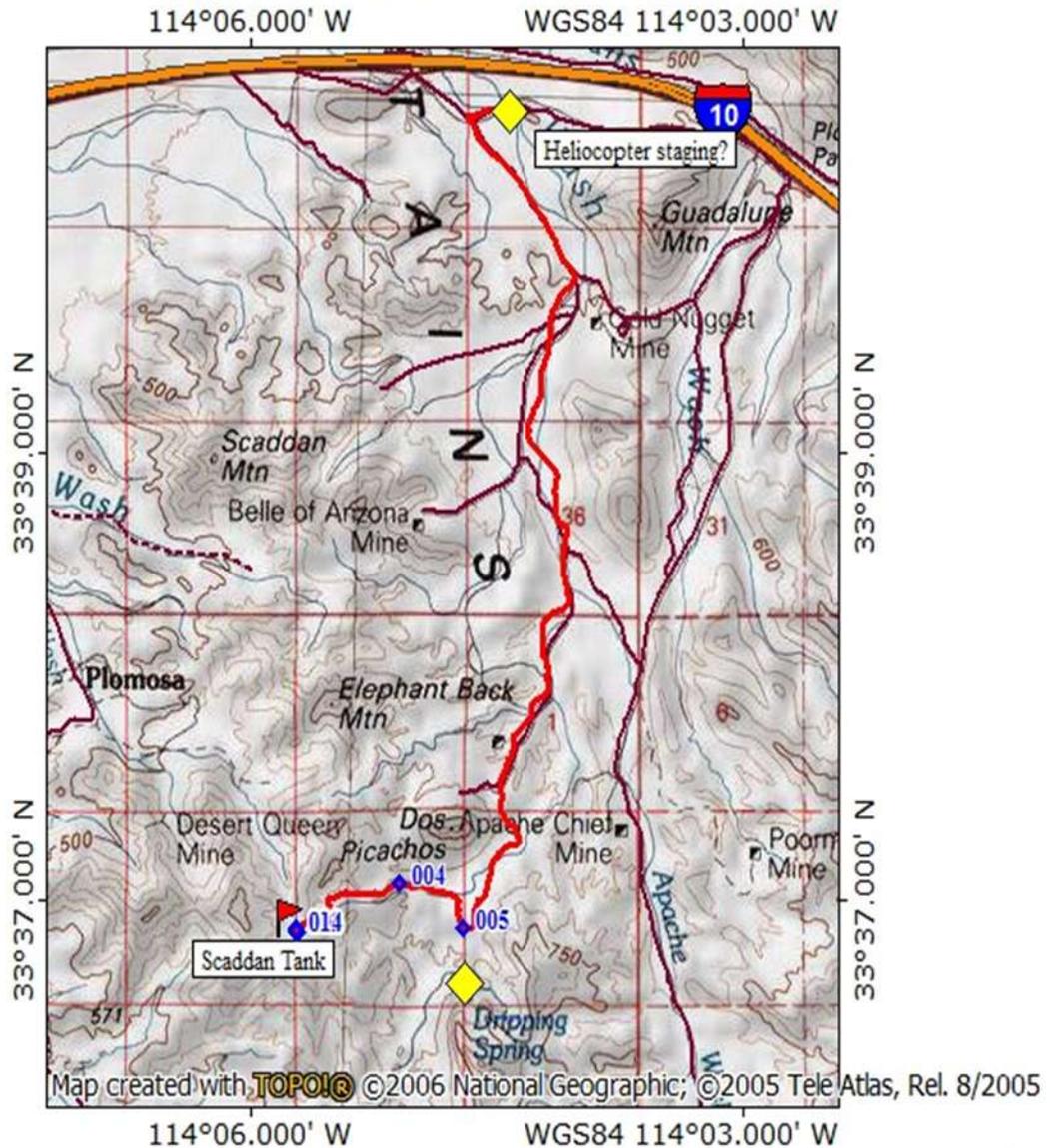
Yuma Field Office La Posa Interdisciplinary Management Plan (IMP) approved on July 1, 1997.

APPENDICES

A. Appendix A – Maps

Map 1-1 Scaddan Tank Project Location

TOPO! map printed on 10/23/12 from "Scaddan.tpo"



