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

Game Branch / HPC Project Number:	13-509

PROJECT INFORMATION

Project Title: Halfmoon Valley Water System; Phase 1, 2 and 3

Region and Game Management Unit: Region 5 / GMU 30A

Local Habitat Partnership Committee (LHPC):
- SEAZ HPC

Was the project presented to the LHPC?
YES[x] **NO**[]

Has this project been submitted in previous years? **YES**[x] **NO**[]
If Yes, was it funded? **YES**[] **NO**[x] → **Funded HPC Project #(s)**:

Project Type: Water Development

Brief Project Summary: Development of a well and water distribution system on National Forest lands in the Pedregosa Mountains on the south end of the Chiricahua Mountain range in southeastern Arizona. Due to the size and complexity of this project, we plan to phase it in over a three year period. The pipeline will be approximately 3.5 miles in length with 15000 gallons of storage and four drinkers. This pipeline will provide dependable, year round water for wildlife and livestock on the Pedregosa grazing allotment which is currently watered only by ephemeral springs and dirt tanks.

Big Game Wildlife Species to Benefit: Coues whitetail deer, Mule deer, javelina, black bear, mountain lion, Mearns quail, and Ghould's turkey

Implementation Schedule (Month/Day/Year):

Project Start Date: 02/01/2014

Project End Date: 02/01/2017

Environmental Compliance:
NEPA Completed: Yes[x] No[] N/A[]
Projected Completion Date: _____

State Historic Preservation Office - Archaeological Clearance:
Yes[] No[X] N/A[]
Projected Completion Date: to be completed by Forest Archeologist when funded.

Arizona Game and Fish Department EA Checklist: N/A[]
To be Completed by: _____
Projected Completion Date: _____

PROJECT FUNDING

Special Big Game License Tag Funds Requested:	**$** 59,943 which is 47% of the total
Cost Share or Matching Funds:	**$** 66,431 which is 53% of the total
Total Project Costs:	**$ 126,374**

PARTICIPANT INFORMATION

Applicant (please print): USDA-FS, Douglas Ranger District	**Address**: 1192 West Saddleview Rd. Douglas, AZ 85607	**E-mail**: josephharris@fs.fed.us
Telephone: (520)364-6800		**Date**: 08/25/2013

AGFD Contact and Phone No. (If applicant is not AGFD personnel):
Brad Fulk

Project has been coordinated with:
John Millican and Brad Fulk of the SEAZ HPC; and Terry Herndon-MDF

NEED STATEMENT – PROBLEM ANALYSIS:
The Pedregosa grazing allotment is comprised of approximately 16 square miles of National Forest located on the south end of the Chiricahua EMA. This allotment is watered by dirt stock tanks and a few isolated, ephemeral springs. The lack of dependable water on this allotment has made it difficult to appropriately manage grazing on the allotment and has led to poor range conditions in some years. The lack of water has also made this habitat undesirable for wildlife populations in the area during critical periods of drought in most years. This has been determined as the most critical limiting factor for wildlife populations in the project area.

The Pedregosa grazing allotment is also a relatively high traffic area, both in terms of recreational use and Border Patrol activity. This has led to problems with gates being left open along FR 721 which currently provides unlimited vehicle access through the area. Gates being left open by users other than the permittee have become a hindrance to effective management of the grazing activities on the allotment and this has had a detrimental effect on habitat quality at some times. Recreational users and Border Patrol agents are inconvenienced by the number of gates that they have to open as they go thru this area. Providing cattle guards along FR 721 is seen as the best solution to this ongoing access problem.

Overall, Mule and Coues Whitetail deer populations within GMU 30A have decreased in the last decade but have been stable the last couple of years. The Halfmoon Valley presents a unique situation, in that it possesses good habitat for all big game species mentioned above but lacks the perennial water. Lack of dependable year round water is identified as being the single most important factor preventing population growth. This project would result in a much need perennial water source within the valley that would assist the local Coues Whitetail, and Mule Deer herds in addition to local Ghould's turkey populations. This will also aid in the connectivity of Mule Deer populations found within the San Bernardino Valley and Leslie Canyon in addition to improving range conditions for all wildlife species.

