

**ARIZONA GAME AND FISH DEPARTMENT  
HABITAT PARTNERSHIP COMMITTEE  
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL**

Game Branch / HPC Project Number: 15-522

**PROJECT INFORMATION**

**Project Title:** Arivaca Ranch Tanks

**Region and Game Management Unit:** Tucson Region, Game Management Unit 36B

<b>Local Habitat Partnership Committee (LHPC):</b> <ul style="list-style-type: none"> <li>• Tucson</li> </ul>	<b>Was the project presented to the LHPC?</b> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
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**Has this project been submitted in previous years?** YES NO  
**If Yes, was it funded?** YES NO → **Funded HPC Project #(s):**

**Project Type:** Excavation and Cleaning of Dirt tanks to increase efficiency and capacity

**Brief Project Summary:** This proposal uses a landscape-scale approach in conjunction with the Arivaca Ranch to provide more permanent long-term wildlife water sources throughout central GMU 36B. The Arivaca Ranch represents some great mule deer and javelina habitat in the unit. Water, however, is extremely scarce throughout Unit 36B and is only present in earthen stock tanks after a heavy monsoon period and during the winter and early spring months which seldom lasts into May. The excavation and cleaning of at least 21 different dirt tanks has both been planned and is being planned to be completed throughout the Arivaca Ranch. More efficient and dependable dirt tanks would enable all wildlife including mule deer to take advantage of forage resources currently unavailable due to lack of nearby water.

The Ranch to date, has spent \$39,500 in excavating and cleaning 20 various dirt tanks throughout the ranch (8 of which in 2014, and 12 in 2015). This project would consist of contributing to the cost of completing 5 more dirt tanks be completed in 2016. The cost of each tank typically runs about \$2000.00 and the locations are spread throughout the ranch (see map). Providing water throughout the range also may potentially increase mule deer and javelina populations which will intern increase hunter opportunity. As stated by Marshal et al. (2006), (water) developments may reduce the need for seasonal movements, make a greater proportion of the range and its forage available to deer, reduce competition for forage in exploited range, decrease risks associated with long-distance movements (e.g., Nicholson et al. 1997, Bleich and Pierce 2001) and, thereby, increase deer abundance (Krausman and Czech 1998).

**Big Game Wildlife Species to Benefit (% benefit per species):** Mule deer, Whitetail deer, Javelina, Quail, other small game and non-game species.

<p><b>Implementation Schedule</b> (Month/Day/Year):</p> <p><u>Project Start Date:</u> May 2016</p> <p><u>Project End Date:</u> June 2016</p>	<p><b>Environmental Compliance:</b></p> <p>NEPA Completed: Yes<input type="checkbox"/> No<input type="checkbox"/> N/A<input checked="" type="checkbox"/>                  Projected Completion Date: <u>not needed</u></p> <p>State Historic Preservation Office - Archaeological Clearance:                  (Provide Attachment)                  Yes<input type="checkbox"/> No<input type="checkbox"/> N/A<input checked="" type="checkbox"/>                  Projected Completion Date: <u>not needed</u></p> <p>Arizona Game and Fish Department EA Checklist: N/A<input checked="" type="checkbox"/>                  To be Completed by: <u>not needed</u>                  Projected Completion Date: 8/2016</p>
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<b>PROJECT FUNDING</b>		
<b>Special Big Game License Tag Funds Requested:</b>	\$ 11,000	
<b>Cost Share or Matching Funds:</b>	\$ 57,680	
<b>Total Project Costs:</b>	<b>\$ 68,680</b>	
<b>PARTICIPANT INFORMATION</b>		
<b>Applicant</b> (please print): Mark Frieberg	<b>Address:</b> 555 N Greasewood Rd Tucson AZ 85745	<b>E-mail:</b> mfrieberg@azgfd.gov
<b>Telephone:</b> 520-609-6383		<b>Date:</b> 8-21-15
<b>AGFD Contact and Phone No.</b> (If applicant is not AGFD personnel):		
<b>Project has been coordinated with:</b> Tucson HPC, State Land Dept, and Forest Service		

