

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

Game Branch / HPC Project Number:	14-515
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**PROJECT INFORMATION**

<b>Project Title:</b> Hart Pasture Water Development	
<b>Region and Game Management Unit:</b> Region 5, GMU 35A	
<b>Local Habitat Partnership Committee (LHPC):</b> • Sierra Vista/Douglas (SEAZHPC)	<b>Was the project presented to the LHPC?</b> <b>YES</b> <input checked="" type="checkbox"/> <b>NO</b> <input type="checkbox"/>
<b>Has this project been submitted in previous years?</b> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> <b>If Yes, was it funded?</b> YES <input type="checkbox"/> NO <input type="checkbox"/> → <b>Funded HPC Project #(s):</b>	
<b>Project Type:</b> Water Development	
<b>Brief Project Summary:</b> Due to the drop in water table throughout the Elgin/Sonoita area, this project will require the drilling of a new well at a site that currently has an unreliable, shallow well utilizing a windmill. The project will utilize the existing storage tank and trough, lay approximately 2.1 miles of underground waterline and install two large drinkers connected along the line, one approximately 1 mile from the well site, with the second at the end of the line on the east side of a cross fence within the Calf pasture.	
<b>Big Game Wildlife Species to Benefit:</b> Pronghorn (45%), Mule Deer (45%), javelina (10%)	
<b>Implementation Schedule</b> (Month/Day/Year):  <u>Project Start Date:</u> January, 2014  <u>Project End Date:</u> June, 2015	<b>Environmental Compliance:</b> NEPA Completed: Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Projected Completion Date: Not needed due to Private Land and no Federal funds to be utilized _____  State Historic Preservation Office - Archaeological Clearance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Private Property Projected Completion Date: Archaeological Clearance completed by Desert Archaeology (Tucson, AZ) upon project approval. Funded through Landowner Contribution.  _____  Arizona Game and Fish Department EA Checklist: N/A <input type="checkbox"/> To be Completed by: _____ Projected Completion Date: June 2015

**PROJECT FUNDING**

<b>Special Big Game License Tag Funds Requested:</b>	<b>\$ 14,900.00</b>
Arizona Antelope Foundation	\$7,000.00
Mule Deer Foundation	\$ 7,900.00
AZGFD Access Program	\$8,500.00
<b>Cost Share or Matching Funds:</b>	<b>\$13,846.42</b>
<b>Total Project Costs:</b>	<b>\$28,746.42</b>

## PARTICIPANT INFORMATION

<b>Applicant</b> (please print): Babacomari Ranch LLLP Ben Brophy, Managing Partner	<b>Address:</b> PO Box 490 Sonoita, AZ 85637	<b>E-mail:</b> ben_brophy@cargill.com
<b>Telephone:</b> 316-990-2390		<b>Date:</b> August 22, 2014

**AGFD Contact and Phone No.** (If applicant is not AGFD personnel):  
Ben Brophy 316-990-2390

**Project has been coordinated with:**  
Ben Brophy, Managing Partner, Babacomari Ranch LLLP  
Matt Braun, WM, GMU35, AZGFD  
Brad Fulk, Sector 8 Field Supervisor, AZGFD  
Matt Walton, Landowner Relations Coordinator  
Glen Dickens: Arizona Antelope Foundation  
Terry Herndon: Regional Director, Mule Deer Foundation  
SEAZHPC

### **NEED STATEMENT – PROBLEM ANALYSIS:**

The Hart Pasture is one of numerous pastures utilized by the Babacomari Ranch to distribute livestock grazing, and is located east of the Upper Elgin/Canelo Pass Road. **(See Babacomari Ranch Map)** This pasture also is very important to Pronghorn and Mule Deer distribution throughout the Sonoita plains. Currently, the pasture has only 2 water sources which are unreliable on a yearly basis.

One of the waters is a small spring located on the north end of the Hart Pasture, along the Babacomari River. This water source is unreliable during the summer months, prior to monsoon moisture, and gets very concentrated use by livestock due to its proximity to the River. Because of this heavy use, erosion within the general area has begun to be an issue.