As mentioned above, this area is located in relatively close proximity to Douglas and is frequently accessed by the hunting public. Unrestricted hunter access occurs in the area through a system of Forest Service roads from the north and on Dangerous Road (yes that is the name) across state and private land from the south. Both access routes consist of dirt road, accessible with 4x4. This project, if completed, would improve the road system making the area more easily accessible to the public while reducing the impact of that access on the efforts to manage this resource effectively. Hunting opportunities and game populations would increase in the area as game populations utilize the proposed water system.

PROJECT OBJECTIVES:
The project objective is to provide dependable, year round water that is accessible to both livestock and wildlife in the area. This will enhance habitat and allow the affected species access to this area which has not been available due to lack of water. In addition, this water development will allow the Forest Service and the permittee to apply more consistent management across the allotment area, thus improving range conditions.

A second objective of this project is to address the issues related to the high user traffic on FR 721 in

the Halfmoon Valley. Installing cattle guards at three locations where pasture fences cross FR 721 will address these issues.

PROJECT DESCRIPTION AND STRATEGIES:
The project will be phased in over a three year period because of its size and complexity. **The first year** will involve the drilling and equipping of a well adjacent to the existing power line at the north end of the Halfmoon Valley as well as the development of a storage and trough at the well site. Three cattle guards will be installed on FR721 by the Forest Service as well. **The second year** will focus on the development of 2.5 miles of water line to a second storage location and the development of two additional trough locations. **The third year** will focus on the development of an additional mile of water line to a third storage site as well as the development of a fourth trough site. *(See Attached Map)*

This project will, for the first time, provide dependable, year round water to the portions of this allotment that have lacked that in the past.

To address the ease of access issues along FR721, the Forest Service will purchase and install three cattle guards. This will allow Forest users to access this area with ease and will reduce the impact of this traffic on the ability of the permittee and the Forest Service to effectively manage the rangeland resources in the area.

PROJECT LOCATION:
The Halfmoon Valley water system will be located within the Pedregosa grazing allotment on the south end of the Chiricahua EMA in southeastern Arizona. The project is located in GMU 30A in Cochise county Arizona. *(See Attached Map)*

A recent water development project at the Upper Johns Well on the Hunt Canyon allotment to the north of this proposed project area will be enhanced by this proposed water development as well. In 2010,the Upper Johns well project was completed using HPC, EQIP and LCCGP funds and is located approximately 4 miles to the north of this project area. This proposed project area will provide habitat connectivity to the south for the Upper Johns well project area, and the Upper Johns well project will provide habitat connectivity to the north for this project.

LAND OWNERSHIP AT THE PROJECT SITE(S)*:*
(if the project area is <u>private property,</u> please state specifically and provide the landowner's name)

- *IF PRIVATE PROPERTY, IS THERE A COOPERATIVE BIG GAME STEWARDSHIP or LANDOWNER AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?*
  YES[] NO[] N/A[X]

The entire Halmoon Valley water system will be on National Forest lands administered by the Douglas Ranger District of the Coronado National Forest. The Halfmoon Valley Water System will be added to the grazing permit for the Pedregosa allotment which will ensure the long term maintenance and operation of the system.

HABITAT DESCRIPTION:
The project area is in semi-desert mixed grassland, mixed with some oak and juniper, at an elevation of approximately 5,600 feet. A range condition trend study completed by the Forest Service in 2007 identified five long term monitoring transects in the area. One of these transects was in fair range

condition and the other four transects were in good to excellent condition. Some small mesquite is present in some of the pastures on this allotment, however, ground cover is still good and future management efforts will focus on dealing with potential mesquite encroachment.

ITEMIZED USE OF FUNDS:

Special Big Game License Tag Funds *(see attached spreadsheet)*

HPC funding will be used in the following ways,

-Year 1, $30,000 to drill and equip a well on the north end of the Halfmoon Valley

-Year 2, $19,676 to install 2.5 miles of pipeline, purchase and install one storage for site #2, and install two troughs at sites #2 and #3

-Year 3, $10,267 to install 1 mile of pipeline, purchase and install one storage for site #3, install one trough at site #4

Cost Share or Matching Funds (*see attached spreadsheet*)

Matching funds provided by the Forest Service will be used in the following ways,

-Year 1, $34,330 to purchase and install the trough and storage at the well site #1, provide NEPA and archeological documentation for all work and purchase and install three cattle guards on FR721

-Year 2, $22,218 to purchase 2.5 miles of 1.25" poly pipe, provide all necessary NEPA and archeological clearances for work.

