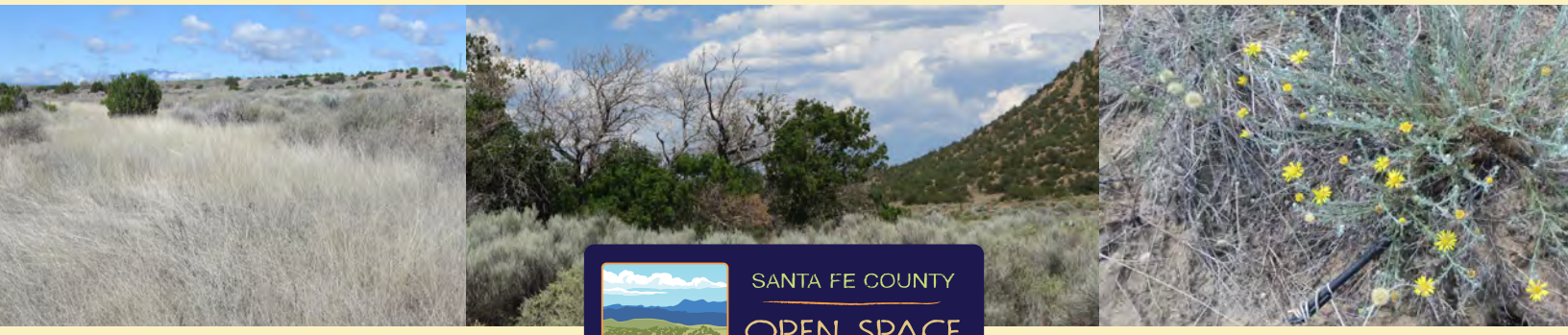
SANTA FE COUNTY OPEN SPACE AND TRAILS PROGRAM

LAMY OPEN SPACE MANAGEMENT PLAN APPENDICES

APRIL 2017



SANTA FE COUNTY
OPEN SPACE & TRAILS

surroundings

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LAMY OPEN SPACE + PARK APPENDICES

APPENDIX A

Overview of Management Activities Matrix
Lamy Open Space + Park

APPENDIX A

Overview of Management Activities Matrix
Lamy Open Space + Park

This matrix is a comprehensive overview of maintenance activities, proposed projects, planning activities and community stewardship activities for the Lamy Open Space + Park. Projects and activities are clustered by type of activity Planning/Maintenance/Improvements. Then, the projects are prioritized in each cluster based on Short, Mid and Long Term using an numbering system.

Short Term = 1.0 Series numbers
Mid-Term = 2.0 Series numbers
Long-Term = 3.0 Series numbers

LCOS	# (Term and Priority)	Project or Management Activity	Objective or Purpose	Location Code (See TMU Codes)	Actor	Timeline Short=ST Mid=MT Long=LT	Recurring (R) or Not Recurring (NR)	Labor and Cost Estimates	Funding Source
Planning	1.1	Develop and implement protocols for maintenance work, team coordination, and ongoing fund identification and acquisition	All management goals (effective management)	Entire property	Planning staff	ST-MT	R	TBD (20 h/y)	GF
	1.2	Develop a detailed monitoring plan and gathering base-line data	All management goals (effective management)	Entire property	Planning staff	ST	NR	TBD (60 h/y)	GF
	1.3	Plan and implement community stewardship structure and events	Holistic & Inclusive / Education / Ecological Health	Entire property	Planning & Community Services staff	ST-MT-LT	R	TBD (100 h/y)	GF
	1.4	Develop park entry sign, site management signage and bulletin board at Picnic Area	Holistic & Inclusive / Public Safety / Education	Picnic Area L-GRA-S	Planning & Projects staff	ST	NR	TBD (25 h/y)	GF
	1.5	Plan and design adjustments to protective fencing for cultural resource areas to include 2016 sites	Access Management / Ecological Health / Public Safety	L-GRA-S / L-FLO/ L-SHR-D / L-SHR-G	Planning & Projects staff	ST-MT	NR	TBD (60 h/y)	CIP/GF
	1.6	Plan and design Park loop trail and related improvements	Access Management / Ecological Health / Public Safety	L-GRA-S / L-FLO/ L-SHR-D / L-SHR-G	Planning & Projects staff	ST-MT	NR	TBD (60 h/y)	CIP/GF
	1.7	Develop feasibility study for visitor center	Access Management / Ecological Health / Public Safety	TBD	Planning & Projects staff	ST-MT	NR	TBD (80 h/y)	CIP/Grants/ GF
	2.1	Plan and implement interpretive education plan and improvements	Holistic & Inclusive / Education /	Entire property	Planning & Projects staff	ST-MT	NR	TBD (60 h/y)	CIP/GF
	2.2	Base on feasibility study, plan and design visitors center	Access Management / Ecological Health / Public Safety	TBD	Planning & Projects staff	MT-LT	NR	TBD (60 h/y)	CIP/Grants/ GF
	2.3	Base on feasibility study, develop operational plan for visitor center	Access Management / Ecological Health / Public Safety	TBD	Planning & Projects staff	MT-LT	NR	TBD (60 h/y)	CIP/Grants/ GF
	3.1	Implement visitor center improvements and operations plan	Access Management / Ecological Health / Public Safety	TBD	Planning & Projects staff	MT-LT	NR	TBD (60 h/y)	CIP/Grants/ GF

