Upper Rio Puerco Restoration Project Summary Sheet

- The BLM project area encompasses 5 miles of the Rio Puerco running parallel to US 550 south of Cuba, New Mexico and 2-3 miles in Señorito Canyon
  - important migratory corridor for many wildlife species and US550 is a significant obstacle for terrestrial species including elk and deer
  - overlaps a DOT wildlife crossing site south of Cuba (MM 52.7 and 53.6) that funnels wildlife under US 550 in two locations.
  - riparian areas provide important habitat, forage, and water to wildlife that occur here regularly or are on stopovers.
- Past work within the riparian area includes: salt cedar and Russian olive removal, cottonwood plantings, Fence maintenance, Erosion control structures, construction and maintenance of exclosure fences
- Active restoration work has begun on state land (blue oval) within proposed project area between Wilson Canyon and the Señorito confluence with the Rio Puerco.
- Project may receive River Stewardship Funding as well (currently in review process), funding sources would be additive.

Proposed Management Actions

- Removal of invasive vegetation (Russian olive and salt cedar) and riparian revegetation for both wildlife and erosion control
- Install instream structures to slow water flow and trap sediment
- Fence decommissioning and maintenance (e.g. construct new fence and realign fence where it has been compromised due to erosion in targeted areas.
- Cottonwood gallery exclosure removal
- Noxious weed re-treatment as needed

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ESTIMATED BUDGET: $350,000

Google Earth link

NEW MEXICO HABITAT STAMP SINCE 1986

Upper Rio Puerco Restoration

Rio Puerco BLM

Goal

To maintain and improve the riparian ecosystem, enhancing overall habitat quality to support wildlife, aquatic resources, and bank stabilization within the Rio Puerco riparian area near US 550.

Photo credit Charles Schaub, BLM

Upper Rio Puerco Restoration

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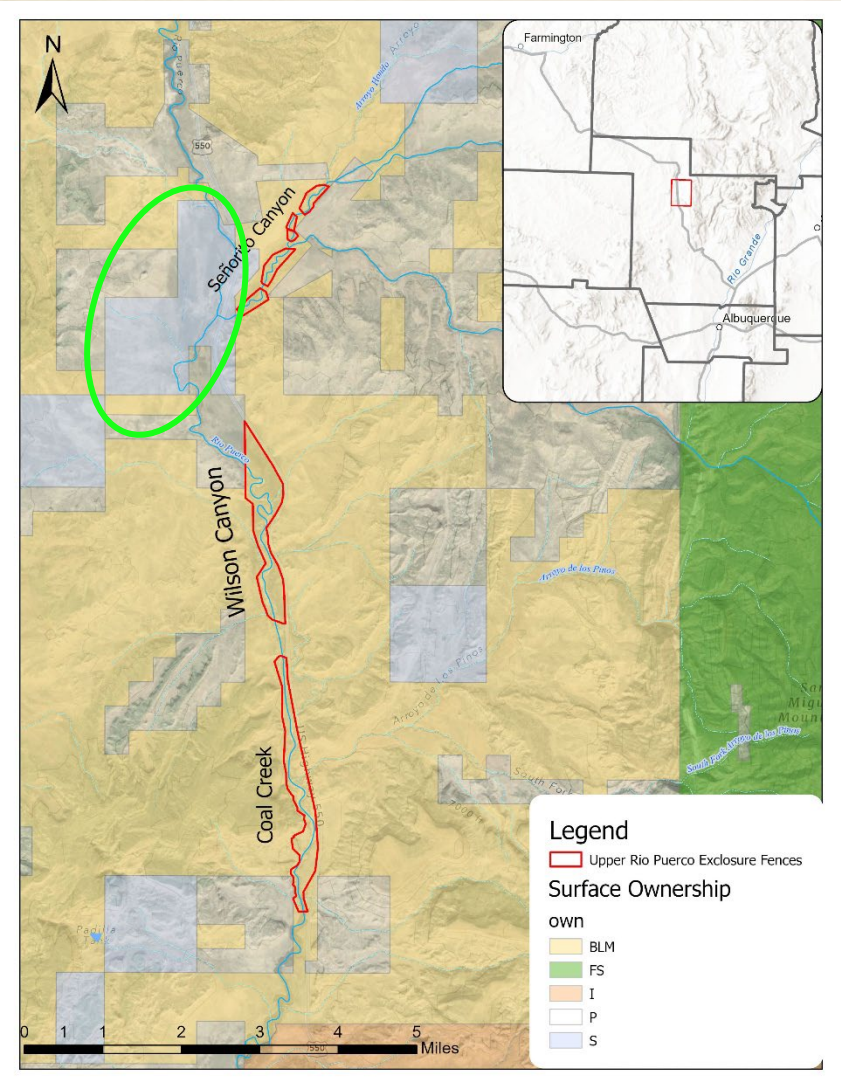
Upper Rio Puerco Restoration