B. Appendix B – Cultural Clearance

C. Appendix C: La Paz County Climate Change Report



U.S. Geological Survey - National Climate Change Viewer

Summary of La Paz County, Arizona



April 3, 2014

1 Maximum 2-m Air Temperature

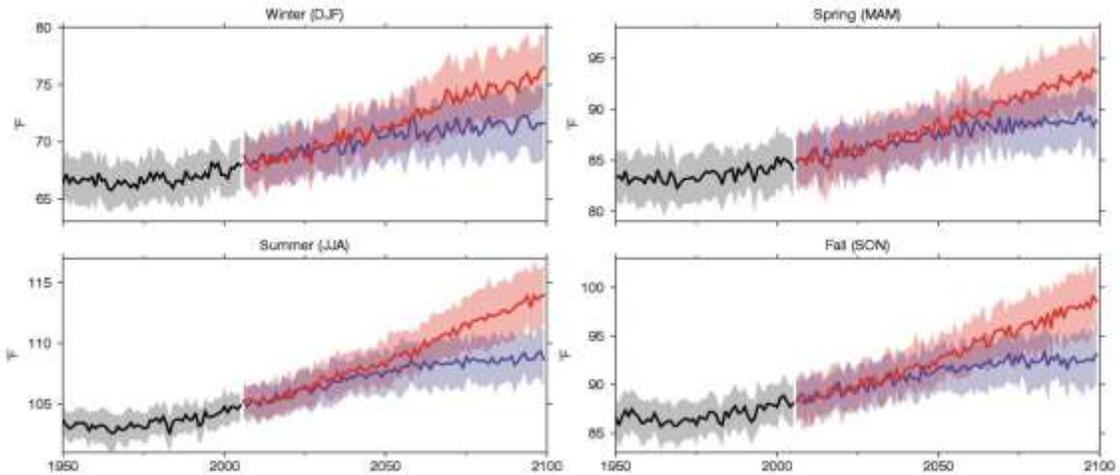


Figure 1: Seasonal average time series of maximum 2-m air temperature for historical (black), RCP4.5 (blue) and RCP8.5 (red). The historical period ends in 2005 and the future periods begin in 2006. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

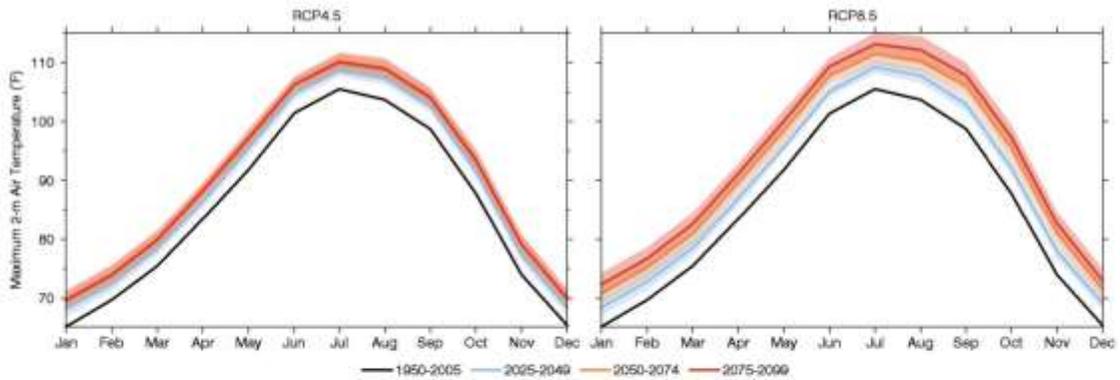


Figure 2: Monthly averages of maximum 2-m air temperature for four time periods for the RCP4.5 (left) and RCP8.5 (right) simulations. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

2 Minimum 2-m Air Temperature

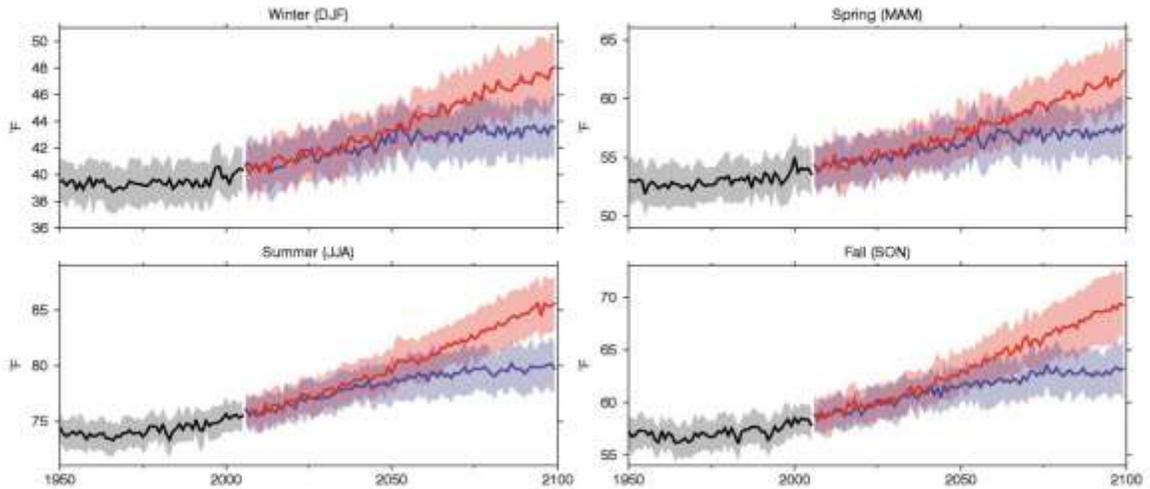


Figure 3: Seasonal average time series of minimum 2-m air temperature for historical (black), RCP4.5 (blue) and RCP8.5 (red). The historical period ends in 2005 and the future periods begin in 2006. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

