

PLJV Project Report Form
(revised July 2016)

Use this form for reporting accomplishments for both PLJV/ConocoPhillips and State Capacity Grants. Reports should reflect current progress to the extent possible. Final reports should update the latest progress report. You may delete sections that are not applicable to your project. Submit reports (electronic MS-Word if possible) to the PLJV in **June** and **December** until project completion (specific dates may change; check our website for specific deadlines each year.) Please send all reports to Christopher Rustay at christopher.rustay@pljv.org.

***** Complete This Section (Including Budget Table) for All Projects *****

Report Type (check one): Final Interim _____ **Report Date:** 12/1/17

Grant Type (check one): PLJV/ConocoPhillips Grant State Capacity Grant _____
If a ConocoPhillips grant, year grant was awarded 2017 Grant # 710

Project Title: Wolf Creek Riparian and Wetland Restoration

Date PLJV portion of project was completed: December 1, 2017

Anticipated final completion date (if not the same as above): _____

Project Activities: Did type of work conducted in your project (capacity-building, habitat, research, education/outreach) change from the categories selected in your proposal? **NO**

Project Contacts: [Lea Knutson, Executive Director,](#)
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[Sapello, New Mexico 87745](#)
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Project Location:

State(s): [New Mexico](#) Bird Conservation Region(s): **18**
County(ies): [Mora County](#)
Congressional District(s): **3**
Central latitude/longitude point: [35°54'50.0"N 105°01'56.0"W](#)

The project location has not changed.

Project Summary: For interim reports provide a progress summary. For the final report provide a ≤150 word narrative summary of the project and accomplishments, suitable for use in future PLJV accomplishment reports.

In Partnership with Fort Union Ranch, Hermit's Peak Watershed Alliance coordinated the design, permitting and construction of 23 habitat enhancement structures on 1.2 miles of Wolf Creek that will retain wetlands longer into dry periods and expand their extent. An additional 16 structures on 0.5 mile of creek have been designed and permitted so are ready for construction in 2018 under an EPA section 319 Clean Water Act grant. Wetland restoration master, Bill Zeedyk designed, trained and oversaw construction. Fifty volunteers helped build structures. The \$25,000 ConocoPhillips grant was matched with donations of \$53,530 of equipment, supplies and manpower. Expanded wetland acreage and the protection and lengthening of wetted time will benefit migratory, breeding and resident birds, especially waterfowl attracted to the area by nearby Wheeler Lake. Other wetland wildlife like northern leopard frogs and perhaps NM Meadow Jumping Mouse will benefit from wetland enhancements in this arid region.

Project Success: Explain whether the project was a success per the measurables in your proposal? List each measurable and what was accomplished. If the project success was significantly above or below expectations, explain. If you were to do the project again, what would you do differently? How should the PLJV adapt from what was learned during the course of this project?

Wolf Creek is currently an intermittent stream that was historically perennial. It has been significantly degraded from excessive sheep and cattle grazing as well as severe stream entrenchment caused by wagon, horse and cattle trailing during the 1800's and early 1900's. Much of this degradation was related to the heavy use of the area by the army at adjacent Fort Union. In spite of these impacts, Wolf Creek has begun to restore itself by forming an inset floodplain with a string of wetlands that span a 1.7 mile length in the project area. These wetlands do provide some wildlife habitat benefits but are known to regularly dry up during drought periods. This project aimed to both extend the length of time wetlands held water and also expand the size of existing wetlands – both helping the stream to regain perennial flow. This project successfully installed 23 one-rock-dams and worm ditches on 1.2 miles of Wolf Creek to help meet the stated goal of 2 miles of stream and wetland restoration.

The goal of restoring a 2 mile length of Wolf Creek stated in our proposal was overly ambitious. First of all, our estimate of a 2 mile length of Wolf Creek in the project area was greater than a more precise length of 1.7 miles measured in the field. While we did not complete construction of all structures along the 1.7 mile stretch, we did accomplish designing and permitting restoration structures for that length. Structures were constructed along 1.2 miles of that length or 60% of the designed and permitted structures. Those structures that were not installed will be built by a combination of Fort Union Ranch staff (since they are now trained and experienced) and HPWA volunteer events over the next two years. While we did over promise in this respect, by accomplishing the design and permitting of a 1.7 mile stretch, we significantly facilitated the construction of the final 0.5 mile at a later time. Also by training ranch staff, they are now able to carry on this work along Wolf Creek and other areas of the ranch. The main reasons that all the structures were not completed in the project timeframe was that permitting took longer than anticipated and the structures ended up needing to be larger than originally anticipated so it took both more rock and more time to build each structure.