LCOS	# (Term and Priority)	Project or Management Activity	Objective or Purpose	Location Code (See TMU Codes)	Actor	Timeline Short=ST Mid=MT Long=LT	Recurring (R) or Not Recurring (NR)	Labor and Cost Estimates	Funding Source
Maintenance	1.1	Communication & outreach with neighbors and stakeholders; integrate feedback in planning	Holistic & Inclusive Management	Entire property	SFC-M (Crew) and Planning staff	ST-MT-LT	R	Annually (or more often)	GF
	1.2	Train maintenance staff on mowing BMP for Picnic Area	Public Safety / Ecological Health	Picnic Area L-GRA-S	SFC-M (Crew)	ST-MT-LT	R	1 h for 4 person (4 h/y)	GF
	1.3	Maintenance at picnic area, trash removal, mowing	Public Safety / Ecological Health	Picnic Area L-GRA-S	SFC-M (Crew) or volunteers	ST-MT-LT	R	Weekly: 1 h for 2 people (108 h/y)	GF, VOL
	1.4	Inspection and repair of fences, gates, and trespass signs	Public Safety / Access Management	Entire property	SFC-M (Crew)	ST-MT-LT	R	Annualy, up to 4 days for 2 people (32 h/y) + supplies TBD	GF
	1.5	Inspection and cleanout of culverts, stream crossings	Public Safety / Ecological Health	Rail culverts, CR33 two locations	SFC-M (Crew)	ST-MT-LT	R	Twice annually: 2 days for 2 people (32 hr/y)	GF
	1.6	With EAWSD Inspect and repair of drainage and erosion on well access roads and EAWSD utility easement	Public Safety / Access Management	Access roads-easement L-CUL/L-WOO	SFC-M (Crew) w/ EAWSD	ST -MT-LT	R	Annually: 1 day for 2 people (16 h/y)	GF
	1.7	SW dirt channel, maintain edges, remove woody debris	Ecological Health	L-CUL	SFC-M (Crew) or volunteers	ST-MT-LT	R	Twice annually: 1 days for 2 people	GF, VOL
	2.1	After built, maintain Park loop trail	Ecological Health/ Public Safety / Access Management	Entire park parcel	SFC-M (Crew) or volunteers	MT-LT	R	Annually	GF, VOL
	2.2	After installed, maintain interpretive education signs and improvements	Holistic & Inclusive/ Education	Entire property	SFC-M (Crew)	MT-LT	R	Annually	GF
	3.1	After built, maintain cultural resources trail and improvements	Ecological Health/ Public Safety / Access Management	L-CUL	SFC-M (Crew), Volunteers	MT-LT	R	Annually: approx. 1 day/y for 2 people (16 h/y)	GF, VOL
	3.2	After built, maintain visitor center as per design	All Goals	TBD	SFC-M (Crew), Volunteers or Contractor	MT-LT	R	Weekly, based on operational needs of visitor center	GF, VOL, CON
Improvements	1.1	Install park sign, site management signs and bulletin board	Public Safety / Access Management / Ecological Health	Picnic Area L-GRA-S	SFC-M (Crew) or contractor	ST	NR	TBD, based on plan and bid	CIP
	1.2	Change existing property boundary fencing to wildlife friendly fence and install where missing, .	Public Safety / Access Management / Ecological Health	Entire property, along boundaries	SFC-M (Crew) or contractor	ST	NR	TBD, based on plan and bid	CIP
	1.3	Install protective fencing for adjusted cultural resource areas	Public Safety / Access Management / Ecological Health	L-CUL	SFC-M (Crew) or contractor	ST	NR	TBD, based on plan and bid	CIP, grant
	1.4	Install Park loop trail and associated improvments	Public Safety / Access Management / Ecological Health	Park Parcel	SFC-M (Crew) or contractor	ST-MT	NR	TBD, based on plan and bid	CIP
	2.1	Implement trail to cultural resource areas and associated improvements	Education / Access Management / Ecological Health	L-CUL	Contractor	ST-MT	NR	TBD, based on plan and bid	CIP, grant
	2..3	Install interpretive education improvements	Education / Access Management / Ecological Health	Entire property	Contractor	ST-MT	NR	TBD, based on plan and bid	CIP, grant
	3.1	Implement visitor center plan as designed	All Goals	TBD	Contractor	MT-LT	NR	TBD, based on plan and bid	CIP

APPENDIX B

Mowing Best Management Practices for Lamy Park

APPENDIX B

Mowing Best Management Practices
for Lamy Park

Mowing Best Management Practice

Mowing maintenance is recommended for the parking area and park facilities area to allow visitors to walk with more ease, to spot snakes and sharp objects on the land, and to indicate the park facilities area. The vegetation consists of various scattered grasses and snakeweed on the parking area and various grasses in the area with the picnic shelters. All grasses found on site are native, warm-season grasses, and include Sixweeks threeawn, Purple threeawn, Mountain muhly, Burrograss, Little bluestem, and Sanddropseed. Ongoing monitoring should confirm the grass species identified on site, and to assess mowing impacts on the soil, plants, and birds (aiming at increasing native grasses and bird life).

In order to increase efficiency, reduce costs and streamline planning, SF County may want to bundle certain maintenance projects on one site or across multiple properties.

Mowing Times & Frequency: The time and frequency of mowing should be coordinated with ecological time lines (resulting from weather, plant growth, blooming times, etc.) with the goal to stimulate native plant regeneration and remove non-native plants. In sum, it would be best to mow in late March and again in August-September, and in between only to prevent the colonization of unwanted grasses, forbs or shrubs.

- - The best mowing times are between August and late March. Mowing between April and July should be avoided (or limited to non-desirable grasses, such as cheat grass if it were to come up) to encourage colonization of cool season grasses and prevent wind erosion and drying of the soil during the driest and hottest months of the year and to prevent impacts on grassland birds.
- - Patches with snakeweed and cheat grass should be mowed before these plants bloom, ripen and dry (before June) to prevent them from dispersing seed and to stand dry in July and become a fire hazard.
- - The patches of perennial, native, warm-season grasses should be mowed after they bloom and ripen (best in late fall or in the late winter, e.g. February-March).

Orientation of Mower: Mechanical mowing work needs to avoid mower movements up and down the hill top prevent storm water runoff and water and wind erosion in the tracks of the mowing equipment. Instead, mower movements must as much as possible take place in parallel strokes perpendicular with the grade of the hill (i.e., on contour). This will generate equipment tracks that run more or less on contour and stimulate infiltration and grass regeneration in the furrows of the tracks.

APPENDIX C

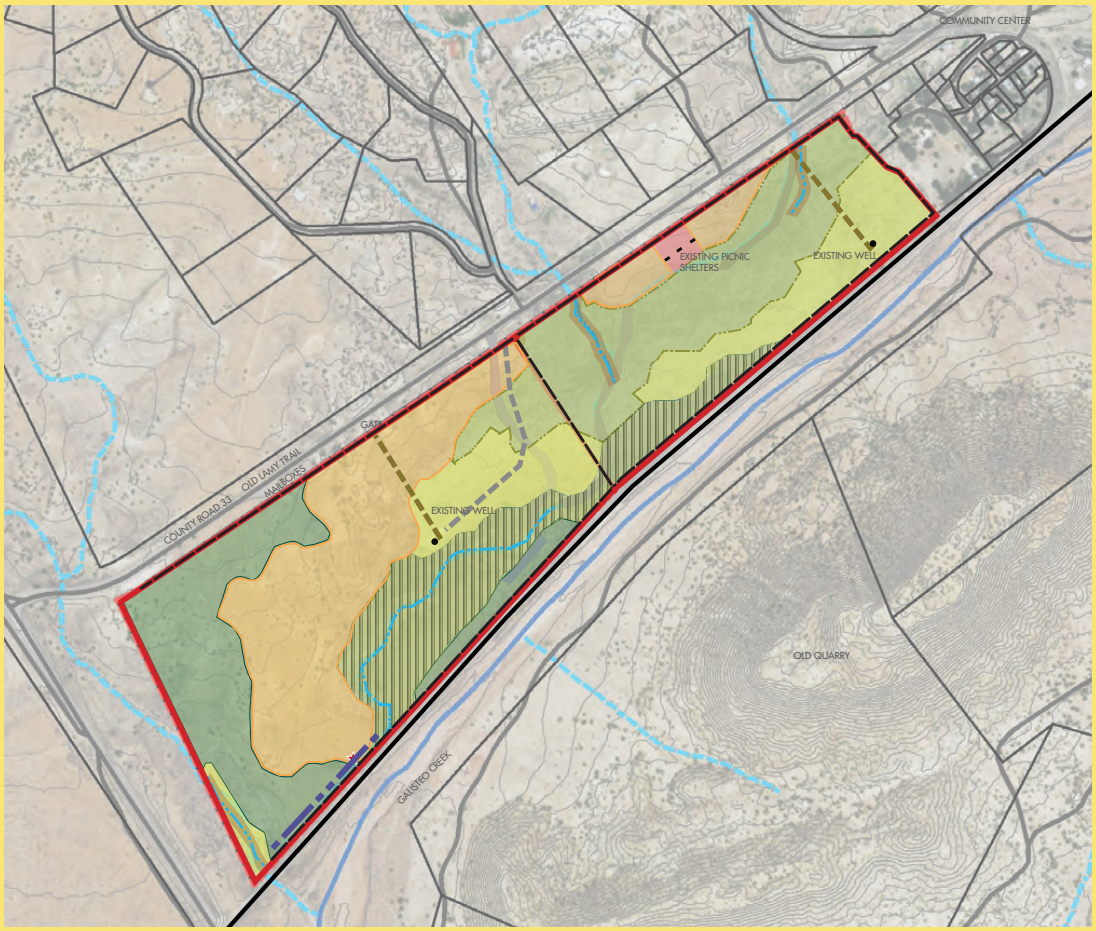
Santa Fe County Open Space Management Terrain Units Descriptions for Lamy Open Space + Park