**NEED STATEMENT – PROBLEM ANALYSIS:**

Not only in Unit 36C, but mule deer numbers and distribution have been declining throughout the West since the latter third of the 20<sup>th</sup> century. To address this concern, the Western Association of Fish and Wildlife Agencies (WAFWA), an organization represented by 17 states and four Canadian provinces, created a Mule Deer Working Group (Group). Using adaptive resource management, the Group sent out to find “solutions to our common mule deer management problems” in the seven different ecoregions in North America. Overall, loss and degradation of habitat was determined to be the single greatest factor that has caused declines in mule deer. In the Southwest Desert Ecoregion, rainfall and competition with livestock were found to be the two biggest limiting factors. The number one recommendation of the Group to improve mule deer management in the Southwest Desert Ecoregion was to **create sources of water in areas where water is limiting** and where other potentially limiting factors are being addressed. Also, consistent with the Group’s recommendation is the Department’s Species Management Guidelines (SMG) which provides goals, objectives, strategies and procedures for a specific species. The SMG outlines four ways to improve and enhance deer habitat to accomplish the overall goal of increasing mule deer populations to levels that provide diverse recreational opportunities. **Number one on the list is: Protect and maintain current water sources.**

In June of 2015, a water evaluation plan was initiated for the Arivaca Ranch. Both, dirt tanks and ranchers water systems were evaluated based on their effectiveness and year round availability. The ranch had started cleaning tanks in 2014 and to date, had 20 total tanks cleaned and able to be more efficient. Deer habitat, no matter how attractive, will not be utilized if it is not near a source of water. Water sites should be no more than 2-3 miles apart and even closer in rough terrain (Wildlife Management Handbook, Managing Desert Mule Deer). WAFWAs Habitat Guidelines for Mule Deer support this suggesting that water sources not be more than 3 miles apart so all mule deer habitat is within 1.5 miles of a permanent water source (Brownlee 1979, Dickinson and Garner 1979). Water is a critical component of mule deer habitat on the Arivaca Ranch as it is extremely scarce and is only present in earthen stock tanks after a heavy monsoon period and during the winter and early spring months and seldom lasts into May. Cleaning these tanks increases the water capacity and lengthens the time the water lasts, considering use and evaporation. Marshal et al. (2006) stated that water in the absence of forage and cover likely will not create mule deer habitat, but forage and cover in the absence

of water may provide deer habitat, at least seasonally. Thus, dependable dirt tanks might make forage resources, which would otherwise be unavailable, available year-round. Further, where deer might otherwise make seasonal movements between parts of their range with forage and parts with water, developments may reduce the need for seasonal movements, make a greater proportion of the range and its forage available to deer, reduce competition for forage in exploited range, decrease risks associated with long-distance movements (e.g., Nicholson et al. 1997, Bleich and Pierce 2001) and, thereby, increase deer abundance (Krausman and Czech 1998).