- The Rio Puerco is a deeply incised semi-perennial river that was damaged by historic overgrazing and erosion
- The BLM is working to restore a roughly 30-mile stretch of the river between Cuba and Cabezon
- They have applied for a River Stewardship grant to help accomplish this that is under review
- Habitat Stamp Funds would significantly contribute to this project regardless of other funding status

Upper Rio Puerco Restoration



- This proposal focuses on Rio Puerco BLM's three most high-priority, shovel-ready sites: Senorito Canyon, Wilson Canyon, and Coal Ck.
- These sites comprise a 9-mile reach of the Rio Puerco
- There is a parcel of State Trust land on the Upper Rio Puerco (green oval) between Señorito Canyon and Wilson Canyon where this riparian restoration work has already started. This area represents the first of its kind conservation stewardship lease whereby NM State Land Office has partnered with Rio Grande Return.
- The project area overlaps a wildlife vehicle collision mitigation project south of Cuba along US 550 which includes game fencing and two underpasses

Background

- **History** The Rio Puerco has been a major contributor of sediment to the Rio Grande in recent history. During the 1960s the Rio Puerco was diverted into a straight channel on the west side of the highway in the southern portion of this project area (between Wilson Canyon and Coal Creek). In conjunction with highway widening in 1999, various agencies worked to reestablish the Rio Puerco to its original streambed and begin riparian restoration efforts. In 2019 the wildlife crossing areas at Wilson Canyon and Coal Creek were established.
  - *Water Quality Survey Summary for the Rio Puerco Watershed. 2004. Surface Water Quality Bureau*
  - *DETERMINING EFFECTIVENESS OF WILDLIFE-VEHICLE COLLISION MITIGATION PROJECTS: PHASE I. Chad D. Loberger, Jeffrey W. Gagnon, Haley P. Nelson, Colin A. Beach, and Scott C. Sprague. https://www.dot.state.nm.us/content/nmdot/en/Research.html*