The second water is located on the Southwestern side of the Hart Pasture and currently is fed by a shallow well installed with a submersible pump and small solar panel. Due to lower than average rainfall over the past 15 years, along with urbanization of the lands surrounding the Babacomari Ranch, the overall water table throughout the Sonoita/Elgin area has dropped. This has caused many of the wells that were drilled some 50 years ago to go dry, or be unreliable during drier months.

Due to the cost of retrofitting and deepening the existing well, a new, deeper well will be drilled nearby and equipped with a solar pump (approximate location 0545013 / 3498269). The existing storage tank and trough will also be utilized. Additionally, a waterline will be buried and run approximately 2.1 miles with two large, wildlife accessible, water troughs interspersed along the line. The first trough will be located approximately 1 mile from the new well (0546040 / 3498653 approx), with the second trough crossing a division fence into what is known as the Calf Pasture (0547847 / 3499100 approx), 2.1 miles from the new well. **(See Attached Project Map 1)**. The only other water located in the Calf Pasture is approximately 1 ¼ miles east. This pasture also contains prime habitat for Pronghorn and Mule Deer. **(See Attached Water Connectivity Map)**

This new well, along with the addition of two large drinkers will distribute livestock away from the

Babacomari River, and will provide yearlong water for Pronghorn and Mule Deer, within more favorable habitat for both species.

The Babacomari Ranch has been a partner with the Arizona Game and Fish Department and various Conservation groups for over 20 years. Over the years, they have completed grassland restoration projects in the form of mesquite grubbing, aerial and manual herbicide treatment on mesquites, whitethorn, sandpaper bush, and creosote; developed yearlong water delivery systems throughout the ranch; developed rotational burn plan for the sacaton bottoms; fenced out riparian areas from livestock use; worked with NRCS and rangeland specialists to improve habitat conditions; entered into agreements with USWS to reintroduce and protect T&E species along the Babacomari River Riparian corridor; instrumental in working with AZGFD to improve Gould's turkey habitats and relocation efforts; entered into Heritage Stewardship Access Agreement to allow hunter access; and have been an important partner in the translocation and management of Pronghorn within the Sonoita Plains.

Over the past three years, the AAF has been working generally throughout the Sonoita Plains and particularly with the Babacomari Ranch through a National Fish and Wildlife Grant to improve grassland habitat and Pronghorn populations. Through this partnership, the Babacomari has allowed fence modifications to boundary fences, developed a 321 acre sacaton burn to improve habitat and develop a movement corridor for Pronghorn around the Sonoita/Elgin urbanized areas, engaged with NRCS in removing mesquite through grubbing and herbicide treatments on 1,756 acres, allowed the translocation of Pronghorn into the ranches West Pasture (located west of the Hart Pasture), and supported a coyote management effort. These grassland restoration, connectivity and Pronghorn population enhancement efforts have shown marked success for both Pronghorn and Mule Deer.

It should also be noted that the Babacomari Ranch entered into an agreement with the AZGFD approximately eight years ago to develop a water system throughout the West Pasture, which supplies yearlong water to four large troughs. This development was essential due to lack of perennial water in this pasture, and has been the major pasture utilized by Pronghorn. Now, with New Mexico Pronghorn being supplemented into the pasture, and recent observations of Pronghorn crossing from the West Pasture into the Hart Pasture, the development of yearlong waters along the southern end of the Babacomari Ranch will greatly increase habitat availability and connectivity.

In addition to these projects, predator control efforts has been practiced over the past three years (and will continue into the spring of 2015) with emphasis on trapping and calling coyotes during winter/spring months (December – May) to improve fawn recruitment. The intent of this ongoing practice is to reduce coyote population numbers within known fawning areas just prior to the Pronghorn fawning period. Since the inception of this management activity, pronghorn fawning success has averaged 53 fawns:100 does over the past two years. Looking back during the 2009-2011 period, fawn survival (pre-coyote control) resulted in zero (0) fawn survival in the project area. Additionally, mule deer surveys during the winter of 2013 indicated that mule deer recruitment throughout the predator control area resulted in 75 fawns:100 does, while in areas where no predator control was performed resulted in only 26 fawns:100 does, which is within the long-term average ranging from 17-26 fawns:100 does (Matt Braun, AZGFD Wildlife Manager, GMU 35. 2013).