August 2016

APPENDIX C

Santa Fe County Open Space Management

Terrain Units Descriptions for Lamy Open Space + Park



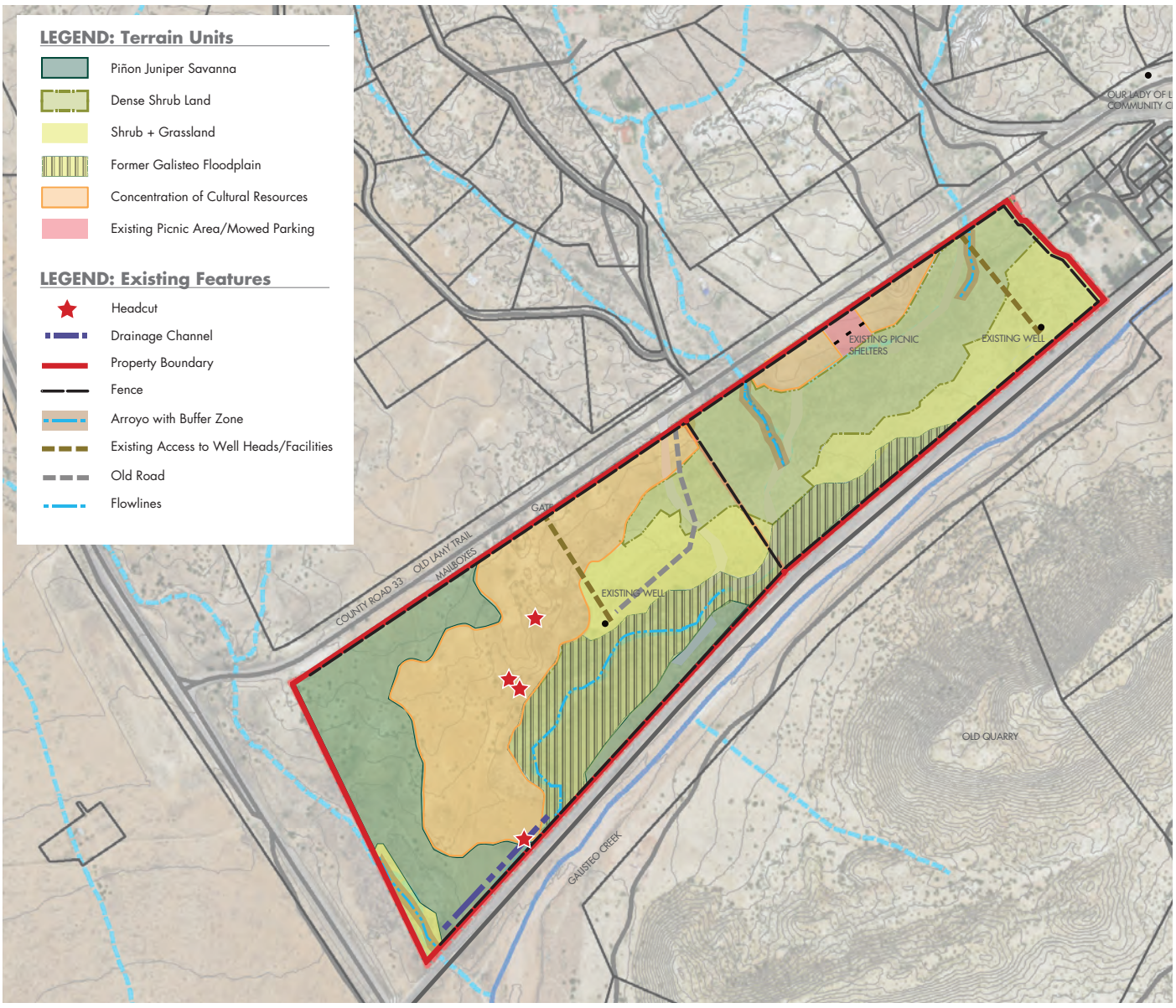
August 2016

LAMY OPEN SPACE + PARK
TERRAIN UNIT DESCRIPTIONS
August 16, 2016

Terrain Units delineated for Lamy Open Space + Park are areas that share characteristics of drainage, vegetation, soils that are observable or have unique assets or uses. On the following pages are descriptions of each Terrain Unit.

Recommendations for general elements for monitoring for each TMU are noted. The detailed monitoring plan that will be developed for the Lamy Open Space + Park should incorporate these elements.

For monitoring and maintenance recommendations.
*) Asterisk means: Monitoring could be done with citizen scientist volunteers



PINON-JUNIPER SAVANNA UNIT (L-WOO)

The Piñon-Juniper Savanna Unit consists of rolling hills with slopes up to 55% on the west side of the Open Space property, and of a slightly elevated strip of gently sloping land along the railroad grade that constitutes a former alluvial fan originating from the east side of the property. This terrain unit also includes an active gully on the far west side with stormwater originating higher up on the property and along Highway 285, and a deep storm water channel along the railroad on the far southwestern corner of the property. Across much of this terrain unit, storm water infiltrates and runs off readily on the sandy and gravelly soils. However, in small drainages, the risk of head cuts and gully erosion exists and has caused at least 3 small head cuts. In the hilly areas, top-soils are very gravelly and subsoils are loamy mixed with gravels. The flatter areas and drainage channels are mostly sandy. Erosion potential is low unless the gravel component or vegetation are disturbed or removed. Soil tolerance (the natural soil regeneration capacity) is high, except in the drainage channels on the far western side. Vegetation cover is less than 50% and consists of grama grasses, Western wheatgrass, ring muhli, yucca, cholla, snakeweed, and chamisa, with a scattered overstory of one-seed juniper and piñon trees. There are signs of heavy browse; most likely by rabbits, but also possibly by mule deer. This terrain unit includes many signs of pre-historic and historical habitation, land use, and roadways, and much of the area is an important, federally-listed cultural resource site. Recent land use includes an area with remnants of a small trailer-home park at the northwestern corner. Present land use is focused on conservation. Suitability for various recreational uses is primarily limited by the presence of cultural resources. Inside and outside the cultural resource unit, suitability for trails is also very limited by the large stone content and erosion mitigation needs on slopes, and somewhat limited on flatter areas and in drainages due to needs to mitigate occasional heavy flooding (in channels), sheet wash, dustiness, and wind erosion.