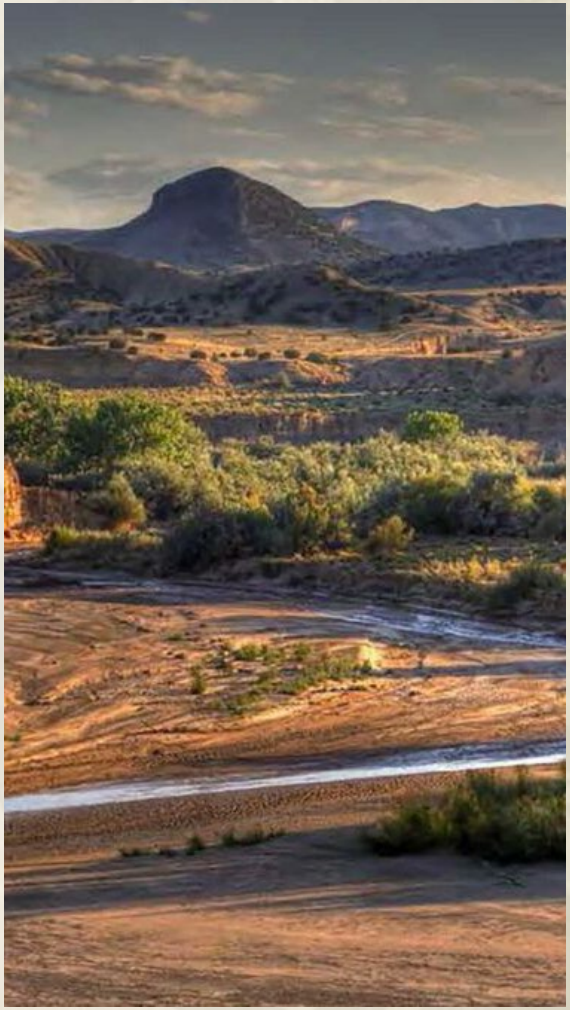


Photo of Rio Puerco, Credit: Rio Grande Return

Background

- Goals
  - Improve habitat for diverse suite of wildlife (e.g. deer, elk) during migration and road crossings as well as potential residents (e.g. beaver)
  - Induce meandering in the rio to reconnect historical floodplain while trapping sediment
  - Increase diversity of native riparian plants
  - Exclosure work to support ungrazed status of riparian corridors
- Actions
  - Planting of native riparian plants with temporary cages
  - Instream structures to trap sediment, stabilize banks, reconnect floodplain
  - Invasive plant treatment
    - Woody invasives can be pile burned or dried and used to construct instream structures
  - Maintain or rebuild wildlife-friendly fencing

Señorito Canyon

- Señorito Creek feeds into the Rio Puerco. The confluence is on the state land parcel
- Señorito project area includes ~150 ac around this semi-perennial Rio Puerco tributary.
- This area is important to wintering elk, migratory, and riparian species. Historical records of beaver ponds and observations of sensitive status species including northern leopard frog, Cassin's sparrow, loggerhead shrike, and pinyon jay
- The creek itself is slightly incised within an incised floodplain

Señorito Canyon

Past actions since 1992 include: woody spp plantings, salt cedar removal, macroinvertebrate sampling, breeding bird surveys, exclosure fence maintenance.

Planned management actions include: instream structures (BDAs) to retain water, activate flood plain, improve riparian habitat, and control erosion; invasive plant removal; native planting and seeding; repair exclosure fencing

Señorito Canyon

Wilson Canyon

Past management actions include invasive plant treatment, cottonwood and willow plantings, installation of high fence exclosures around willow and cottonwood, and maintenance of a riparian exclosure fence.

Planned management actions include instream structures (large woody debris and riprap) to induce meandering, trap sediment and prevent further erosion, old fence removal, invasive plant removal and native plantings.

Wilson Canyon

- Wilson Canyon is part of an important wildlife migration corridor
  - DOT wildlife crossing funnels wildlife for about five miles to a crossing under Rte. 550 at this site
  - During a two-year monitoring effort DOT documented 571 occurrences of wildlife using the structure; 42% (239) of those were mule deer and 37% (212) were elk.

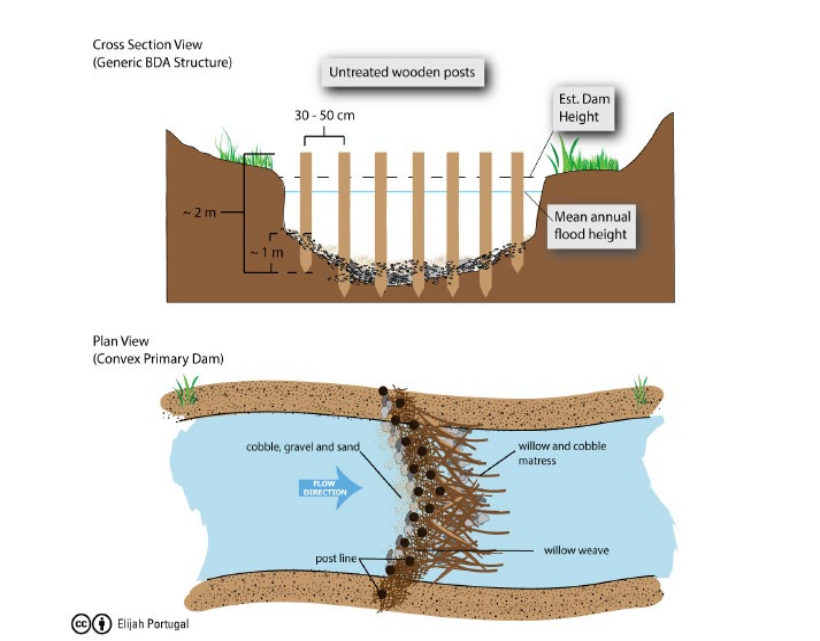
Wilson Canyon

All wildlife documented using monitored structure south of Cuba on US 550 within Colfax County, New Mexico