During the summer of 2014, two wildfires burned on the Babacomari Ranch. One occurred in O'Donnell Canyon, located east of the Calf Pasture, and burned a sacaton bottom. The second occurred in Vaughan Canyon and burned the upland habitat within the Hart Pasture where the proposed water project will be developed, along with a portion of the sacaton bottom along the southern side of the Babacomari River. Habitat conditions on both sites have been improved due to

recent monsoon moisture.

The efforts of the Babacomari Ranch to partner with various Conservation groups, along with the development of this solar equipped well and addition of two new drinkers will enhance habitat connectivity and availability for the newly established Pronghorn population, and local Mule Deer population.

**PROJECT OBJECTIVES:**

The Hart Pasture Water Development will provide permanent water to the 4,400 acre Hart Pasture and the adjoining Calf Pasture of 3,500 acres, along with establishing a water source every mile interval along the southern end of the Ranch. Not only will this water allow the Babacomari Ranch to improve their rest/rotation grazing management, it will provide additional habitat for a variety of big game and game bird species, and will greatly enhance habitat availability and connectivity by completing the necessary ecological components for unobstructed wildlife movement.

**PROJECT DESCRIPTION AND STRATEGIES:**

The proposed Hart Pasture Water Development will provide yearlong water to a section of the Babacomari Ranch that currently does not have a reliable perennial water source. The addition of a solar powered new well to replace an unreliable shallow well, along with the placement of two miles of underground water line to furnish water to two new large troughs will provide three permanent water sources, one mile apart. Once these additional waters are developed, a corridor running approximately nine miles long by 2 ¼ wide (12,960 acres) will provide yearlong water and unobstructed connectivity for Pronghorn and Mule Deer. This water development will not only reduce livestock use at the intermittent spring located on the Babacomari River and surrounding riparian habitat, but will reduce erosion, improve riparian water quality, disperse livestock away from the River, and improve overall habitat conditions and connectivity for Pronghorn and Mule Deer.

The development of the new water well and water line will be funded through the Special Big Game Tag Funds, while all other project costs will be incurred through landowner contributions.

**PROJECT LOCATION: See Map**

Babacomari Ranch, located in Santa Cruz County, Arizona

The development of this water will provide yearlong water to the 4,400 acre Hart pasture, along with providing a water source in the western end of the 3,500 acre Calf Pasture

Proposed New Well/ Existing Storage Tank and Trough Coordinates (approximate): UTM: 0545013/3498269 Datum NAD83

Proposed Trough1 Coordinates (approximate): UTM: 0546040/3498653 Datum NAD83

Proposed Trough 2 Coordinates (approximate): UTM: 0547847/3499100 Datum NAD83

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

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

- Babacomari Ranch LLLP
- Ben Brophy, Managing Partner

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

YES[X] Renewed agreement in 2014 NO[] N/A[]

(Pending)

**HABITAT DESCRIPTION:**

The project will encompass an elevation range of approximately 4,700 feet at the new well site and drop do around 4,600 feet at the last drinker in the Calf pasture.

The project area can be described as semi-desert grassland. The project area is predominately made up of a variety of perennial native grass species including blue grama, sideoats grama, hairy grama, sprucetop grama, plains lovegrass, green sprangletop, vine mesquite, Texas timothy, curly mesquite, and cane beardgrass, as well as others , perennial and annual shrubs, various browse species, scattered mesquite sp., cactus sp., along with invasive species including lovegrass exists throughout this habitat regime. (See Attached Project Habitat Overview Photo)

**ITEMIZED USE OF FUNDS:**

Special Big Game License Tag Funds

Drilling well (300 foot @ \$32/foot)	\$9,000.00
2.1 miles waterline @ .55 cents/ft.	\$5,900.00

**TOTAL** **\$14,900.00**

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

Landowner	Contribution
<b>\$8,500.00</b>	
<i>Bulldozer – Trenching for underground waterline placement</i>	
\$2,300.00	
<i>2 large water drinkers</i>	
\$2,700.00	
<i>Archeological Clearance</i>	\$3,500.00

Submersible Pump	<b>\$800.00</b>
Well Driller Travel Cost to Project Site	<b>\$1,300.00</b>
Pull submersible Pump and set in new well	<b>\$570.00</b>
Solar pump and install costs:	