We believe that the stated goal of improving hydrogeomorphic conditions in Wolf Creek in order to improve the extent and functionality of wetland habitat for waterbirds was accomplished and will continue to improve because of the installed restoration structures. One-rock-dams, rock run downs, and worm ditches were used throughout the project area to extend the length of time existing wetlands will retain water, thereby protecting them from desiccation during low precipitation times. The structures will also expand the physical extent of most open water bodies and wetland plant communities upstream of each structure. We estimate that the area of open water doubled in size as a result of installed structures. New wetted areas will be added as a consequence of at least two one-rock-dam and associated with all of the 10 worm ditches constructed.

Because the project site is adjacent to the Fort Union National Monument, additional archaeological surveys and permitting work was required in order to obtain the US Army Corps of Engineers 404 permit. While we did anticipate the challenge, we did not allow enough time for the permit to be both assembled and reviewed; hence one scheduled work day had to be rescheduled when the permit was not ready on time.

While not included in this grant project, HPWA expected to follow this PLJV project with other efforts to plant woody riparian vegetation along restored sections of Wolf Creek. After review of the broader area with restoration expert Bill Zeedyk, it became clear that the herbaceous wetlands in the project area offered unique bird and wildlife habitat, while dense wooded (mostly coyote willow) habitat was quite common in the area. For this reason we discontinued our plans to proceed with woody vegetation planting after in stream structures were built.

Since actual conditions are often different from those anticipated at the time of proposal development, PLJV should expect some deviation from proposed activities, time-lines, and measurable accomplishments. Grantees should not be penalized for recognizing and adapting the project to meet actual conditions in fact they should be encouraged to modify the project as necessary to obtain the greatest ecosystem benefits for actual conditions.

Project Budget: Upon completion of the PLJV portion of this project, provide final budget information. Capacity projects should enter information for the current calendar year only. Use the budget you provided in your proposal to develop expense categories for Table 1. In Table 2, list each partner and the total contribution they made to the project (Cash and In-kind should be combined.).

Table 1: Activity/Expense Summary (*insert additional rows as necessary*)

Activity/Expense Description	PLJV CP Grant - Actual	Partner Match - Actual	Total \$
	\$	\$	\$
Design, training, oversight – Bill Zeedyk	5,503.82		5,503.82
Archaeological Survey	3,000.00	155.00	3,155.00
US Army Corps of Eng. 404 Permit	3,118.56		3,118.56
Supplies/ Equipment	132.64	18,390.00	18,522.64
Travel - HPWA	353.30		353.30
Construction Supervisor	4,988.72	4,160.00	9,148.72
Rock	3,926.08	10,800.00	14,726.08
Project Coordination - HPWA	2,912.50	3,375.00	6,287.50
General Labor		16,650.00	16,650.00
Excavator	1,064.38		1,064.38
Total \$	25,000.00	53,530.00	78,530.00

Table 2: Partner Contribution Summary

Partner Name	Total \$
PLJV/ConocoPhillips (grant amount)	25,000
Archaeological Survey (Townsend Archaeological)	155
Supplies/Equipment (HPWA, Ft. Union Ranch)	18,390
Construction Supervisor (Wildlands Stewardship)	4,160
Rock (Ft. Union Ranch)	10,800
Project Coordination (HPWA)	3,375
General Labor (Volunteers, Ft. Union Ranch)	16,650
Total \$ (should equal bottom right cell in Table 1)	\$78,530

Explain significant deviations in project costs and funding contributions from your proposal.

The project proposal described anticipated match provided by a small NAWCA proposal that we had hoped to get, however that funding was not granted so that proposed project and match did not complement this PLJV project. However, a second small NAWCA proposal was recently submitted for the same project with hopes of similar benefits should that project be granted. Even without the match provided by this small NAWCA grant, we were able to secure an actual match of \$53,530, a match ratio of 2.1:1.

In our original proposal we did not anticipate constructing structures with the use of heavy equipment. While we did end up building 9 structures by hand, the remaining 14 structures were built with either an excavator or a backhoe (used to dig worm ditches). The backhoe was provided by Ft. Union Ranch but the excavator needed to be rented. It was required because a number of the structures required rock 2' in diameter which was not practical to handle manually. In order to accommodate this extra expense, we had to make some adjustments in the budget. Fort Union Ranch provided all the rock needed for the project (see match) rather than having to purchase some of the rock, saving some funds which were used to rent the excavator. In future proposals some use of heavy equipment should be anticipated.