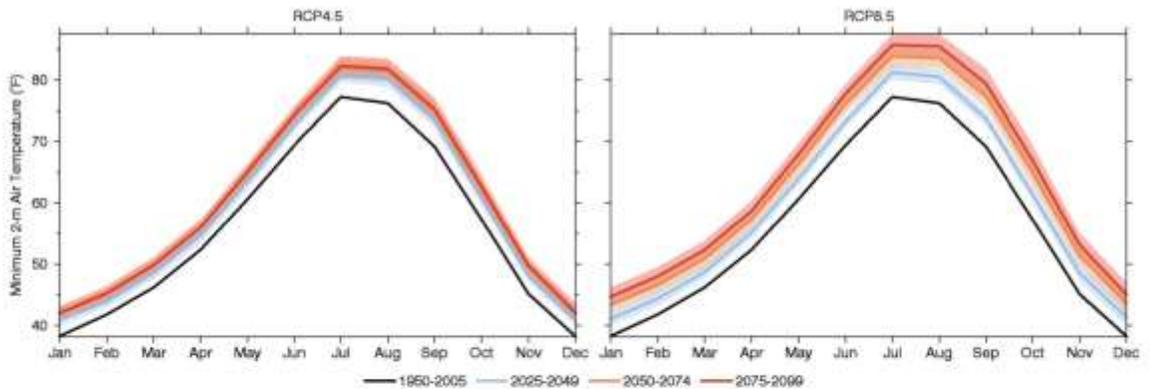


Figure 4: Monthly averages of minimum 2-m air temperature for four time periods for the RCP4.5 (left) and RCP8.5 (right) simulations. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

3 Precipitation

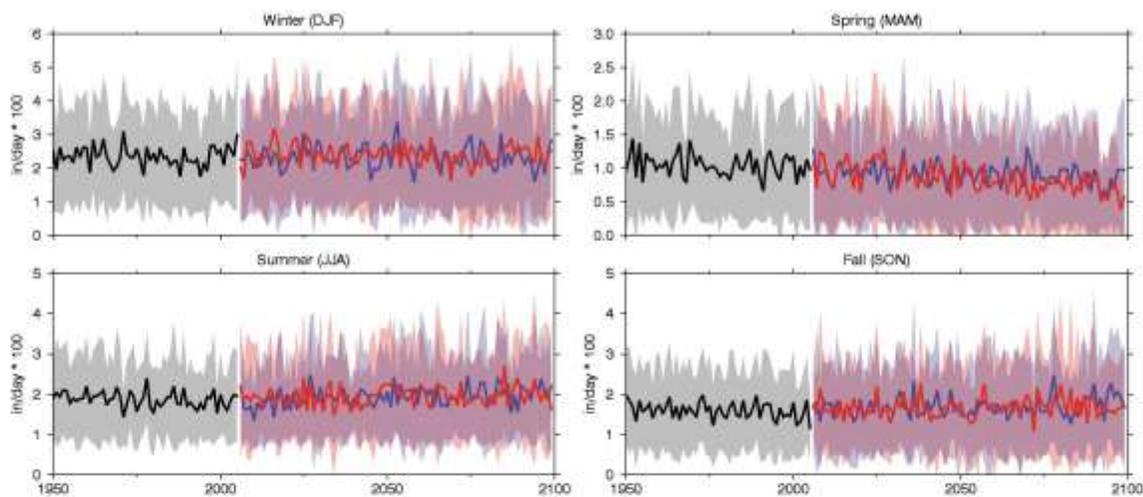


Figure 5: Seasonal average time series of precipitation for historical (black), RCP4.5 (blue) and RCP8.5 (red). The historical period ends in 2005 and the future periods begin in 2006. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

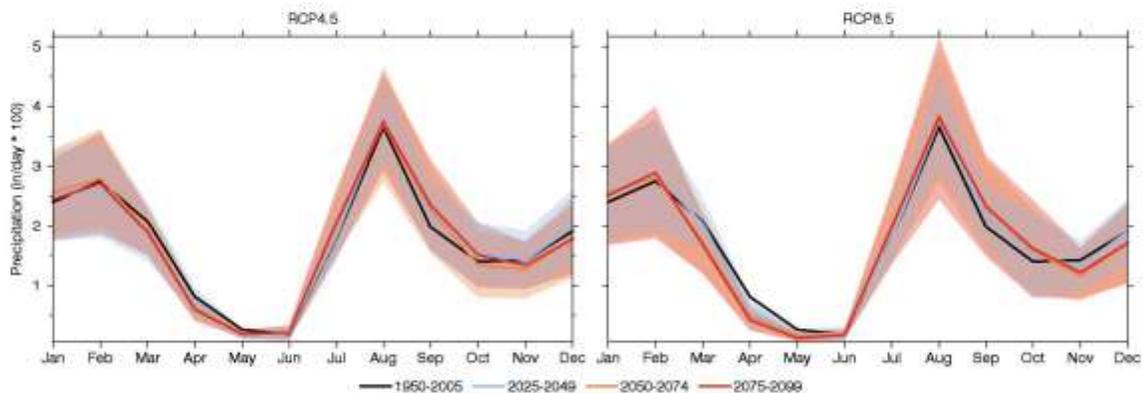


Figure 6: Monthly averages of precipitation for four time periods for the RCP4.5 (left) and RCP8.5 (right) simulations. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