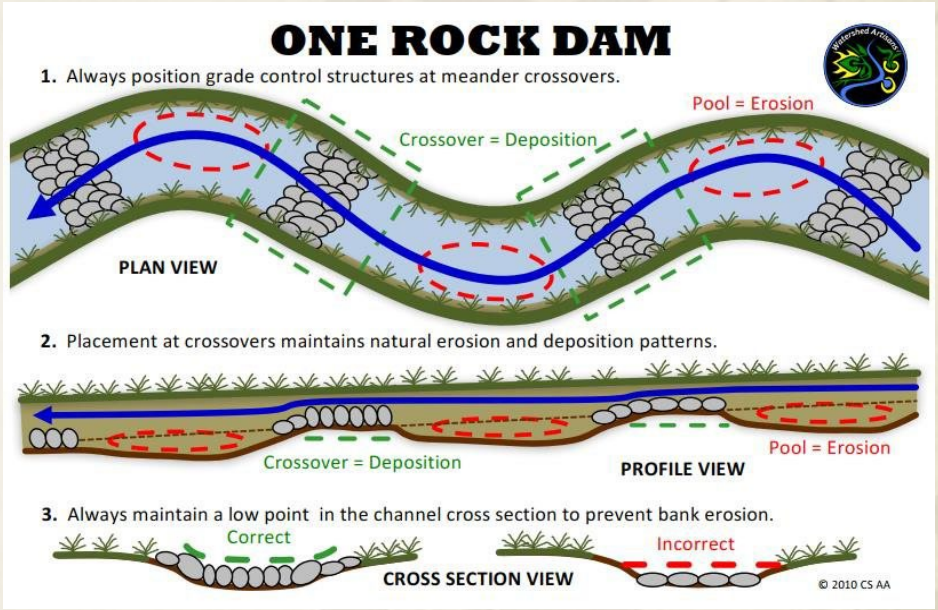
	N. Rio Puerco	S. Rio Puerco	Total
Beaver	0	4	**4**
Black Bear	1	0	**1**
Black-tailed Jackrabbit	16	0	**16**
Bobcat	6	5	**11**
Coyote	36	37	**73**
Desert Cottontail	1	0	**1**
Elk	127	85	**212**
Gray Fox	0	2	**2**
Mountain Lion	4	1	**5**
Mule Deer	61	178	**239**
Raccoon	0	3	**3**
Rock Squirrel	0	4	**4**
Total	**252**	**319**	**571**

A total of 12 wildlife species were documented using the wildlife crossing within that time