<i>Item</i>	<i>Description</i>	<i>Unit Cost (\$)</i>	<i>Quantity</i>	<i>Price (\$)</i>
<i>10/3 Pump Wire</i>	<i>Submersible Pump Wire</i>	<i>1.44</i>	<i>200</i>	<i>288.00</i>
<i>1 1/4" PVC S80</i>	<i>PVC Drop Pipe schedule 80</i>	<i>1.04</i>	<i>200</i>	<i>208.00</i>
<i>GCOUP 1 1/4"</i>	<i>Galvanized Couplings</i>	<i>3.00</i>	<i>10</i>	<i>30.00</i>
<i>Panel Mount</i>	<i>Rack for solar panels</i>	<i>480.00</i>	<i>1</i>	<i>480.00</i>
<i>230 watt panel</i>	<i>230 watt 30 volt solar panel</i>	<i>480.00</i>	<i>2</i>	<i>960.00</i>
<i>Misc</i>	<i>Tape, Splice Kit, Pipe Dope, Etc.</i>	<i>10.00</i>	<i>1</i>	<i>10.00</i>

Tax @ 6.6%

130.42

Solar Subtotal:

\$2,676.42

**Cost Share Total:**

**\$13,846.42**

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

Babacomari Ranch – Labor and project development  
Scott Martin – Bulldozer work, laying waterline and plumbing  
Ranchers Well Service – Pull submersible and install solar system  
Allen Well Service – Drill new well  
Desert Archaeology – Archeological Clearance

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

YES NO N/A

Continuing a partnership with the ranch not only will result in maintaining public access, but will enhance wildlife habitat, thus aiding in the restoration of various game species populations throughout the area, particularly Pronghorn and Mule Deer.

**PROJECT MONITORING PLAN:**

Babacomari Ranch will provide annual checks and maintenance (as required) on all aspects of water development.

Local AZGFD Wildlife Manager will perform yearly checks in association with field activities.

**PROJECT MAINTENANCE:**

All maintenance will be performed by Babacomari Ranch.

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

John Millican, Field/Project Manager – Arizona Antelope Foundation

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

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

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

**PROJECT TITLE:** Hart Pasture Water Development

- 1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”** NO
- 2) **Please list the Development Branch personnel and date coordinated with for this project.**  
NA
- 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   
Pronghorn

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

Private Landowner: Ben Brophy, Managing Partner

- 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: Ranch renewed Heritage Stewardship Access Agreement in 2014

- 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.

John Millican, Arizona Antelope Foundation Project Manager    May 28, 2014

Drilling well (300 foot @ \$32/foot)

2.1 miles waterline @ .55 cents/ft. (underground)

2 large water drinkers (8 foot X 4 foot)

Solar Pump:

10/3 Pump Wire

1 1/4" PVC S80

GCOUP 1 1/4"