4 Snow Water Equivalent

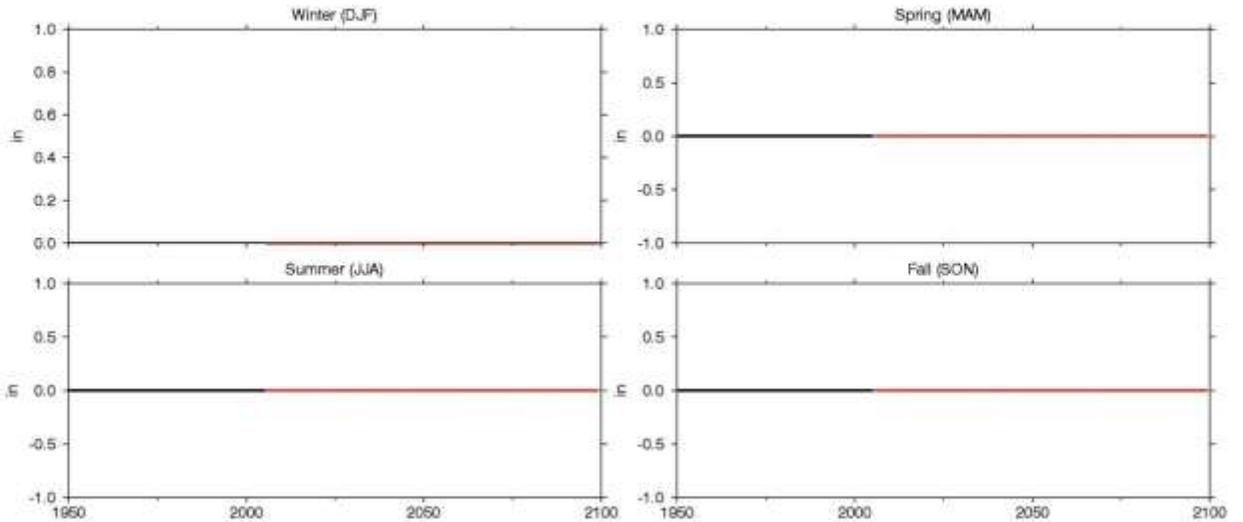


Figure 7: Seasonal average time series of snow water equivalent for historical (black), RCP4.5 (blue) and RCP8.5 (red). The historical period ends in 2005 and the future periods begin in 2006. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

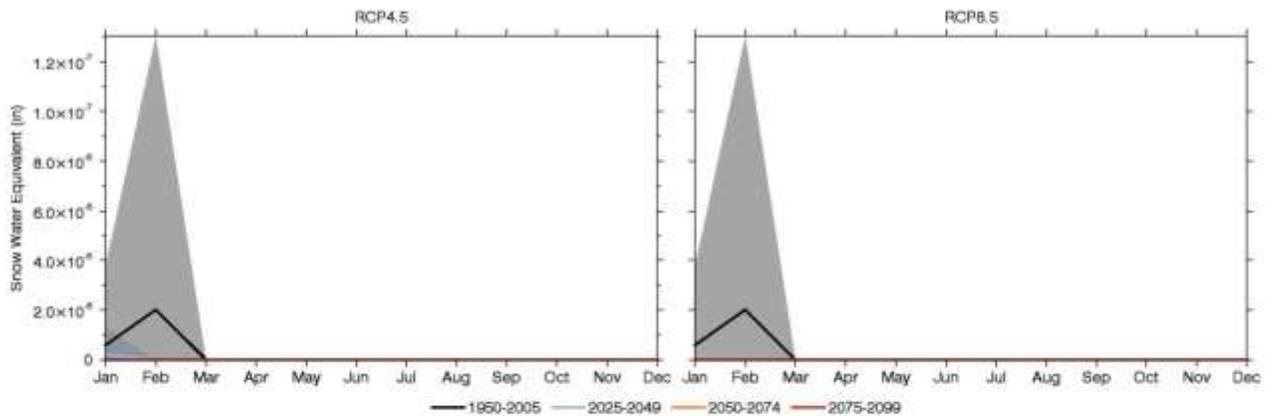


Figure 8: Monthly averages of snow water equivalent for four time periods for the RCP4.5 (left) and RCP8.5 (right) simulations. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