Wilson and Señorito Canyon



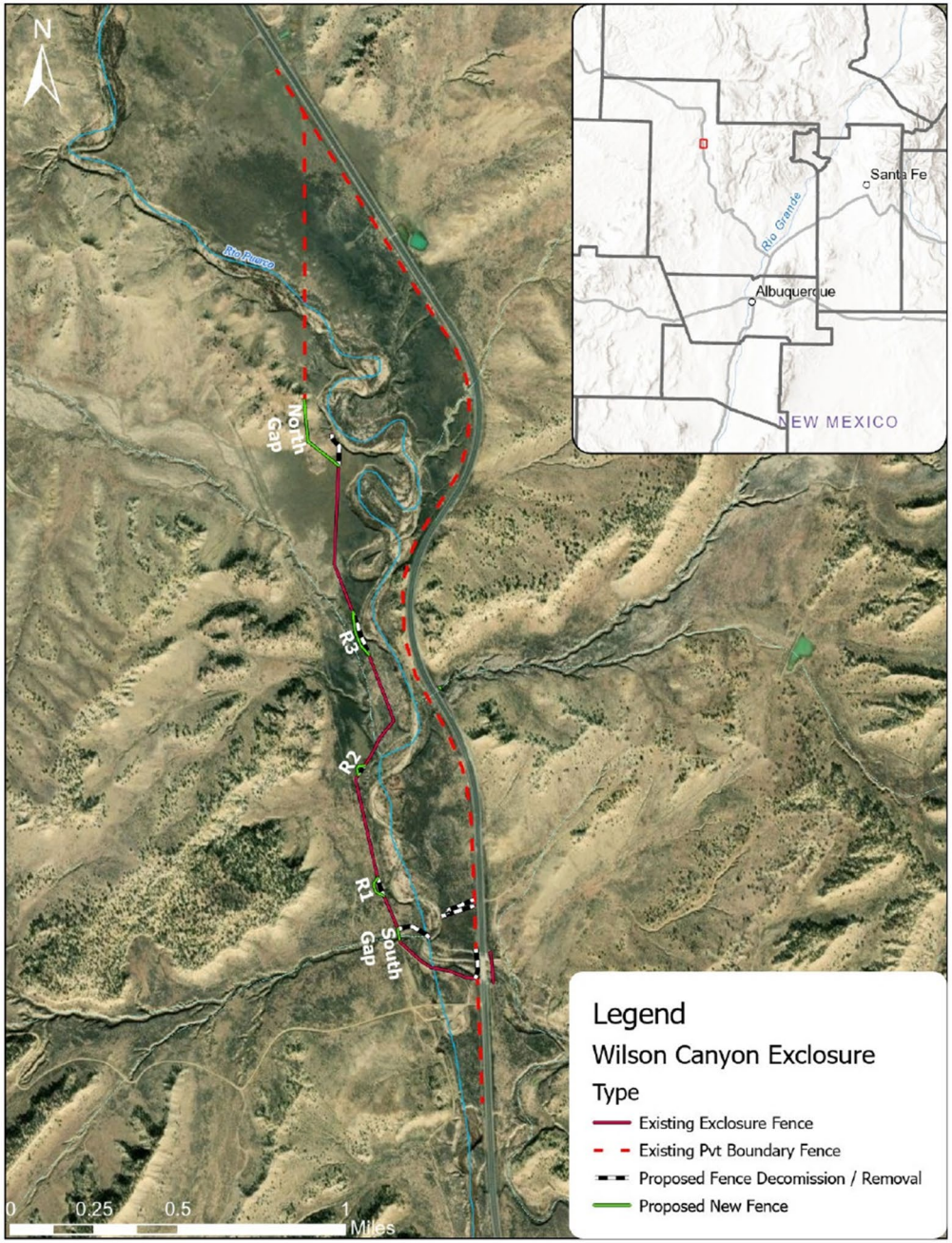
BDA Example Diagram
Credit: Utah State University/ Elijah Portugal



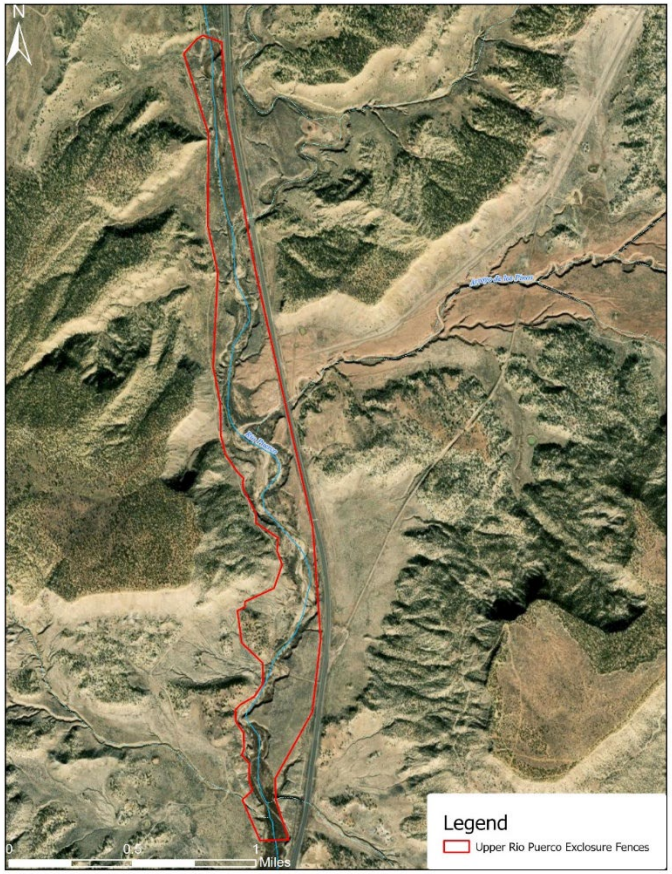
One-Rock Dam Diagram
Credit: Quivira Coalition