-Year 3, $9,883 to purchase 1 mile of 1.25" poly pipe, fly in storage # 3 with a Forest Service contract helicopter, provide NEPA and archeological documentation for all work

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:

The permittee on the Pedregosa allotment is Tom and Karen Husted. The permittee will be providing ongoing maintenance of this system as well as paying for the electricity necessary to provide water to the system each year. The Halfmoon Valley water system will be left full of water at all times whether cattle are present on the allotment or not.

The Forest Service will be supplying most of the material for this system and a portion of the labor for each phase. In addition the Forest Service will provide the NEPA and archeological clearances as well as the long term administration of the use of this improvement.

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

YES[X] NO[] N/A[]

PROJECT MONITORING PLAN:

Forest Service personnel in the range staff at the Douglas Ranger District will provide oversight for each phase of the construction of this project. A Contracting Officers Representative(COR) certified by the Forest Service will be assigned to assure that all work is completed to Forest Service specifications. The COR will be responsible for providing the necessary documentation to AZGF with regard to completion dates and expenditures.

Long Term rangeland trend data as well as annual implementation monitoring will be conducted as part of the ongoing administration of the Pedregosa allotment using five, existing, monitoring transects on the allotment. The long term maintenance of the improvements will become a condition of the Term Grazing permit associate with this allotment.

PROJECT MAINTENANCE:
The Halfmoon Valley water system will be added to the list of improvements on the Pedregosa allotment and the continuing maintenance of this improvement will be one of the terms and conditions of the permit. The Halfmoon Valley water system will be required to be left full of water at the end of each grazing season. The pumping costs associated with this system will be paid by the permittee on this allotment.

PROJECT COMPLETION REPORT TO BE FILED BY:
Douglas Ranger District
Range and Watershed Staff Officer: Joe Harris

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

ARIZONA GAME AND FISH DEPARTMENT
WATER DEVELOPMENT WORKSHEET

PROJECT TITLE: Halfmoon Valley Water System

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.
Brad Fulk and John Millican of the SEAZ HPC have been the initial points of contact with regard to this project.

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

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

YES[X] (please complete #5 below) NO[] (skip #5 below**)**

5) For the accessible, perennial water source nearest this project:
There are three semi-perennial sources of water around the periphery of the project area. None of these sources of water are close enough to the area to be readily available to wildlife that could potentially use the project area. From a livestock perspective, none of these sources of water would be useful in providing water to the three pastures in the central portion of the Pedregosa grazing allotment and therefore none would address the range management considerations on the Pedregosa allotment. *(See Attached Map)*

1 Name of water source: Riddle Tank
Type of water source (catchment, spring, dirt tank): dirt tank
Ownership of water source: USFS
Distance in miles from project: 1.5 miles from the south end of the proposed pipeline at Halfmoon tanks.

2 Name of water source: High Lonesome Spring
Type of water source (catchment, spring, dirt tank): spring
Ownership of water source: Tom and Karen Husted
Distance in miles from project: 1.5 miles from the north end of the proposed water system.

3 Name of water source: Saner Spring
Type of water source (catchment, spring, dirt tank): well/spring and catchment
Ownership of water source: Tom and Karen Husted
Distance in miles from project: approximately 1.75 miles from the storage and trough at site #2

6) Is the target wildlife species a result of transplant efforts? YES[] NO[X]

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

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

Type of access (mark one): []2x4 vehicles [X]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[X] NO[]

-- Please describe any restrictions to public access:
The access is not restricted currently

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

Troughs	11 ft diameter earth moving tires with plumbing run underground into the center, wildlife accessible. Approximately 1000 gallon capacity.
Pipe	Numex, 1.25" P.E., 200 psi, fused at joints with galvanized 1.25" pipe to all troughs and storages, buried
Storages	5000 gallon, P.E. storages
Well Equip.	Specific pump size to be determined after well is drilled. This will be a submersible pump powered by an electrical connection to the nearby, SSVEC power line.