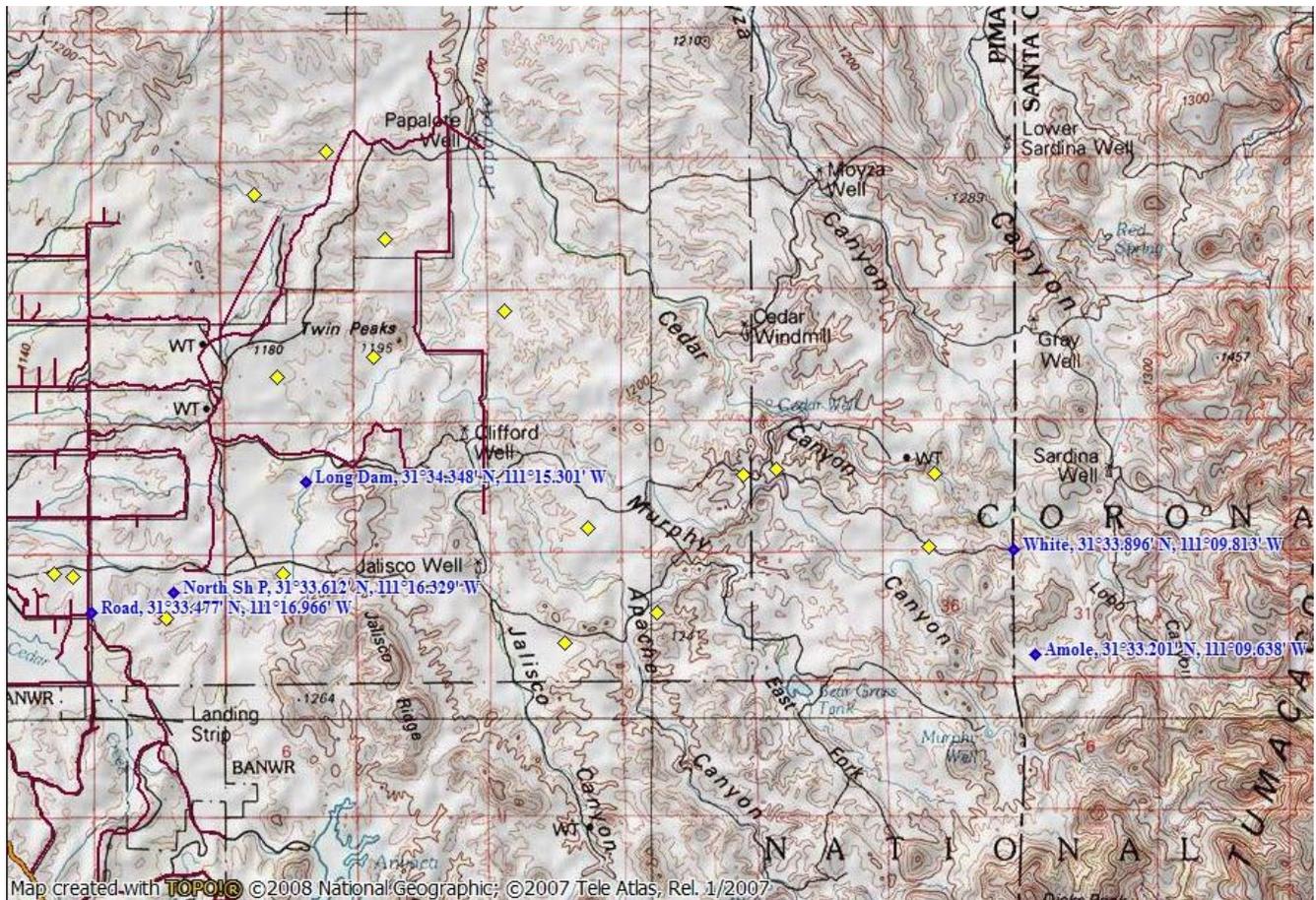
### **PROJECT OBJECTIVES:**

- To increase deer and javelina populations by providing dependable, long term, self-sustaining, quality water sources and by increasing the use of otherwise unavailable forage resources
- To increase hunter opportunity
- To increase water collection and efficiency so as to not require supplemental hauling except in rare or exceptional circumstances
- To install systems that are accessible and that requires minimal routine maintenance
- To monitor the use of these waters using remote digital game cameras

### **PROJECT DESCRIPTION AND STRATEGIES:**

The Arivaca Ranch LLC will do the excavation and cleaning of the five listed dirt tanks, during the summer of 2016, ideally after they dry out, and before monsoons saturate the ground. The requested funds of this proposal will be paying for equipment rental and usage for these 5 tanks. The Ranch will be contributing the labor of doing the 5 tanks, including the labor and equipment rental that has already occurred at 20 tanks on the ranch that were cleaned and maintained including dam work and drainage work where needed. See breakdown of cost share funds. This landscape wide project will have protected and created more reliable water sources on over 16,000 acres within the Arivaca Ranch, especially in areas where tanks have silted in and historically not held water for wildlife at all.