Panel Mount

230 watt panel

Misc

Submersible Pump Wire

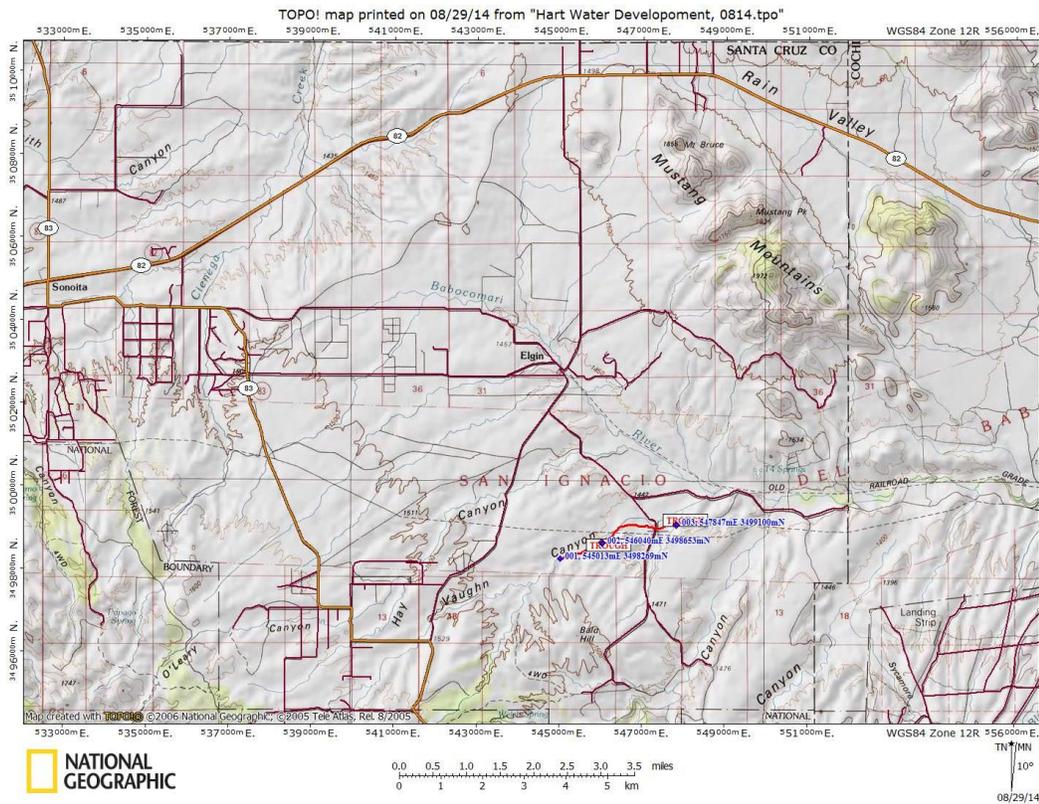
PVC Drop Pipe schedule 80

Galvanized Couplings

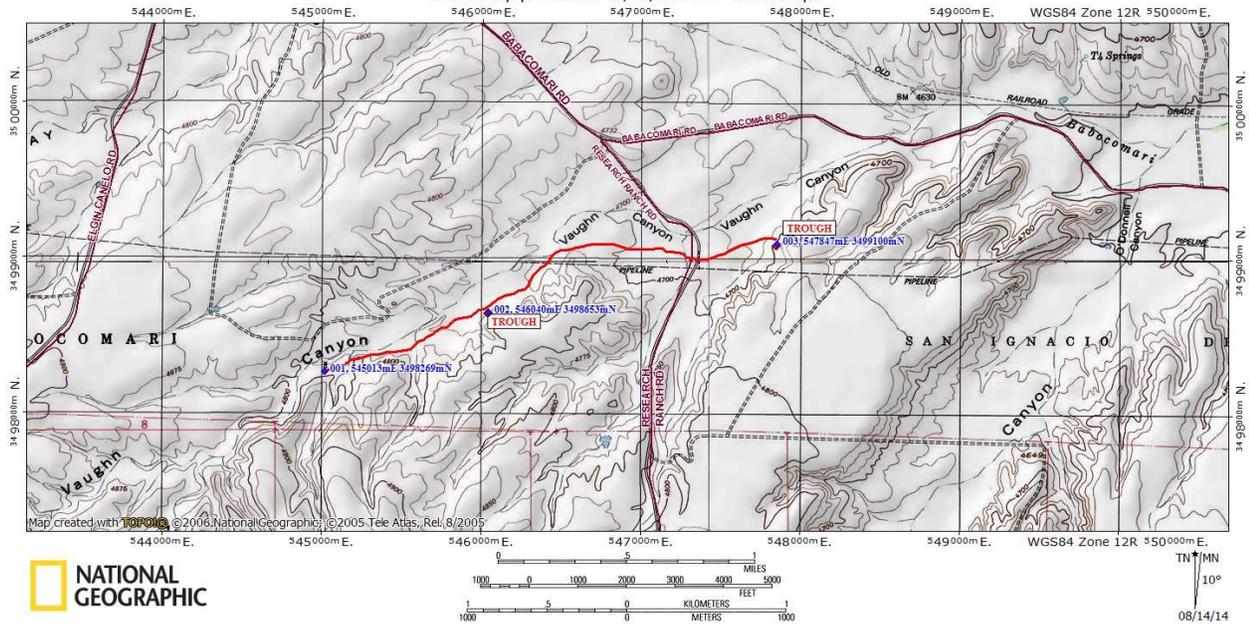
Rack for solar panels

230 watt 30 volt solar panel

Tape, Splice Kit, Pipe Dope, Etc.



TOPO! map printed on 08/14/14 from "Untitled.tpo"



TOPO! map printed on 08/22/14 from "Hart Water Development, 0814.tpo"