5 Runoff

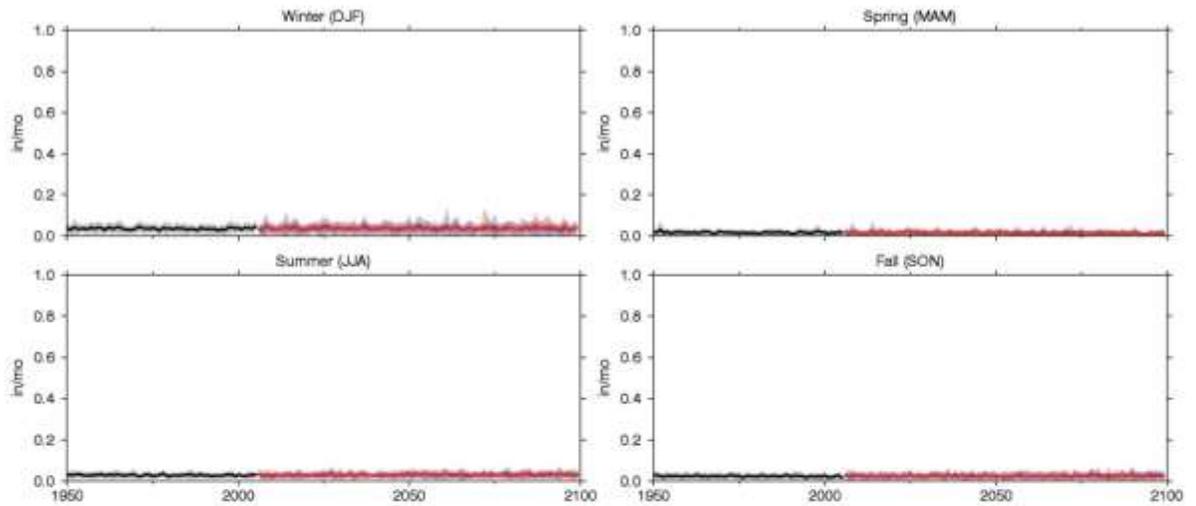


Figure 9: Seasonal average time series of runoff for historical (black), RCP4.5 (blue) and RCP8.5 (red). The historical period ends in 2005 and the future periods begin in 2006. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

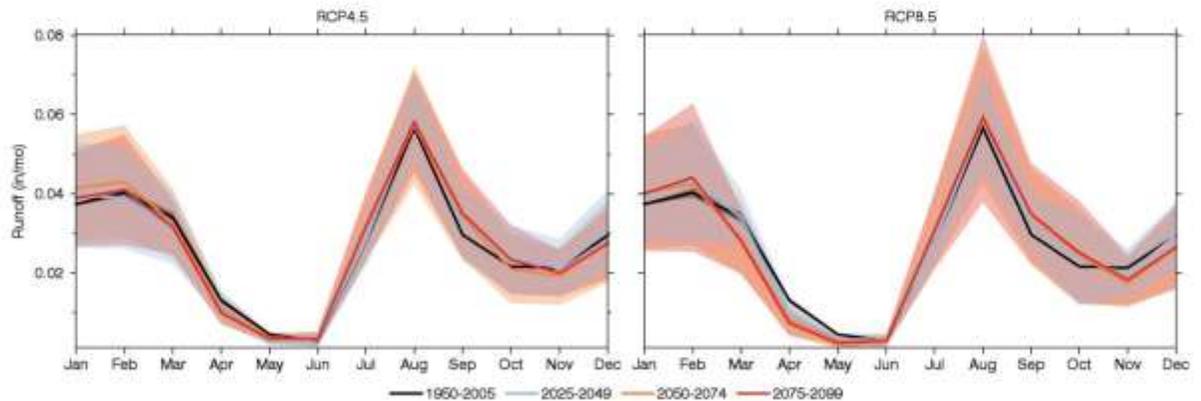


Figure 10: Monthly averages of runoff for four time periods for the RCP4.5 (left) and RCP8.5 (right) simulations. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

6 Soil Water Storage

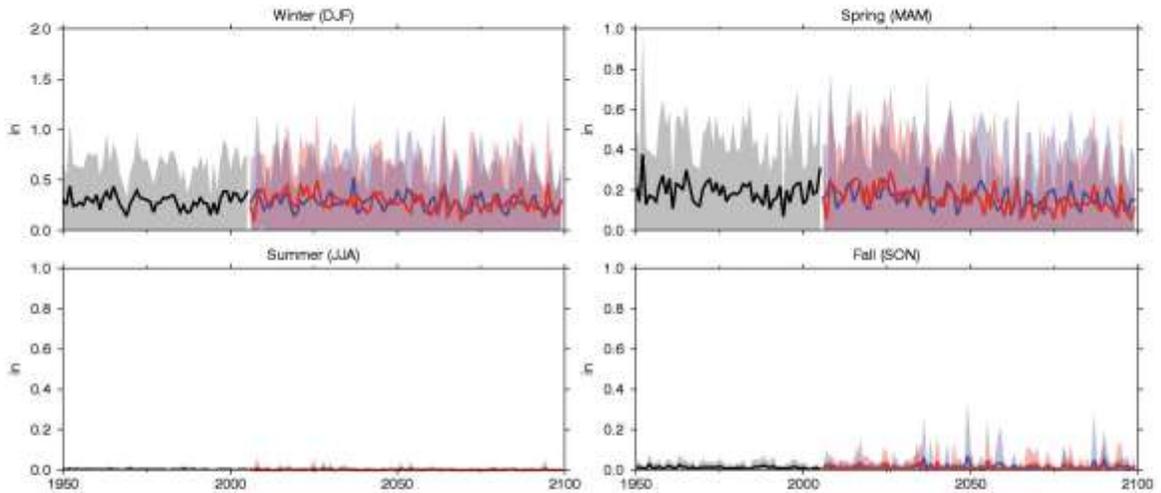


Figure 11: Seasonal average time series of soil water storage for historical (black), RCP4.5 (blue) and RCP8.5 (red). The historical period ends in 2005 and the future periods begin in 2006. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