Map - Wilson

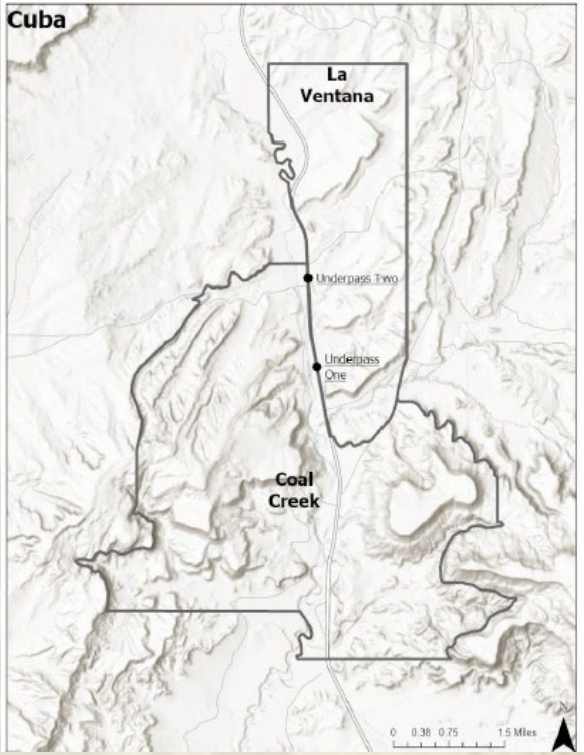
- North gap
  - ~2,000 feet of fence
- South gap
  - ~165 feet of fence
- R3, R2, R1
  - Sections of fence that will need to be rerouted due to erosion



Coal Creek



- 3.5 miles
- Construct instream erosion control structures to induce meandering , vegetation treatments (planting, seeding, noxious weed removal), and fence maintenance
- This area also overlaps Underpass 1/S. Rio Puerco within the wildlife crossing site