### **PROJECT LOCATION**



Coordinates of five tanks area shown. Yellow diamonds are locations of tanks completed by ranch in 2014 and 2015.

Name	Latitude	Longitude	Elevation
◆ White	31°33.896' N	111°09.813' W	4075 ft.
◆ Amole	31°33.201' N	111°09.638' W	4179 ft.
◆ Road	31°33.477' N	111°16.966' W	3757 ft.
◆ North Sh P	31°33.612' N	111°16.329' W	3789 ft.
◆ Long Dam	31°34.348' N	111°15.301' W	3793 ft.

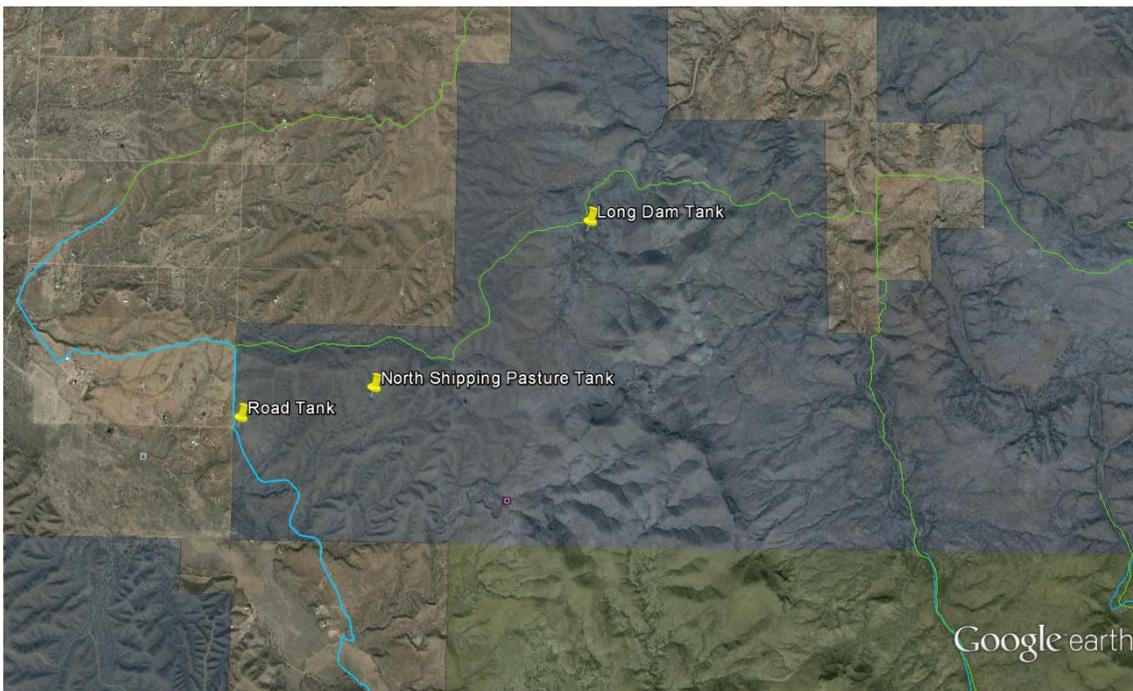
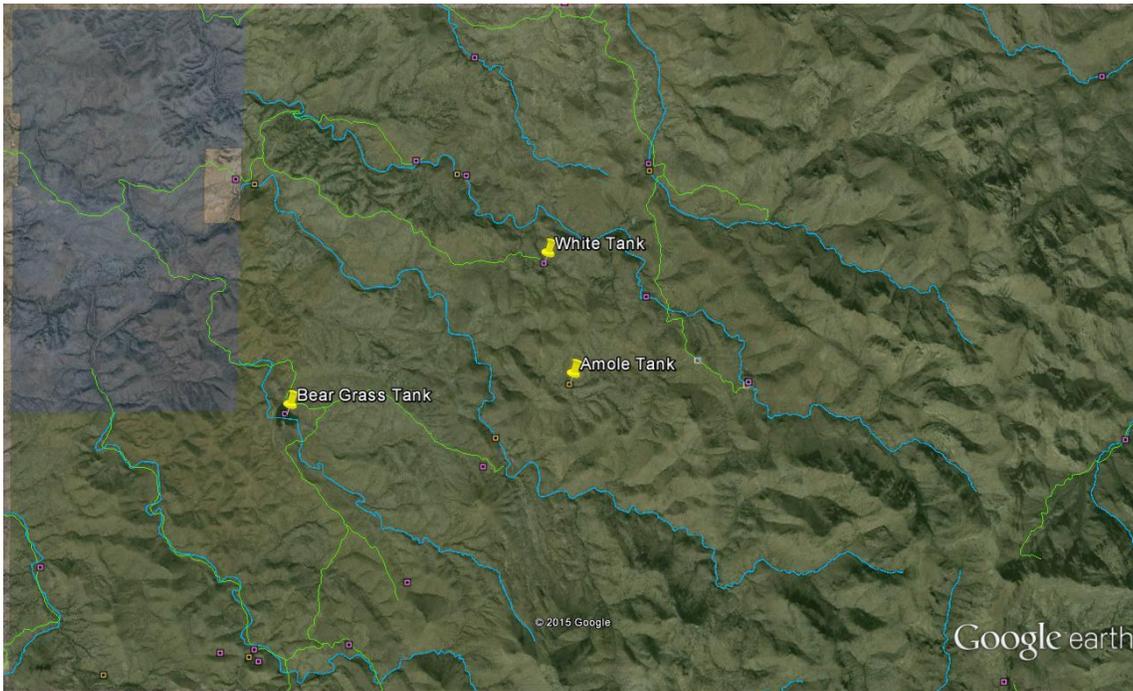
**LAND OWNERSHIP AT THE PROJECT SITE(S):**