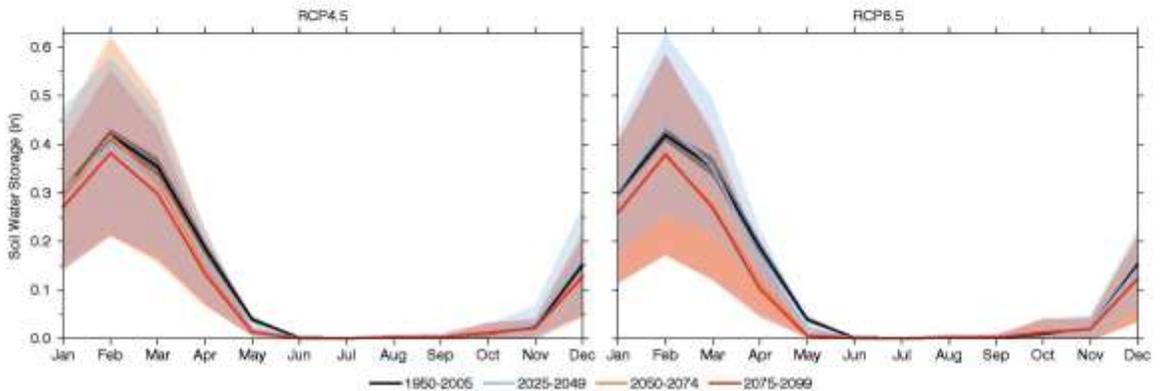


Figure 12: Monthly averages of soil water storage for four time periods for the RCP4.5 (left) and RCP8.5 (right) simulations. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

7 Evaporative Deficit

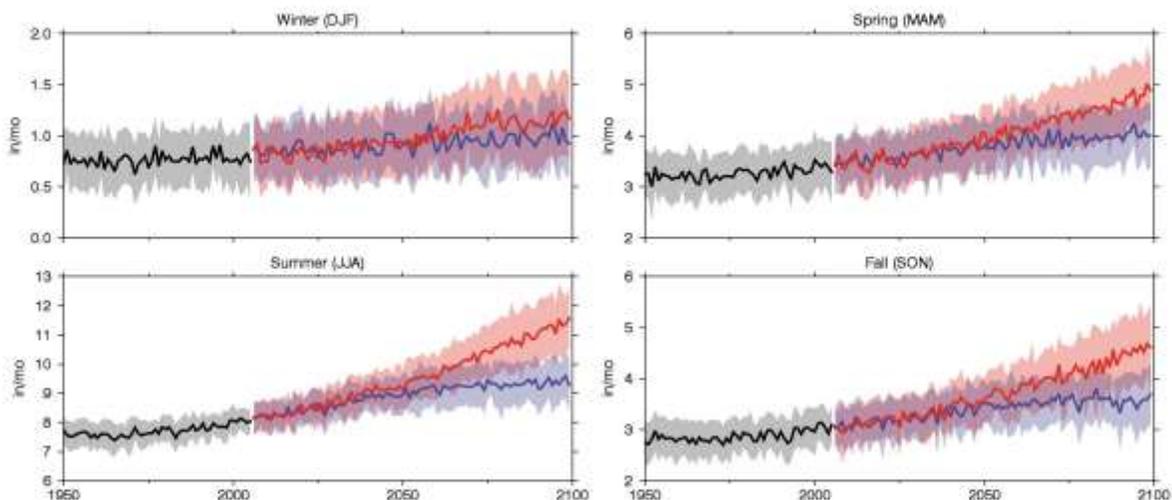


Figure 13: Seasonal average time series of evaporative deficit for historical (black), RCP4.5 (blue) and RCP8.5 (red). The historical period ends in 2005 and the future periods begin in 2006. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

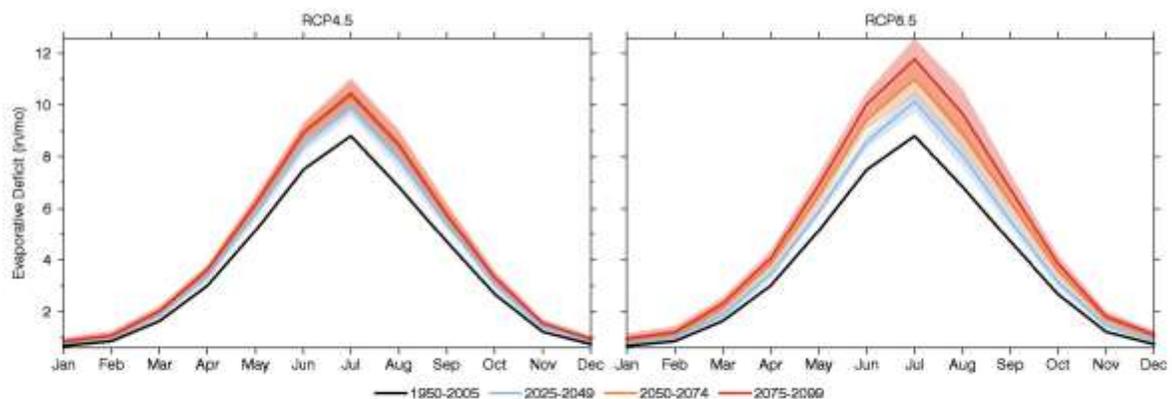


Figure 14: Monthly averages of evaporative deficit for four time periods for the RCP4.5 (left) and RCP8.5 (right) simulations. The average of 30 CMIP5 models is indicated by the solid lines and their standard deviations are indicated by the respective shaded envelopes.