Monitoring:

- Plant species composition*
- Wildlife species richness*
- Erosion occurrences*
- Drainage channel and culvert effectiveness*

Maintenance:

- Occasional inspection and clearing of debris from arroyo and culverts
- Headcut stabilization (possibly in the form of community workshops)

DENSE SHRUB LAND (L-SHR-D)

The Dense Shrub Land Unit is a gently sloping zone above an abandoned flood zone of the Galisteo Creek. This terrain unit includes slightly elevated, gravelly ridges as well as flat terrain consisting of loamy sheet flow channels and ponding areas, and two deeper drainage channels that enter the property through culverts beneath the road to Lamy. Drainage is good on gravelly, higher and sloped areas, but moderate where the terrain is flatter and loamier. There are no signs of soil erosion. Erosion risk is low when the soil is covered, but increases to moderate when the soil is denuded. This terrain unit is characterized by dense shrub vegetation interspersed with a few patches of grasses and many bare, exposed patches of soil. Grasses include blue grama, Western wheatgrass, bottlebrush squirreltail, galleta, 3-awns, and alkali sacaton. The dense brush includes mostly four-wing saltbush (75%) and rabbitbrush (25%), and some winterfat, broom snakeweed, spineless horsebrush, and pale wolfberry. This vegetation mosaic is habitat to various burrowing rodents, including rabbits and jack-rabbits, and also coyotes and mule deer. The area is possibly visited as well by bobcats, cougar, and black bear. Past land use features include a scattering of historic artifacts, including many rusted metal household materials and small industrial and agricultural supplies. There are few recent and present land use features. Current uses are geared to resource

conservation. The terrain unit's suitability for recreational uses is mostly limited by scattered artifacts, the occasional presence of sheet flow and ponding, and the need to mitigate muddy and eroding spots on trails that cross loamy patches. In dry times, dustiness of exposed soils in the lower spots and sandiness of the higher ridges, and associated wind erosion risks, may also be limiting factors.

Monitoring:

- Plant species composition*
- Wildlife species richness*
- Arroyo channel and culvert effectiveness*

Maintenance:

- Identification, avoidance, or cleanup of scattered historical artifacts that constitute some safety hazard for visitors (rusty metal, etc.) or be attractive for removal
- Occasional inspection and clearing of debris from arroyo and culverts

SHRUB AND GRASSLAND (L-SHR-G)

The Shrub and Grassland Unit is a gently sloping to flat area (1%-3% slopes) with predominantly loamy soils with some gravel, located between the Dense Shrub Land Unit and the abandoned Galisteo Creek flood zone. Drainage is moderate due to flat and loamy terrain characteristics. Evidence of erosion is minimal. Erosion risk is low if the soil is covered. Denuded or disturbed soils are moderately susceptible to wind and water erosion. The soil is covered with a mosaic of patches of grass, shrubs, and bare ground with a high level of plant litter. Grasses include blue grama, Western wheatgrass, bottlebrush squirreltail, galleta, 3-awns, and alkali sacaton. Brush includes mostly four-wing saltbush and some winterfat, rabbitbrush, broom snakeweed, spineless horsebrush, and clumps of pale wolfberry. At one location in the western parcel, a clump of very large, and presumably old, boxelder (Acer negundo), defines the northern edge of the former riverbanks (river right) of an abandoned Galisteo Creek channel. About 100 yards farther to the west, spill water from the Eldorado pumping station feeds a localized wetland patch of about 0.1 acre consisting of mostly Western wheatgrass and some planted cattails. There are many signs of browse in this terrain unit, and wildlife probably includes rabbits and other rodents, as well as coyotes and mule deer. Raptors are also benefitting from this unit. Past land use features include a scattering of historic artifacts in some places (mostly on the park parcel), including many rusted metal household materials and small industrial and agricultural supplies. There are few recent and present land use features. Current uses are geared to resource conservation. The unit's suitability for recreational uses is mostly limited by scattered artifacts and the occasional presence of sheet flow. In dry times, dustiness of exposed soils in the lower spots and sandiness of the higher ridges, and associated wind erosion risks, may also be limiting factors.

Monitoring:

- Plant species composition*
- Vitality of the rare boxelder grove*
- Wildlife species richness*

Maintenance:

- Identification, avoidance, or cleanup of scattered historical artifacts that constitute some safety hazard for visitors (rusty metal, etc.)
- Planting of native, hydrophytic trees, such as boxelder, wild plum, choke cherry, etc., in the watered area near the pumping station
- Fence conditions along perimeter of the park parcel and removal of old fences in the eastern part of the property

FORMER GALISTEO FLOODPLAIN (L-FLO)

The Former Galisteo Floodplain Unit consists of nearly flat terrain that gently slopes down to the southwest, and that includes a few recent, narrow flow channels in the sediments of the abandoned channel. The channels are active drainages that collect and carry much of the entire property's runoff to a single outflow point in the far southwestern corner of the property. Locally, there are some pools that temporarily hold some standing water in the active channel system. Soils are fine sandy and loamy, and covered with dense patches of grass. Grass species include blue grama, sideoats grama, Western wheatgrass, bottlebrush squirreltail, galleta, threeawn species, muhli species, little bluestem, sanddropseed, and alkali sacaton. Occasional patches of brush include winterfat, rabbitbrush, broom snakeweed, spineless horsebrush, and pale wolfberry. This terrain unit is probably habitat to a variety of rodents, coyotes, and mule deer, and possibly also to bobcat, cougar, bear, and some amphibians. Besides the presence of utility lines along the fence (including the water lines of the Eldorado Community Water & Sanitation District), there are few recent and present land use features. Current uses are geared to resource conservation. The unit's suitability for recreational uses is limited by occasional flows of water and topographical variation between higher banks and deep channel pools. In dry times, dustiness of exposed soils in the lower spots and sandiness of the higher ridges, and associated wind erosion risks, may also be limiting factors.

Monitoring:

- Plant species composition*
- Wildlife species richness*

Maintenance:

- Identification, avoidance, or cleanup of scattered historical artifacts that constitute some safety hazard for visitors (rusty metal, etc.)
- Fence conditions along the railroad grade, also in association with hazardous proximity of the power lines along the railroad tracks

CONCENTRATION OF CULTURAL RESOURCES (L-CUL)

The Concentration of Cultural Resources Unit consists mostly of hilly terrain of the Piñon-Juniper Savanna Unit with further terrain variation caused by soil disturbances from prehistoric settlements and historic roads and trails. In some locations these cultural resource disturbances have led to erosion on cut slopes and in drainages. Otherwise, the same drainage, soil, and erosion characteristics apply as described for the Piñon-Juniper Savanna Unit. Vegetation and wildlife habitat characteristics are also similar to those of the Piñon-Juniper Savanna Unit, although there seem to be slight differences in plant composition and dominance among grasses and forbs. Past land use features include several, mostly buried, prehistoric pueblo ruins and many associated artifacts as well as historic road and trail alignments. Current uses are strictly geared to cultural resource conservation and protection, with some emphasis on research and education. The suitability of this terrain unit for recreational uses is greatly limited by the important cultural resource presence. However, after more research, some road and trail alignments may become available for contemporary use as trails through the unit.