Coal Creek

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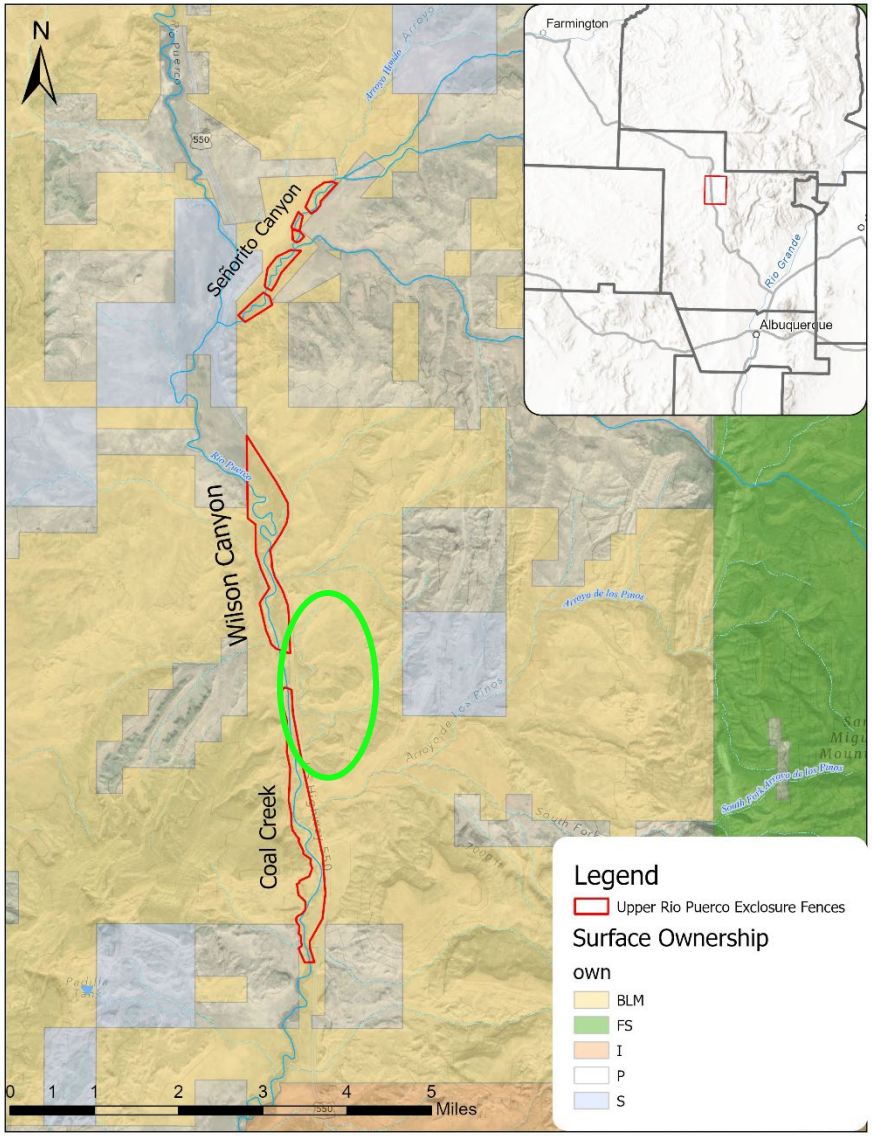
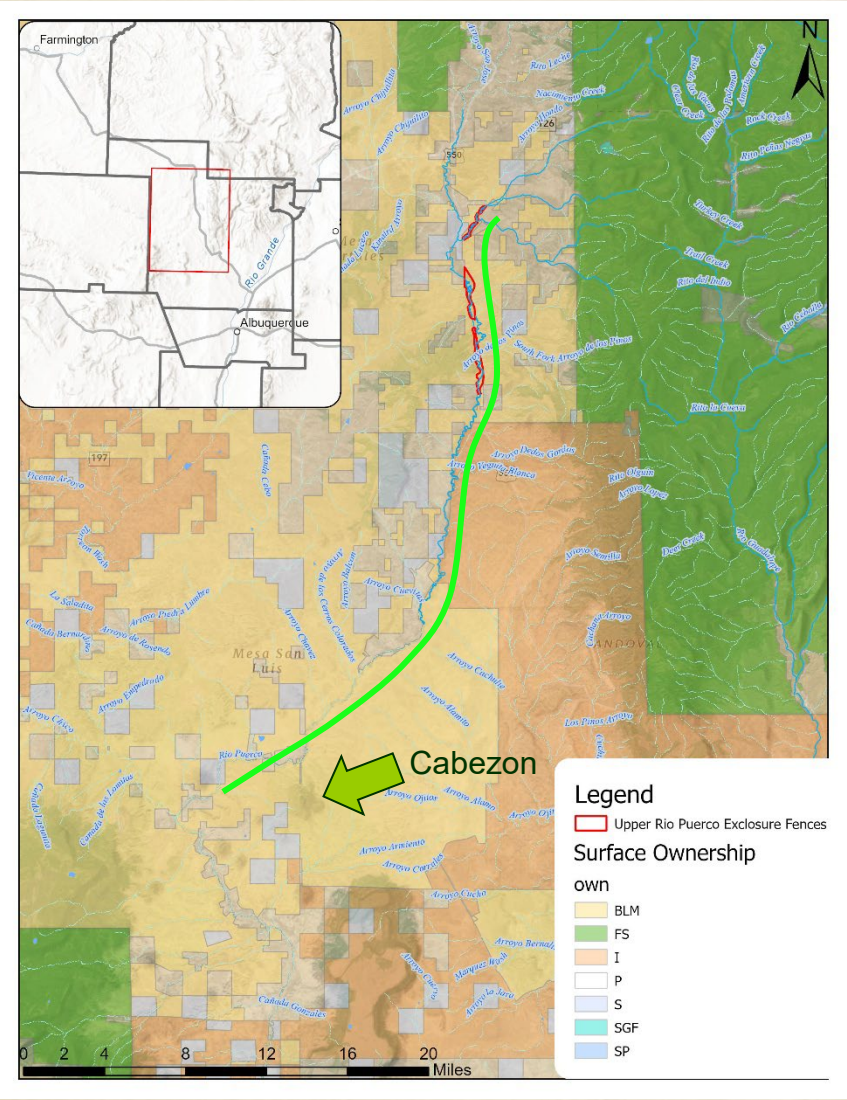
Potential Future Management



- The Twin Bridges area lies between Wilson Canyon and Coal Creek
- As with the other sites, this would benefit from invasive plant treatment, native planting/seeding, and instream structures
- It would require a new exclosure fence

Potential Future Management



Eventually restoration efforts on the Rio Puerco can extend as far south as Cabezon.