8 Data

The temperature and precipitation summaries are created by spatially averaging the NASA NEX-DCP30 data set (Thrasher et al., 2013). The water-balance variables snow water equivalent, runoff, soil water storage and evaporative deficit are simulated by using the NEX-DCP30 temperature and precipitation as input to a simple model (McCabe and Wolock, 2011). The water-balance model accounts for the partitioning of water through the various components of the hydrologic system, but does not account for groundwater, diversions or regulation by impoundments.

9 Models

ACCESS1-0	bcc-csm1-1	bcc-csm1-1-m	BNU-ESM	CanESM2	CCSM4
CESM1-BGC	CMCC-CM	CNRM-CM5	CSIRO-Mk3-6-0	FGOALS-g2	FIO-ESM
GFDL-CM3	GFDL-ESM2G	GFDL-ESM2M	GISS-E2-R	HadGEM2-AO	HadGEM2-CC
HadGEM2-ES	inmcm4	IPSL-CM5A-LR	IPSL-CM5A-MR	IPSL-CM5B-LR	MIROC5
MIROC-ESM	MIROC-ESM-CHEM	MPI-ESM-LR	MPI-ESM-MR	MRI-CGCM3	NorESM1-M

10 Citation Information

Alder, J. R. and S. W. Hostetler, 2013. USGS National Climate Change Viewer. US Geological Survey http://www.usgs.gov/climate_landuse/clu_rd/nex-dcp30.asp doi:10.5066/F7W9575T

McCabe, G. J., and D. M. Wolock, 2011. Independent effects of temperature and precipitation on modeled runoff in the conterminous United States, *Water Resour. Res.*, 47, W11522, doi:10.1029/2011WR010630

Trasher, B., Xiong, J., Wang, W., Melton, F., Michaelis, A., and R. Nemani, 2013. New downscaled climate projections suitable for resource management in the U.S. *Eos, Transactions American Geophysical Union* 94, 321-323, doi:10.1002/2013EO370002

11 Disclaimer

These freely available, derived data sets were produced by J. Alder and S. Hostetler, US Geological Survey (USGS). The original climate data are from the NEX-DCP30 dataset, which was prepared by the Climate Analytics Group and NASA Ames Research Center using the NASA Earth Exchange, and is distributed by the NASA Center for Climate Simulation. No warranty expressed or implied is made by the USGS regarding the display or utility of the derived data on any other system, or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. The USGS shall not be held liable for improper or incorrect use of the data described and/or contained herein.

Appendix D – VRM Worksheet

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: 01/17/2014
District: Colorado River District
Resource Area: Yuma Field Office
Activity (program) Wildlife

SECTION A. PROJECT INFORMATION

1. Project Name Scadden Tank Wildlife Water Development	4. Location Township <u>3N</u> Range <u>18 W</u> Section <u>Sec 11 SW 1/4</u>	5. Location Sketch See Appendix A
2. Key Observation Point (see appendix B) Ridge NNE of proposed project site with SSW view		
3. VRM Class: Class II		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LAND/WATER

2. VEGETATION

3. STRUCTURES

FORM	Smooth, rolling, irregular, discontinuous	Sparse, spotted, stippled, patchy	—
LINE	Soft, converging, undulating, concave	Discontinuous, angular, bands	—
COLOR	Dull, tans, medium to dark browns, patchy	Dull olive with light yellow to gray	—
TEXTURE	Smooth, patchy, random, irregular	Medium, uneven, stippled, random	—

SECTION C. PROPOSED ACTIVITY DESCRIPTION

1. LAND/WATER

2. VEGETATION

3. STRUCTURES

FORM	Patchy, smooth, rolling	Sparse, spotted, stippled, patchy	Patchy, rectangular, compatible
LINE	Soft, converging	Discontinuous, angular, perpendicular bands	Soft, converging
COLOR	Subtle tans, medium to dark browns	Dull olive with light yellow to gray	Light tan, medium to dark browns
TEXTURE	Patchy, smooth, random	Medium, uneven, stippled, random	Subtle, patchy

SECTION D. CONTRAST RATING: <input type="checkbox"/> SHORT TERM <input type="checkbox"/> LONG TERM														
1. DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	3. Additional mitigating measures recommended? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
ELEMENTS	Form			X				X			X			Evaluators' Names Date 01/17/2014 Michael Johnson Brandon Zimmerman Eamon Brennan Ron Morfin
	Line		X					X			X			
	Color			X				X			X			
	Texture		X					X			X			

SECTION D. (Continued)

Comments from Item 2.