Monitoring:

- Plant species composition*
- Wildlife species richness*
- Erosion rates of eroded slopes and 3 headcut sites*

Maintenance:

- Fence conditions along the road and perimeter of the Open Space parcel

FINE-SANDY, SLOPED GRASSLAND UNIT (L-GRA-S)

The Fine-Sandy, Sloped Grassland Unit [L-GRA-S] includes the existing parking and picnic area, the fine-sandy grassland to the west of the picnic area, and a rock outcrop with sandy and gravelly slopes to the east of the picnic area. The total unit comprises approximately 4 acres. The gently sloping (2%-8%) part of the unit consists of alluvial, fine-sandy loam that serves as a transition area (ecotone) between the rock outcrop to the northeast of it and the loamy shrub and grassland units lower down the slope. The rock outcrop on the property has steep, gravelly slopes (up to 50%) and a narrow, flat top. The rock outcrop probably has a rocky (sandstone) core, covered with gravels and sand, which are highly susceptible to wind erosion. Water-borne erosion risk is moderately high, and natural soil regeneration of the rock outcrop area is very low. At present, evidence of erosion is minimal. Soil erodibility on the gentle slopes is rather low, but wind erosion potential is moderately high when the soil becomes denuded. Soil regeneration capacity is moderately high on the mildly sloped areas and low on the steep slopes. The unit is well covered with native grasses, such as blue grama and Western wheatgrass. Grasses in the developed park area and parking lot include sixweeks threeawn, purple threeawn, mountain muhly, burrograss, little bluestem, and sanddropseed. Vegetation cover on the rock outcrop area is sparse and limited to native grasses dominated by blue grama and threeawns. Wildlife presence is unknown and probably limited to rabbits and other rodents, and possible some raptors. Past land use features and cultural resource values are poorly visible and are presently under study. Recent and current uses include a graveled, grassy parking area and a developed picnic area with three shelters in a mowed grassy area, together measuring about 1.5 acres, concentrated in the central part of this terrain unit. The eastern and western parts of the unit are not used. The suitability of this terrain unit for additional recreational uses, including the development of a visitors' center, is relatively high due to its location along the road and the presence of the already developed park. Suitability limitations include moderate dustiness and considerable wind erosion when soils become exposed. Possible limitations may also include some cultural artifacts, if and when they are identified in the ongoing study.

Monitoring:

- Plant species composition*
- Wildlife species richness*
- Soil loss from wind and watr (estimated based on modeling with vegetation cover data)*

Maintenance:

- Identification, avoidance, or cleanup of scattered historical artifacts that constitute some safety hazard for visitors (rusty metal, etc.)
- Garbage collection and cleanup of the park facilities
- Mowing and other vegetation management of the picnic area and parking lot (see mowing recommendations below)
- Fence and gate inspection and maintenance

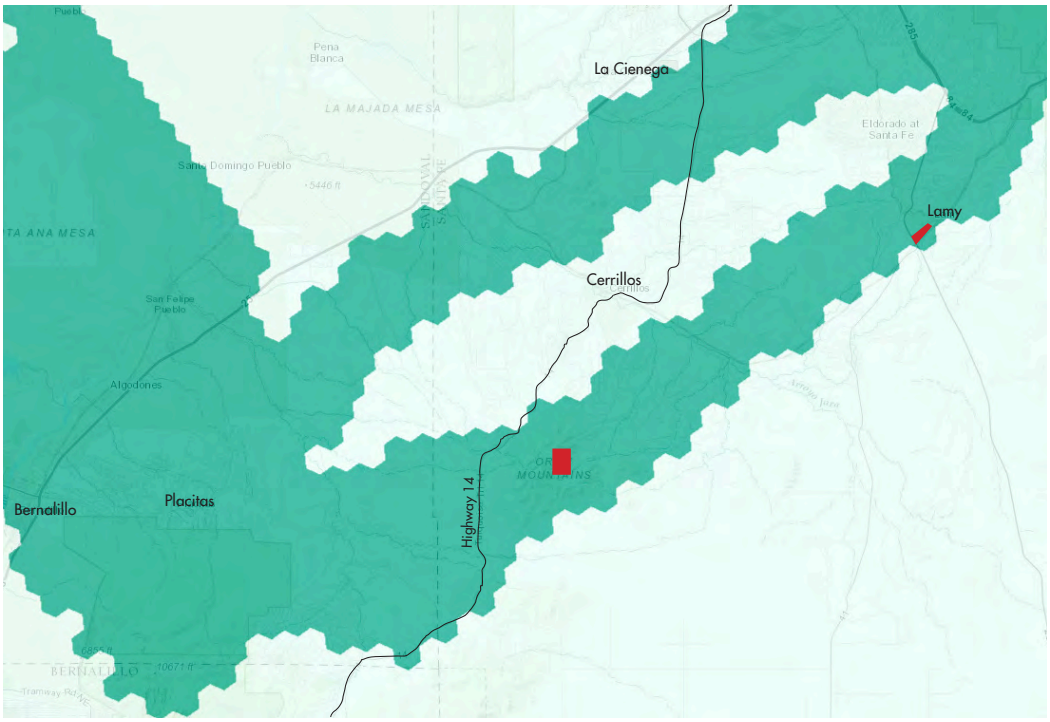
Wildlife Corridor Information

According to the corridor model for cougars that was developed by K. Menke (2008) for New Mexico Department of Game and Fish Wildlife, corridors link core habitats for sustaining populations across landcsapes. This model is used as a surrogate model for multiple species pending development of additional species-specific models.

The Lamy Open Space + Park *(Lamy OSP)* is part of a regional wildlife corridor that spans between the Sangre de Cristo Mountains and the Sandia and Manzano Mountains, across the Galisteo Basin and Ortiz Mountains valley and west out to the Rio Grande. The LOSP is likely habitat to mountain lion, bobcat, mule deer, and other large wildlife species and smaller mammals as listed in the following table.

Wildlife habitat and corridor qualities on the Lamy OSP are moderate due to the grasslands, rolling landforms and relative lack of recent human disturbances. This increases the area's function for shurb cover, foraging, and roaming grounds. The variation between open land, denser vegetation offer opportunities for shelter, nesting, and bedding for various animals. Following in this report is the result of a preliminary query of the likelihood of threatened, rare or endangered species for this area of the County.

Ambient conditions at Lamy OSP are favorable for the presence of wildlife. The area is moderately remote; there is little pedestrian traffic and no off-road vehicle use.