As a new development, this ConocoPhillips PLJV grant is also being used at match for a current \$262,000 EPA CWA 319 grant titled On-The-Ground Improvement Projects for the Mora River – Upper Canadian Plateau Phase 1a that is underway in the same watershed as this PLJV grant. This EPA grant was awarded and contracted after our proposal to PLJV for this Wolf Cr. project.

How have the funds granted for this project been further leveraged since your project was approved?

Beyond what was completed during this specific grant project, this PLJV grant funded the design and permitting to construct an additional 16 structures. Those structures will be built with funds provided under an EPA section 319 Clean Water Act grant and effort by the Fort Union Ranch. All funds provided by PLJV will also be available as match toward this CWA grant. Furthermore, while not yet a funding contribution per se, this grant was used to do habitat restoration work on the Ft. Union Ranch property (a 95,000 acre ranch) as a demonstration of the benefits and processes involved in this work. Because of the success of and the investment made in this project, Ranch owners and Board are now willing to proceed with doing similar wildlife habitat restoration elsewhere on the ranch. Some of that work will be funded privately by the ranch and some will be done with future grants.

**** Complete This Section for Outreach, Capacity and Habitat Projects****

Specific Habitat Accomplishments: Complete this table to describe the pre- and post- project habitat scenario and habitat treatments used. This will allow the PLJV to model estimated bird population responses and contributions from your project to PLJV Implementation Plan goals.

Please refer to the [PLJV Habitat Assessment Procedures](#) document for habitat descriptions (pg 6-13). Include each habitat treatment as a cost in the budget table. Acres Pre- and Acres Post-column totals should be equal. Pre- and post-acre condition acres are likely to change. Example: If on 200 acres of exotic riparian shrubland and wet meadow (100 acres each), 100 acres were treated for Russian olive and all acres were then flooded to restore a marsh; Pre-treatment acres would equal 100 acres of exotic riparian shrubland and 100 acres of wet meadow. Post-treatment acres would equal 200 acres of floodplain marsh. This table is very important to PLJV record-keeping and helps us determine numbers of birds that were affected by your work. ***Please ask for help*** if you do not understand how to fill in this table. If your grant affected multiple tracts or project areas, you may provide a separate report form for each.

ASSOCIATION	CONDITION	ACRES PRE-	DESCRIBE HABITAT TREATMENTS* (also include costs in budget table)	ACRES POST-
Reservoirs Lakes Ponds	Freshwater lake			
	Lagoon			
	Pit			
	Reservoir			
	Stock pond			
Playas	Wet or Dry			
	Pitted			
Sandhills Wetlands (NE only)	NA			
Other Wetlands	Moist-soil unit			
	Emergent marsh			
	Saline			
Riverine Systems	Riparian canopy (early successional w/o understory)			
	Riparian canopy (early successional with understory)			
	Riparian canopy (late successional w/o understory)			
	Riparian canopy (late successional with understory)			
	Exotic Riparian shrubland			
	Native Riparian shrubland	9.0	Riparian shrubland areas (dominated by coyote willow) will receive more consistent subsurface and surface water flow throughout the year from increased water storage in soils in upstream areas. The riparian extent is not expected to expand but the quality and diversity of these riparian shrublands will improve as a consequence of restoration structures upstream.	9.0
	River channel	1.6	Open water bodies in the river channel were protected with one-rock-dams.	3.1

			Their size was also estimated to double as a result of restoration structures.	
	Unvegetated sandbar			
	Warmwater slough			
	Wet meadow	16.5	Wet meadow habitat was converted to river channel, open water bodies and floodplain marsh habitat as a consequence of one-rock-dam and worm ditch installation.	11.5
	Floodplain marsh	3.5	The extent and quality of areas dominated by saturated soils and wetland vegetation in the Wolf Creek valley bottom are estimated to have doubled in size with installation of one-rock-dams and worm ditches. The areas are both on the periphery of open water bodies but are also in between water bodies and will be maintained for longer periods from increased water stored above one-rock-dams.	7.0
Arroyo/Ravine (NM, OK, and TX only)	NA			
Cropland	Alfalfa			
	Corn			
	Fallow			
	Hay			
	Millet			
	Sorghum			
	Soybeans			
	Sunflowers			
	Wheat			
	Peanuts			
	Pasture			
	Sod farm			
	Other			
CRP	Native grasses			
	Non-native grasses			
Other (not important to PLJV priority birds)	Urban/Suburban			
	4-lane roads			
	Other roads			
	All other types			
Forest/Woodland	Eastern Red Cedar			