While each of these individual sections may be small, they're part of a larger plan that will benefit any wildlife living in or passing through the area.

Upper Rio Puerco Restoration

- The flexibility of this proposal is by design and to ensure that HSP funds would be additive in this project area if other contributions are solidified.
- Identified priorities in this area are to address the various restoration goals in the Señorito Creek and Wilson Canyon segments first.
  - Senorito: replacement of streams crossings, installation of instream structures, vegetation treatments and plantings.
  - Wilson: Fence realignment and gap construction, installation of instream structures, vegetation treatments and plantings

Upper Rio Puerco Restoration Summary

- **Invasive plant removal**
- **Native riparian planting/seeding**
- **Instream structures (large woody debris, PALS, and or BDAs)**
- **Removal of decommissioned fence and cottonwood exclosures**
- **Fence repair and rerouting**

HSP Funding request:
$ 350,000

Photo: Wilson Canyon

Project Name: Upper Rio Puerco Riparian Enhancement

Project relation to CAC advice or prioties:

This project aims to enhance riparian habitat along the Rio Puerco and its tributaries. This project area encompasses the US550 corridor south of Cuba and also contains NMDOT wildlife crossing site built in July 2019. Restoration efforts here would be comprehensive and include: erosion control and structures to induce meandering and slow flows, removal of nonnative vegetation and planting of native vegetation, decommission of old exclosures around established cottonwoods, and maintenance of perimeter wildlife enclosure fence. This project benefits several wildlife game species, including elk and mule deer as well as other migratory species traveling this corridor.

Project Specific Details:

The BLM is ultimately working to restore a roughly 30-mile stretch of the river between Cuba and Cabezon. This project area includes a ~9 mile stretch of the Upper Rio Puerco (Wilson Canyon, Coal Canyon) and its tributary Señorito Creek. This proposed suite of restoration actions is already occurring on a state land parcel within this project area. BLM, in partnership with this neighboring state land leasee, have also applied for funds through the River Stewardship Program to contribute to this large-scale effort.

Historical Data:

The Rio Puerco has been a major contributor of sediment to the Rio Grande in recent history. During the 1960s the Rio Puerco was diverted into a straight channel on the west side of the highway in the southern portion of this project area (between Wilson Canyon and Coal Creek). In conjunction with highway widening in 1999, various agencies worked to reestablish the Rio Puerco to its original streambed and begin riparian restoration efforts. In 2019 the wildlife crossing areas at Wilson Canyon and Coal Creek were established. Previous restoration management actions in this project area include invasive plant treatment (salt cedar and russian olive), cottonwood and willow establishment and construction and maintenance of a perimeter fence.

Itemized Use of Funds:

Funds may be used for any of the actions identified in the details within this project area. The flexibility of this proposal is by design and to ensure that HSP funds would be additive in this project area if other contributions are solidified. Identified priorities in this area are to address the various restoration goals in the Senorito Creek and Wilson Canyon segments.

Comprehensive Project Analysis:

The various actions aimed at restoration and enhancement of this riparian project area will benefit all wildlife using this corridor regularly or as a stopover site. Treatment of invasive plants and the planting and/or seeding natives will increase diversity and habitat quality. Instream structures will slow the flow of water allowing sediment to drop out with the long-term goal of slowly filling in the incised riverbed, increasing overall landscape health. Maintenance of the existing wildlife enclosure will be necessary to vegetation regeneration success, stabilize bank erosion, and establishment of in-stream treatments. See also NMDOT report for information on wildlife use of underpasses in this project area.

Monitoring Plan/ Strategy:

This section of the Upper Rio Puerco is monitored by BLM staff.

Google Earth Link

Project Emphasis Species: Elk and mule deer with benefit to many other wildlife species.