Source: New Mexico Crucial Habitat Assessment Tool, New Mexico Dept. of Game & Fish

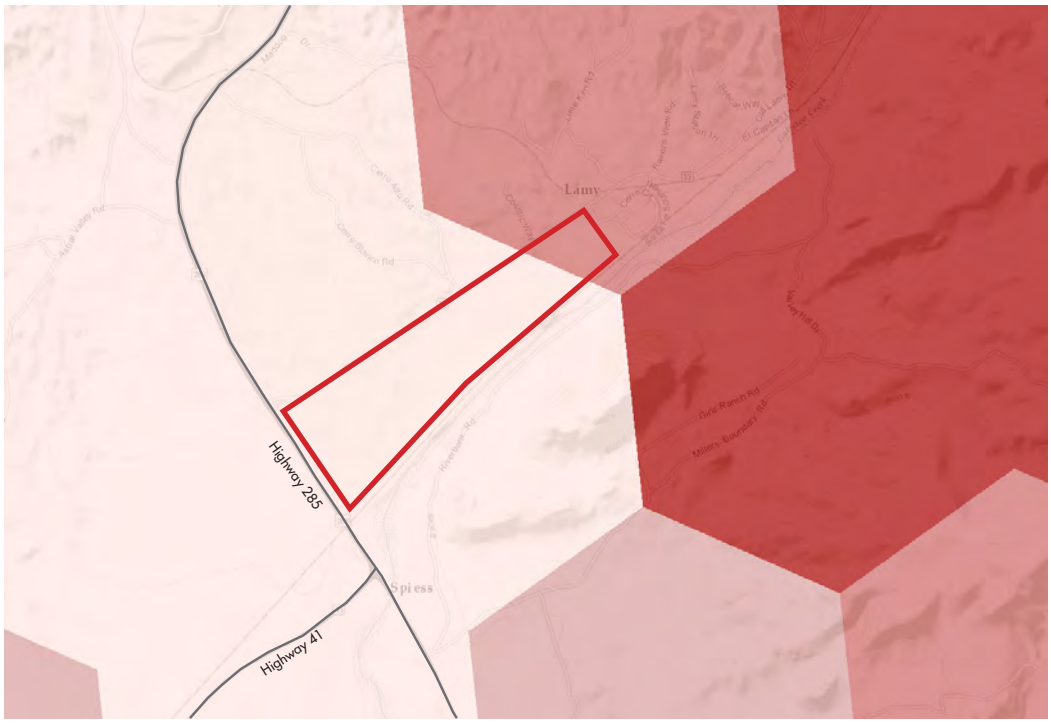
ORTIZ MOUNTAIN OPEN SPACE Wildlife Corridor

surroundings

Source: New Mexico Crucial Habitat Assessment Tool, New Mexico Dept. of Game & Fish

SANTA FE COUNTY OPEN SPACE & TRAILS Wildlife Corridors

surroundings

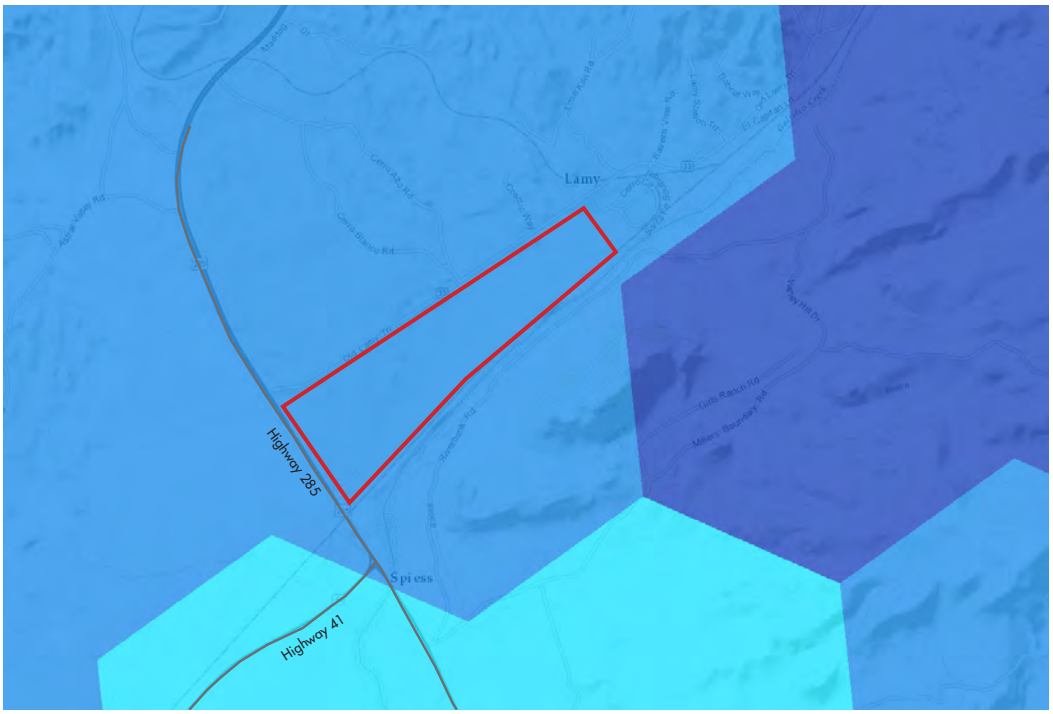


2nd-Most Species of Concern
3rd-Most Species of Concern
4th-Most Species of Concern
5th-Most Species of Concern
Ortiz Open Space Boundary

Source: New Mexico Crucial Habitat Assessment Tool, New Mexico Dept. of Game & Fish

SANTA FE COUNTY OPEN SPACE & TRAILS Species of Concern by Area

surroundings



2nd-Most Crucial Habitat Rank
3rd-Most Crucial Habitat Rank
4th-Most Crucial Habitat Rank
Ortiz Open Space Boundary

Source: New Mexico Crucial Habitat Assessment Tool, New Mexico Dept. of Game & Fish

SANTA FE COUNTY OPEN SPACE & TRAILS Crucial Habitat by Area

surroundings

Fauna	Threatened-Endangered Status	Occurrence	Season
Mountain Lion		Sighted	
Black Bear		Sighted	
Sharp-shinned Hawks		Sighted	
Bull Snake		Sighted	
Mule Deer		Sighted	
Bobcat		Sighted	
Black-footed Ferret		May Occur	
Bald Eagle		Likely	Wintering
Mexican Spotted Owl	Threatened	Likely	
Peregrine Falco		Likely	Year-Round
Southwestern Willow Flycather	Endangered	Likely	Breeding
Golden Eagle		Likely	Year-Round
Northern Goshawk		Likely	
Townsend's Big-eared Bat		Likely	
Pinon Jay		Likely	Year-Round
Ferruginous Hawk		Likely	
Yellow-billed Cuckoo	Threatened	May Occur	
Bendire's Thrasher		May Occur	Breeding
Black Rosy-finch		May Occur	Year-Round
Brown-capped Rosy-finch		May Occur	Year-Round
Burrowing Owl		May Occur	Breeding
Chest-collared Longspur		May Occur	Wintering
Flammulated Owl		May Occur	Breeding
Fox Sparrow		May Occur	Wintering
Grace's Warbler		May Occur	Breeding
Gray Vireo		May Occur	Breeding
Juniper Titmouse		May Occur	Year-Round
Lewis's Woodpecker		May Occur	Year-Round
Loggerhead Shrike		May Occur	Year-Round
Long-billed Curlew		May Occur	Breeding
Mountain Plover		May Occur	Breeding
Olive-sided Flycatcher		May Occur	Breeding
Prairie Falcon		May Occur	Year-Round
Red-headed Woodpecker		May Occur	Breeding
Rufous-crowned Sparrow		May Occur	Year-Round
Short-eared Owl		May Occur	Wintering
Swainson's Hawk		May Occur	Breeding
Virginia's Warbler		May Occur	Breeding
Western Grebe		May Occur	Breeding
Williamson Sapsucker		May Occur	Breeding
NM Meadow Jumping Mouse	Endangered	May Occur	

APPENDIX D

Lamy Open Space + Park Community Stewardship Opportunites

APPENDIX D

Lamy Open Space + Park

Community Stewardship Opportunites

Community Stewardship Opportunities

Activities + Resources

Community members can make a big impact on the health and resilience of the Santa Fe Open Space properties and Trails by keeping an eye on the land and engaging in caring for it. Local residents truly have the best close-up perspective in identifying the problems that need attention and opportunities to improve conditions. And Santa Fe County has very limited staff for daily observations. So, Santa Fe County needs the help of local people with an intimate relationship with the land. Here are ways that people can get involved by becoming a steward for nearby open spaces.