(upland)	Shelterbelts			
Pinyon/Juniper	NA			
Ponderosa Pine	Few trees, grassy understory			
	Many trees, little grassy understory			
Crosstimbers Woodland	NA			
Hillside Woodland	NA			
Juniper	NA			
Juniper/Mesquite	NA			
Mixed Grass	Few shrubs/Low grass			
	Few shrubs/High grass			
	Many shrubs/Low grass			
	Many shrubs/High grass			
	Prairie Dog Colony			
Sandhills Grassland (NE only)	Few shrubs/Low grass			
	Few shrubs/High grass			
	Many shrubs/Low grass			
	Many shrubs/High grass			
Shortgrass	Few shrubs/Low grass			
	Few shrubs/High grass			
	Many shrubs/Low grass			
	Many shrubs/High grass			
	Prairie Dog Colony			
Tallgrass	Few shrubs/Low grass			
	Few shrubs/High grass			
	Many shrubs/Low grass			
	Many shrubs/High grass			
Mesquite Savannah	Savannah			
	Shrubland			
Shinnery	Few shrubs/Low grass			
	Few shrubs/High grass			
	Many shrubs/Low grass			
	Many shrubs/High grass			
Sand Sage	Low grass			
	High grass			
	TOTAL ->	30.6	TOTAL ->	30.6

*Habitat treatments (i.e., management practices) include buffer establishment, sediment removal, pit filling, moist-soil management, fencing, grazing deferment, prescribed burning, mechanical and/or chemical brush control, tree/shrub planting, etc.

Explain any significant deviations from expected habitat accomplishments in your proposal.

Habitat enhancements expected in the proposal were based on treating a 2 mile stretch of Wolf Creek with an estimated area of 36 acres (this was based on the assumption of a 50' buffer on

either side of the stream channel). As explained above, we actually treated a 1.7 mile stretch of stream which corresponds to 30.6 acres of treated area.

While we cannot estimate the affected area at this time, restoration work completed is expected to improve the consistency and quantity of water flow to downstream areas, improving their wetland habitat values over time.

Briefly describe the land ownership scenario pre- and post- project, and the length (and expiration date) of any management agreements.

Owners and Board members of the Fort Union Ranch have recently expressed interest in managing for wildlife in addition to their cattle operations. They have understood that habitat restoration was needed in order to realize this goal. However, they have not had concrete examples of the benefits, costs and the procedures for doing this restoration. This PLJV project provided the landowner with clear examples of stream and wetland restoration work and also trained their staff so they could accomplish this work on their own.

A landowner agreement was executed with the Fort Union Ranch as part of this PLJV project. This agreement stipulated that the installed structures and restoration work will not be compromised for a period of 10 years.

Submit maps showing final project boundaries. These may be electronic or drawn on USGS quads or aerial photos. Project boundary polygons (Arc-GIS or Arc-View shapefiles) also are encouraged. ***Feel free*** to contact PLJV staff for assistance.

Submit pre-and post-project photographs. Photographs should be sent as separate files, even if they are also embedded in the report. Photographs should be of the highest resolution possible. For native prairie restoration, including wetland buffers, pictures are also encouraged after prairie establishment (1-3 yrs after planting). Other photos could include activities in progress or site signage.

Attachments:

Map:

PLJV_Design large.pdf

Photos:

The project area -

KIMG0622 – Wolf Creek looking down at ORD 3 pre-treatment

KIMG0635 - Wolf Creek looking down at the emergent wetland between ORD 17 & 18

Volunteer work days -

DSCN8132 – general community volunteers from the October 14th work day – Eliza Montoya (with sunglasses on – HPWA staff) in foreground, Neil Schaeffer (to her right), Joshua Miner (to right of Neil), Bill Zeedyk is in the group on the left with a hat and plaid shirt

DSCN8140 – from left to right – Shantini Ramakrishnan, Bill Zeedyk, Jeremiah Martin (back), Neil Schaeffer. I don't know the person bending over.

DSCN8147 – a variety of volunteers on that Oct. 14th work days – I don't know all of them.

Structures built –

ORD 18 – 20171105 – One-rock-dam – structure built by excavator

Before & After -

ORD2 before & after – Before and after shots of ORD number 2

ORD7 before & after – Before and after shots of ORD number 7

ORD9 before & after – Before and after shots of ORD number 9