10) Was a site visit completed? Yes[] No[X]
If Yes, please list personnel that attended and date.
(not as of 08/25/2013, however a site visit is planned for September 9th and 10th 2013)

ARIZONA GAME AND FISH DEPARTMENT
TREE CLEARING/REMOVAL WORKSHEET

PROJECT TITLE: _____

1) What is the estimated acreage of the project?

2) How are the trees going to be cleared? (agra axe, chain saw, grubbing, push, chaining):

3) What is the estimated number of trees per acre?

4) Describe trees to be cleared (species, estimated diameter, single stem, multi-stem):

5) Describe terrain (slope, soil type, rocks)

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

7) 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: Approx. hiking time:

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

Is the site relatively accessible for tree removal equipment? YES[] NO[]

Please describe any restrictions to public access:

ARIZONA GAME AND FISH DEPARTMENT
VOLUNTEER HOURLY RATES AND CLASSIFICATIONS WORKSHEET

PROJECT TITLE: _____

The value of volunteer labor should be calculated at the hourly rate of an employee doing similar work, or using hourly rates from the Arizona Department of Administration's Human Resource web site, plus a standard ERE rate of 35%. http://www.hr.az.gov/HR_Professional/Class_Comp/PDF/alphacovered.pdf

$0.445/mile should be the calculation used for mileage.

Water Development	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$14.14	
Habitat Restoration and Clean Up	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$14.14	
Fisheries	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$14.14	
Nongame Branch Project	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$14.14	
Misc/office work	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			varies	
Community Services	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$7.44	
Events and Other	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$14.14	
Research Branch	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$14.14	
Wildlife Area Hosts	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$17.44	
Education Programs	**Volunteer Hours**	**Volunteer Miles**	**Hourly Rate**	**Estimated Value**
			$16.07	
Totals				

Halfmoon Valley Water System Cost breakdown by year

Year	Funding Source	HPC	USDA-FS currently funded	USDA-FS to be funded	Purpose			
2014		$30,000			Drill and equip well at site to be chosen in the upper end of Halfmoon Valley			
			$1,250		trough #1 at well site, including transport and set up of an 11 ft. tire drinker			
			$3,580		storage #1 at well site, including transport and set up of a 5,000 gallon poly storage			
			$5,000		portion of NEPA expense spread over project			
				$500	Archeology for tank installation			
			$19,500	$4,500	Installation of three cattle guards along FR 721 to improve access and pasture management			
	Total for year	$30,000	$29,330	$5,000	$64,330	HPC share 47%	USDA-FS share	53%
2015		$13,596			Cost to install 2.5 miles of 1.25" poly pipe pipe with a dozer and ripper assembly			
		$3,580			cost of one, 5000 gallon poly storage for site #2 including set up			
		$2,500			troughs #2 and # 3, including transport and set up for two, 11 ft. tire drinkers			
			$10,956		1.25" Poly pipe to be provided to the site			
			$5,000		portion of NEPA expense spread over project			
				$1,000	Archeology for tank and pipeline installation			
	Total for year	$19,676	$15,956	$1,000	$36,632	HPC share 54%	USDA-FS share	46%
2016		$5,437			Cost to install 1 mile of 1.25" poly pipe with a dozer and ripper assembly			
		$1,250			trough #4, including transport and set up for one, 11 ft. tire drinker			
		$3,580			Cost of one, 5000 gallon poly storage for site #3 including set up			
				$5,262	storage # 3 to be flown in by USFS contract helicopter			
			$4,383		1.25" Poly pipe to be provided to the site			
			$5,000		portion of NEPA expense spread over project			
				$500	Archeology for tank and pipeline installation			
	Total for year	$10,267	$9,383	$5,762	$25,412	HPC share 40%	USDA-FS share	60%
	Project Total	$59,943	$54,669	$11,762	$126,374	HPC share 47%	USDA-FS share	53%

Halfmoon Valley Water System

HPC Grant Application 8/22/2013

N

Perrenial Water
Phase1, Storage
Phase1, Trough
Phase1, Well
Phase2, Storage
Phase2, Trough
Phase3, Storage
Phase3, Trough
Phase 2, Pipeline
Phase 3, Pipeline
Pasture Fence

0 0.5 1 2 Miles

Project Location in Chiricahua EMA

General Project Location