Create a Local Stewardship Team for Your Neighborhood Open Space
"Many hands make light work," and neighbors collectively gathering to care for unique local greenspaces makes these efforts easier, more effective and fun. Some of the key activities are:

- Create a data-gathering-to-information system for caring for the land – A basic plan for what, how, who, when, where data will be collected and shared makes Citizen Science efforts fun and effective. A key aspect of the system is how to use the data to make a difference. For instance, a plan will define when and how often to observe road culverts and whom to contact at Santa Fe County if they become clogged with debris, so destructive flooding is avoided.
- Keep the land resilient – Doing trail maintenance, periodic clean-ups, and removing non-native/invasive weeds helps maintain land health and is a fun way for people to learn and share their experiences. Don't forget the donuts to keep people energized!
- Improve land, water and wildlife conditions – Stewardship team host workdays for improving land health such as building rain garden projects, creating erosion control structures at eroding arroyos, and planting willows on denuded streambanks.

See resources and some examples of local groups below in this document.

Keeping An Eye On The Land and Documenting Change Using Citizen Science
Open space stewards gather and document a variety of useful information about natural areas such as bird surveys, repeat photography, and vegetation and soils. The most effective citizen science efforts have a good data-to-information system, so the insights helps educate the broader community and inform land managers to maintain and improve land resilience. A growing number of Citizen Science programs offer ways to help people get started and do ongoing studies. Here are just a few:

PicturePost – A picture tells a thousand words and repeating them at the same places becomes a story. PicturePost enables repeat photography so people can visualize environmental change from the same place over time. A picture post is an eight-sided platform to take repeat photography of trails, grasslands, forests and parks to monitor changes in the environment. People can use a smartphone or a camera and computer. This is a project of NASA and the University of New Hampshire. Go to *http://picturepost.unh.edu/index.jsp* to get started by creating your own PicturePost.

eBird–As birds are good indicators of land health, eBird was developed to offer a way to track bird presence, absence and abundance over time. Stewards can record the birds people see, keep track of birds lists, and help aggregate bird observations at particular sites. Go to *http://ebird.org/content/ebird* to get started. A related project is the Great Backyard Bird Count which generates useful information about the region on birds as an indicators of ecosystem health. Go to *http://gbbc.*

birdcount.org/. Both projects are coordinated by the Cornell Lab of Ornithology and the Audubon Society.

New Mexico Watershed Watch – The health of running waters can be tracked youth and adults in this program that collects the quality, quantity and ecology information about local streams. The program focuses primarily on perennial waters but can be adapted for ephemeral arroyos. Go to *http://riversource.net/gallery/watershed-watch* for more information.

iNaturalist.org – A web-supported nationwide program to record, share, and discuss Citizen Science programs and their findings; go to *http://www.inaturalist.org/* for more information.

Land Maintenance

Use of open spaces can cause wear and tear on trails, parking areas, and other gathering spots. Land maintenance work may involve periodic clean-ups, repairing broken water bars on trails, or fixing fences. For instance, road culverts are located on both the Madrid and Lamy Open Space properties and can get clogged periodically. Having a communication system with County staff and local residents can identify when a culvert gets clogged early on and resolve the problem promptly to avoid flooding. In many cases County staff can help to resolve issues, such as having volunteers collect trash and then have County maintenance haul garbage bags to the dump. Or trail erosion problems can be fixed with limited guidance from County staff or a contractor significantly aided by local volunteers.

Ecological and Wildlife Habitat Improvements

Some open spaces have good potential for improving conditions for wildlife, particularly where water can be slowed down or used to grow cool and green areas that harbor wildlife. Activities that can improve conditions include stopping erosion on headcuts that are eroding soil, planting native vegetation that improves bird habitat like coyote willows, and changing strand distances in wire fences and replacing barbed wire strands on a fence with smooth wire to ensure safe passage by deer and antelope.

Examples of Stewardship Groups

- Conservation Committee of Eldorado Community Improvement Association – The Committee and Association manage a community preserve of over 4,000 acres of greenbelts, undeveloped land in Preserve areas, and trails ranging from Eldorado and in around the Galisteo Creek. They gather to work on trail improvements and maintenance, do erosion control, and improve wildlife habitat. Contact Jim Daniel, Chair, *jdaniel@temple.edu*; or Mark Young, Compliance Coordinator, *MYoung@hoamco.com*.
- Master Naturalist Program of Bernalillo County – the program promotes life long learning and environmental stewardship through trainings and service dedicated to open space properties. Contact Colleen McRoberts, (505) 314-0398 or *calangan@bernco.gov*.
- Santa Fe Conservation Trust and the Trails Alliance of Santa Fe (TAOSF) – The SF Conservation Trust helps organize trail maintenance for open spaces around SF County. Contact Tim Rodgers, the Trails Program Manager at (505) 629-5647 or *tim@sfct.org*

Resources:

- Carol Branch – Santa Fe County Volunteer Coordinator and Adopt-an-Open Space: 505-992-3053
- Tim Rodgers - Trail Program Manager of Santa Fe Conservation Trust: (505) 629-5647 or *tim@sfct.org.*
- Scot Pipkin - Director of Community Education at New Mexico Audubon in Santa Fe: 505-983-4609, ext. 27 or *spipkin@audubon.org.*
- Rich Schrader – River Source and New Mexico Watershed Watch: 505-660-7928 or *rich@riversource.net*

For Community Organization Support and Funding*:*

- The New Mexico Community Foundation offers management and support services for nonprofits: *http://www.nmcf.org/grants-services/endowment-management/*
- Some of the McCune Foundation priorities may align with those of the Lamy community, including capacity building in the nonprofit sector, economic development and family asset building, and strategies for rural development: *http://nmmccune.org/foundation_priorities*
- The Santa Fe Community Foundation hosts workshops and events to support nonprofits, and may provide some useful resources: *http://www.santafecf.org/what-we-do/hub/np-events*
- United Way of Central New Mexico's Center for Nonprofit Excellence provides trainings and resources for nonprofits: *https://www.centerfornonprofitexcellence.org*
- The Sonoran Institute supports community conservation and sustainability efforts throughout the west. There has not been much recent work in New Mexico, but it might be a resource: *https://sonoraninstitute.org*
- The Resilient Communities Starter Kit was produced by the Sonoran Institute in 2015. Though focused on addressing climate change, it also includes ideas about community organization and priority-setting: *https://sonoraninstitute.org/resource/resilient-communities-starter-kit-08-29-2015/*
- The Orton Family Foundation Community Heart and Soul Field Guide, published in 2015, makes recommendations for community outreach and engagement based on the foundation's "Community Heart and Soul" approach: *http://www.orton.org/download-community-heart-soul-*
- Ioby is a website like Kickstarter that focuses on community projects. It seems to be more popular in other areas of the country, but could provide an opportunity: *https://www.ioby.org/about*

For Community Information-Sharing:

- *http://Nextdoor.com* has greatly increased in popularity in the last few years, and is one of the most popular methods for connecting neighbors. You invite neighbors to participate, and they register with their address, so only community members are included.