(If the project area is private property, please state specifically and provide the landowner’s name)

White and Amole tanks are on Forest Land, while the other three are on State land.

*IF PRIVATE PROPERTY, IS THERE A COOPERATIVE BIG GAME STEWARDSHIP or LANDOWNER AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?*

YES[] NO[] N/A[x]



**HABITAT DESCRIPTION:**

The proposed location of these tanks are at an elevation of about 4000' in Sonoran Desert Scrub and mesquite covered grasslands habitat consisting of various grass species, mesquite, cactus and shrubs.

**ITEMIZED USE OF FUNDS:**

10,000.00	Heavy equipment <b>rental and use</b> for 5 dirt tanks on the Arivaca ranch*
<u>1000.00</u>	Trail cameras to monitor wildlife use throughout project area
11,000.00	Total requested funds

\*Note: Each tank that has been completed has varied with the amount of time and work needed with equipment, but all tanks have averaged approximately \$2000.00 each. This figure is being used for the 5 tanks requested.

Special Big Game License Tag Funds

**11,000.00 requested funds**

Cost Share or Matching Funds (for volunteer labor rates please refer to the worksheet below)

39,500	Ranches cost of equipment usage and rental.
<u>18,180</u>	Ranches operator labor rate with dozer and excavator for 2014, 2015, and 2016.
<b>57,680</b>	<b>Total Ranch contribution</b>

(see breakdowns below)

**Equipment Usage**

The Ranch to date, has spent \$39,500 in excavating and cleaning 20 various dirt tanks throughout the ranch (8 of which in 2014, and 12 in 2015). See both 2014 and 2015 **equipment usage invoices, adding up to 39,500.**

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CUSTOMER'S ORDER NO.		DEPARTMENT		DATE	
NAME		ADDRESS		CITY, STATE, ZIP	
SOLD BY		CASH	C.O.D.	CHARGE	ON ACCT.
MOSE. RETD.		PAID OUT			