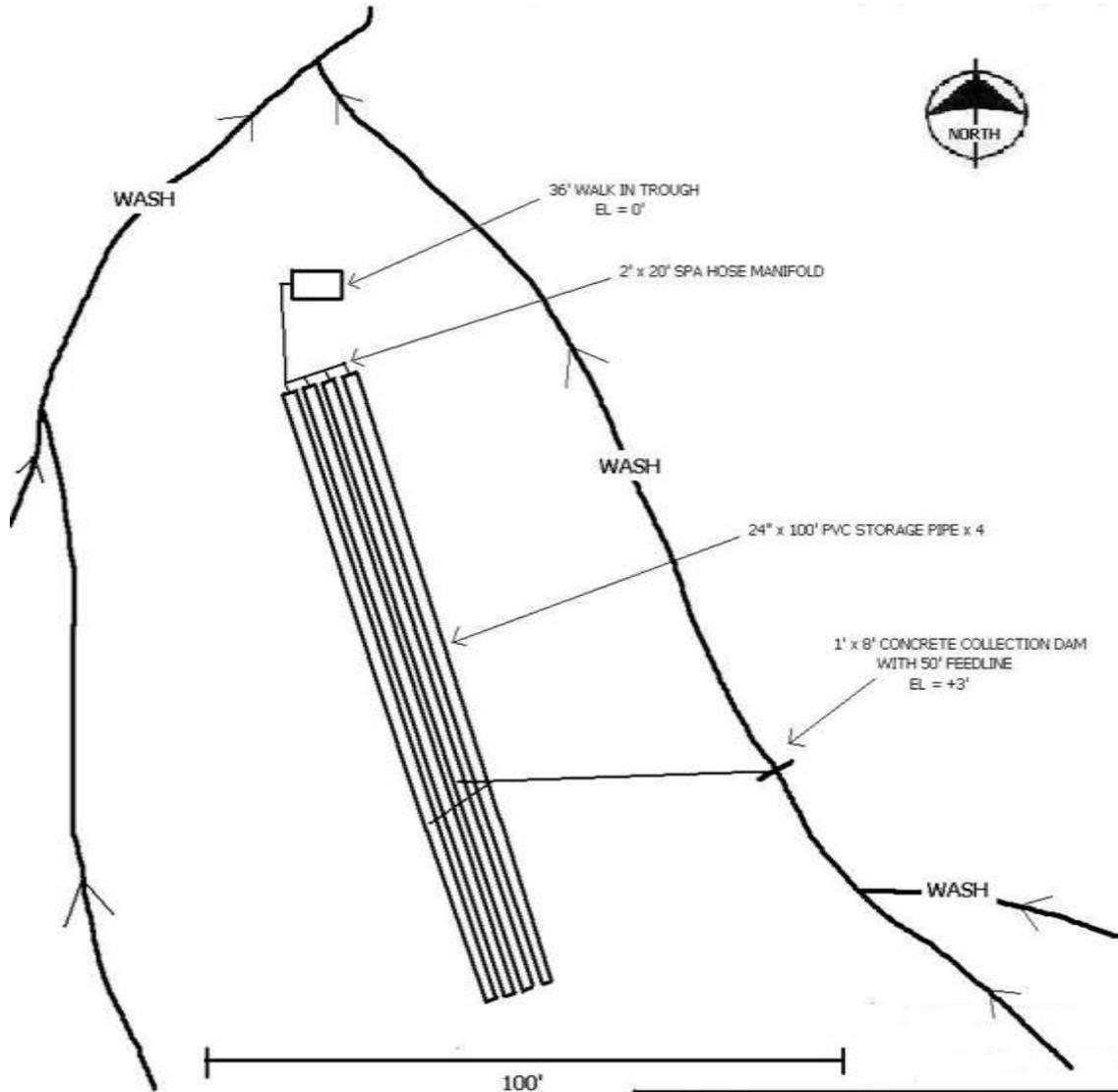
Most components of the proposed Arizona Game and Fish Department Scadden Tank wildlife water catchment would be buried. The 3' x 8' walk-in trough would be approximately 30 inches deep and buried flush with the ground. A 1'x 8' rock and mortar dam used that would be constructed in the adjacent wash to collect rain water would be unobtrusive. Mitigation measures to minimize the visibility of excavations for the project are specified below.

Additional Mitigating Measures (See item 3)

1. Rake surface gravel into a linear pile from excavation sites and save to re-spread over the soil used to cover the water storage pipes and feed lines for the dam and walk-in drinker.
2. Rake the edges of surface disturbances when re-spreading salvaged surface gravels over covered storage pipes and feed lines into curvilinear patterns to prevent linear contrasts from excavations for the project.
3. Use the mitigation measures specified above to restore the contour, texture and color of surface disturbances to minimize the long-term visibility of exposed subsurface soil.

*US GOVERNMENT PRINTING OFFICE 2002-773-001-461077

Scaddan Tank Wildlife Water Development Schematic



ARIZONA GAME AND FISH DEPARTMENT		
SCHEMATIC DRAWING OF: SCADDEN		
N 33 36.85 W 114 5.72		
LA PAZ COUNTY, ARIZONA		
BY	DATE	
DAVE CONRAD	8-26-11	

Key Observation Point Photos



Photo 1. Southwest view from KOP – Proposed project site.



Photo 2. North view from KOP.



Photo 3. Northeast view from KOP.



Photo 4. East view from KOP.



Photo 5. Southeast view from KOP.



Photo 6. South view from KOP.



Photo 7. Southwest view from KOP.



Photo 8. West view from KOP.



Photo 9. Northwest view from KOP.