QUANTITY	DESCRIPTION	PRICE	AMOUNT
1	Magic Tank	\$3500	3500.00
2	dog lady's Tank	\$2500	2500.00
3	long dam pass Tank	\$1500	1500.00
4	South long dam Tank	\$1000	1000.00
5	Clifford Tank	\$2500	2500.00
6	BP Tank	\$1500	1500.00
7	Three legged dog tank	\$1000	1000.00
8	Bull pasture Tank	\$1500	1500.00
		\$5,000.00	

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CUSTOMER'S ORDER NO.		DEPARTMENT		DATE	
NAME		ADDRESS		CITY, STATE, ZIP	
SOLD BY		CASH	C.O.D.	CHARGE	ON ACCT.
MOSE. RETD.		PAID OUT			

QUANTITY	DESCRIPTION	PRICE	AMOUNT
1	Papalote concrete Tank	\$4500	4500.00
2	old man Tank	\$2500	2500.00
3	Twin Peak Tank	\$2500	2500.00
4	Samaritan Tank	\$2500	2500.00
5	split Tank	\$2000	2000.00
6	Red hill concrete Tank	\$1500	1500.00
7	Middle Tank	\$1500	1500.00
8	Mesa Tank	\$2000	2000.00
9	hidden Tank	\$2000	2000.00
10	East shipping pasture Tank	\$1500	1500.00
11	Middle shipping pasture Tank	\$750	750.00
12	West shipping pasture Tank	\$1250	1250.00
		\$24,500.00	

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**MIKE DOWERS BACKHOE SERVICE, INC.**  
 PO BOX 90768  
 TUCSON AZ 85752  
 520.744.7852  
 FAX 520.744.7820  
 mikedowersbackhoe@hotmail.com

To Roxie:

6/3/2014

**BILL OF SALE**

Michael Dowers President of Mike Dowers Backhoe Service, Inc. ("Seller") hereby sells to Stephanie & Ray Sykes (Buyer) of Arivaca Ranch, LLC the equipment described below.

A 420 D Caterpillar Rubber tire Backhoe extend hoe  
 Serial # FDPO7895

For the sum of **\$30,000.00**

Payment to be made as follows  
 Payment will be wired to Mike Dowers Backhoe Service, Inc. account no later than 6/4/14.

Machine hours 7574.2

Seller makes no warranties of any nature, expressed or implied, except that the equipment is free and clear of all liens or any encumbrances.

MIKE DOWERS BACKHOE SERVICE INC.

*[Signature]*  
 MIKE DOWERS  
 PRESIDENT

To: Colorado East Bank & Trust  
 La Junta, CO

Wire Money \$30,000.00 from Arivaca Ranch acct.

**SEND PAYMENTS TO:**  
 ARVERN RENTALS  
 PO BOX 271390  
 LAS VEGAS NV 89127-1390  
 TEL: 702-647-8100  
 FAX: 702-647-9866

**CUSTOMER ASSISTANCE:**  
 TUCSON  
 4925 N CASA GRANDE SWY  
 TUCSON AZ 85743-9223  
 TEL: 520-408-0599  
 FAX: 520-408-0700  
 MON - FRI 6:30-5:00  
 SATURDAY CLOSED  
 SUNDAY CLOSED

**Customer:** RAYMOND CALVIN SIKES  
 1425 COUNTY ROAD Q  
 FRITCHETT CO 81064-9603

**Job Site:** ARIVACA  
 15301 WEST JALISCO ROAD  
 ARIVACA, AZ 85601  
 C#: 719-643-5325 J#: 719-643-5325  
 Map page/grid: 80/200

Qty	Equipment	Min	Day	Week	4 Week	Amount
1	LOADER, WHEEL, 120-136HP, 2.5-3YD EQ#: 144034 Make: JOHN DEERE Model: 524K Ser #: 1DM524KRF2E62146 HR OUT: 290.60 HR IN: CUSTOMER CALL WHEN DONE	325.00	325.00	1250.00	2950.00	2950.00
TOTAL:						440.00

Qty	Item number	Unit	Price	Amount
1	160642	EA	7.500	7.50
ENVIRONMENTAL CHARGE				7.50
DELIVERY CHARGE - NORMAL				120.00
JOHN SMITH 719-523-3027				
Taxable Sub-total: 3431.50				
( 8.10% ) Tax: 277.95				
TOTAL:				3709.45

**SALES ITEMS:**

Qty	Item number	Unit	Price	Amount
1	160642	EA	7.500	7.50
ENVIRONMENTAL CHARGE				
DELIVERY CHARGE - NORMAL				120.00
John smith 719-523-3027				
Taxable Sub-total: 3431.50				
( 8.10% ) Tax: 277.95				
TOTAL:				3709.45

**TERMS:** Payment Due within 10 days of invoice. A finance charge of 2% per month will be added to past due accounts.

**PLEASE VISIT US ON THE WEB AT WWW.ARVERN.COM OR YOU MAY CALL OUR 24 HOUR SERVICE AT 800-400-1610.**

**Operator Labor Rate**

The going average operator rate for dozer and excavator work is between 18.00 and 22.00/hour. Using a rate of 20.00/hour, which would be the cost of contracting this work in addition to the equipment usage and rental, and multiplying it by the number of hours spent at each tank done in 2014 and 2015 (and expected hours for 2016) created a total amounts per year of **operator labor donated by Arivaca Ranch.**

2014 labor:	441 hours	\$8,820.00
2015 labor:	312 hours	\$6,240.00
2016 labor:	156 hours	\$3,120.00 (expected)
<b>Total:</b>		<b>\$18,180.00</b>

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

Arivaca Ranch LLC

**WOULD IMPLEMENTATION OF THIS PROJECT ASSIST IN PROVIDING, MAINTAINING, OR FACILITATING RECREATIONAL ACCESS?**

YES[x] NO[] N/A[]

**PROJECT MONITORING PLAN:**

AZGFD will monitor for completion of this project in a timely manner, pursuant to reasonable conditions for completion.

**PROJECT MAINTENANCE:**

N/A

**PROJECT COMPLETION REPORT TO BE FILED BY:**

M. Frieberg (applicant proposal)

**WATER DEVELOPMENT PROJECTS (please use the worksheet below):**

N/A

**TREE CLEARING/REMOVAL PROJECTS (please use the worksheet below):**

N/A

**ATTACHMENTS:**

No Clearances are required for the work as this is considered regular maintenance per State Land and Forest Service. Forest Service will review tanks with a biologist to monitor completion.

## **ARIZONA GAME AND FISH DEPARTMENT** **WATER DEVELOPMENT WORKSHEET**

**PROJECT TITLE:** \_\_\_\_\_

1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?” Increasing the dependency of wildlife waters is listed on the Unit 36 MFA, but this is not an official GF wildlife water development.**

2) **Please list the Development Branch personnel and date coordinated with for this project.**  
N/A

3) **What is the estimated annual inches of precipitation for the area? (mark one)**  
2-4 4-6 6-8 8-10 10-12 12-14 14-16  >16

4) **Is there a perennial water source available to big game within four miles of this project?**

YES  (please complete #5 below)    NO  (skip #5 below)

5) **For the accessible, perennial water source nearest this project:**

Name of water source:

Type of water source (catchment, spring, dirt tank):

Ownership of water source:

Distance in miles from project:

6) **Is the target wildlife species a result of transplant efforts?** YES     NO

7) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument). If private land, list landowner.**

8) **Please provide the following information about access to the proposed site:**

Type of access (mark one): 2x4 vehicles    4x4 only    foot only\*\*

\*\*If foot access only: Distance in miles: \_\_\_\_\_    Approximate hiking time: \_\_\_\_\_

-- Does access to this site require crossing private or tribal lands? YES     NO

-- Please describe any restrictions to public access:

9) **Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.**

10) **Was a site visit completed?** Yes     No

If Yes, please list personnel that attended and date.