For Citizen Science:

- *https://www.citizenscience.gov* is a website to promote crowdsourcing and citizen science on federally supported projects. It includes resources that could be used by local projects as well: *https://crowdsourcing-toolkit.sites.usa.gov/resource-library/*
- Conservation tools software: *http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/ndcsmc/?cid=stelprdb1042198* . Wildlife Habitat Index may be of interest.

APPENDIX E

Clark Property Species List
Lamy, NM
by Cindy and Jack Clark

Clark Property Species List

Lamy, NM

by Cindy and Jack Clark

Clark Property List

Lamy, New Mexico; Cindy and Jack Clark, 7-2-16

In order of discovery, beginning Thanksgiving 2011

Birds

1. Gray-headed Junco
2. Oregon Junco
3. House Finch
4. White-crowned Sparrow
5. Chipping Sparrow
6. Canyon Towhee
7. Spotted Towhee
8. Western Scrub Jay
9. Pinyon Jay
10. Mountain Chickadee
11. Western Bluebird
12. American Robin
13. Curve-billed Thrasher
14. Evening Grosbeak
15. Red-tailed Hawk
16. Northern Flicker (Red-shafted)
17. Juniper Titmouse
18. White-winged Dove
19. Sharp-shinned Hawk
20. American Crow
21. Turkey Vulture
22. Scaled Quail
23. Broad-tailed Hummingbird
24. Say's Phoebe
25. Towsend's Solitaire
26. Lesser Goldfinch
27. Rose-breasted Grosbeak
28. Eurasian-collared Dove
29. Cooper's Hawk
30. Swan
31. Black-headed Grosbeak
32. Black-chinned Hummingbird
33. Ash-throated Flycatcher
34. European Starling
35. Mourning Dove
36. Bushtit
37. Brown-headed Cowbird
38. Brown-crested Flycatcher
39. Bullock's Oriole
40. Lazuli Bunting
41. Lark Sparrow
42. Western Tanager
43. Ladder-backed Woodpecker
44. Western Wood-peewee
45. Scott's Oriole
46. Violet-green Swallow
47. Common Raven
48. Blue Grosbeak
49. Red-winged Blackbird
50. Greater Roadrunner
51. Rufous Hummingbird
52. Black-throated Gray Warbler
53. Common Nighthawk
54. Wilson's Warbler
55. Hairy Woodpecker
56. Black-billed Magpie
57. Green-tailed Towhee
58. White-breasted Nuthatch
59. Chihuahuan Raven
60. Pink-sided Junco
61. Pine Siskin
62. Indigo Bunting
63. Gray Vireo
64. Yellow-throated Vireo
65. Hermit Thrush
66. American Kestral
67. Common Poorwill
68. Bewick's Wren
69. Ruby-crowned Kinglet
70. Steller's Jay (Interior West race)
71. Slate-colored Junco
72. Red-breasted Nuthatch
73. Canyon Wren
74. Western Kingbird

75. House Sparrow
76. Lark Bunting
77. Inca Dove
78. Gray Flycatcher
79. Sage Thrasher
80. Wood Thrush (heard)
81. Brewer's Sparrow
82. Yellow-rumped Warbler
83. Williamson's Sapsucker
84. Cassin's Finch
85. Mountain Bluebird
86. Rock Dove
87. American Pipit (Rocky Mountain subspecies)
88. Black-tailed Gnatcatcher
89. Blue-gray Gnatcatcher

Insects

1. Desert Tarantula
2. Armored Stink Beetle
3. Antlion
4. Miller's Moth
5. Desert Cicada
6. Ground Beetle
7. Tarantula Hawk
8. Red Mound Ant
9. House Fly
10. Common Snakefly
11. Lady Beetle
12. Cabbage White Butterfly
13. Black Ant
14. Blue-eyed Darner Dragonfly
15. Velvet Ant
16. Ground Mantis
17. May Beetle
18. Thistledown Velvet Ant
19. Pallid-winged Grasshopper
20. Dainty Sulphur
21. Jerusalem Cricket
22. Leaf-footed Bug
23. Mourning Cloak Butterfly
24. Gold-Spotted Spider (?)
25. Bees
26. Wind Scorpion
27. Ten-lined June Beetle
28. Miner Bee
29. Eyed Sphinx Moth
30. Mescalero Shield-back Katydid
31. Mesquite Moth
32. Selenopid Crab Spider
33. White-lined Sphinx
34. Keeled Shield-back Katydid
35. Margined Burying Beetle
36. Tomato Hornworm Caterpillar
37. Inch Worm
38. House Cricket
39. Mexican Amberwing Dragonfly
40. Black Saddlebags Dragonfly
41. Broad-winged Katydid
42. Cat-faced Spider
43. Giant Robber Fly
44. Leaf-footed Bug
45. Spotted Blister Beetle
46. Stink Bug
47. Burying Beetle
48. Two-tailed Swallowtail Butterfly
49. Pine Sawyer
50. Praying Mantis
51. Common Desert Centipede

Mammals

1. Coyote
2. Rock Squirrel
3. Spotted Ground Squirrel
4. Desert Cottontail Rabbit
5. Black-tailed Jackrabbit
6. “Pack Rat” White-throated Woodrat
7. Cactus Mouse
8. Bobcat
9. Least Chipmunk
10. Mule Deer
11. Kangaroo Rat
12. Mountain Lion (scat and prints)
13. Deer Mouse

Plants

1. Colorado Pinyon Pine
2. Utah Juniper
3. Whipple Cholla Cactus
4. Scarlet Globe Mallow
5. Tufted Evening Primrose
6. Yarrow
7. Desert Prickly-pear Cactus
8. Beehive Cactus
9. Banana Yucca
10. Soaptree Yucca
11. Claretcup Cactus
12. Chamisa
13. Apache Plume
14. Rose-heath
15. Shooting Star (?)
16. Mexican Gold Poppy
17. Purple Three-awn
18. Desert Four O’clock
19. Mexican Hat
20. Blue Grama
21. Indian Ricegrass
22. Lichen
23. Singleleaf Ash
24. Velvet Ash
25. Birch-leaf Mountain Mahogany
26. Winter Fat
27. Purple Aster
28. Prairie Zinnia
29. Budsage
30. Haircap Moss
31. Juniper Misletoe
32. Brown Mushroom (1-3”, brown gills; look similar to lawn mushrooms)
33. White Mushroom (2-4”, like Horse mushrooms, all end of September)
34. Wavy Mushroom (~ 4” wide, brown, look like Oyster mushroom)
35. Tidytips
36. Rattlesnake Weed
37. Pale Trumpets
38. Four-winged Saltbush
39. Russian Thistle
40. Mexican Blanket
41. Foxtail Chess
42. Common Mullein
43. Hoary Cress
44. Yellow Salsify

Reptiles

1. Sage Lizard
2. Bull Snake
3. Desert Grassland Whiptail
4. Garter Snake
5. Horned Lizard
6. Chihuahuan Spotted Whiptail
7. Collard Lizard
8. Tree Lizard
9. Coach Whip

Reference Books

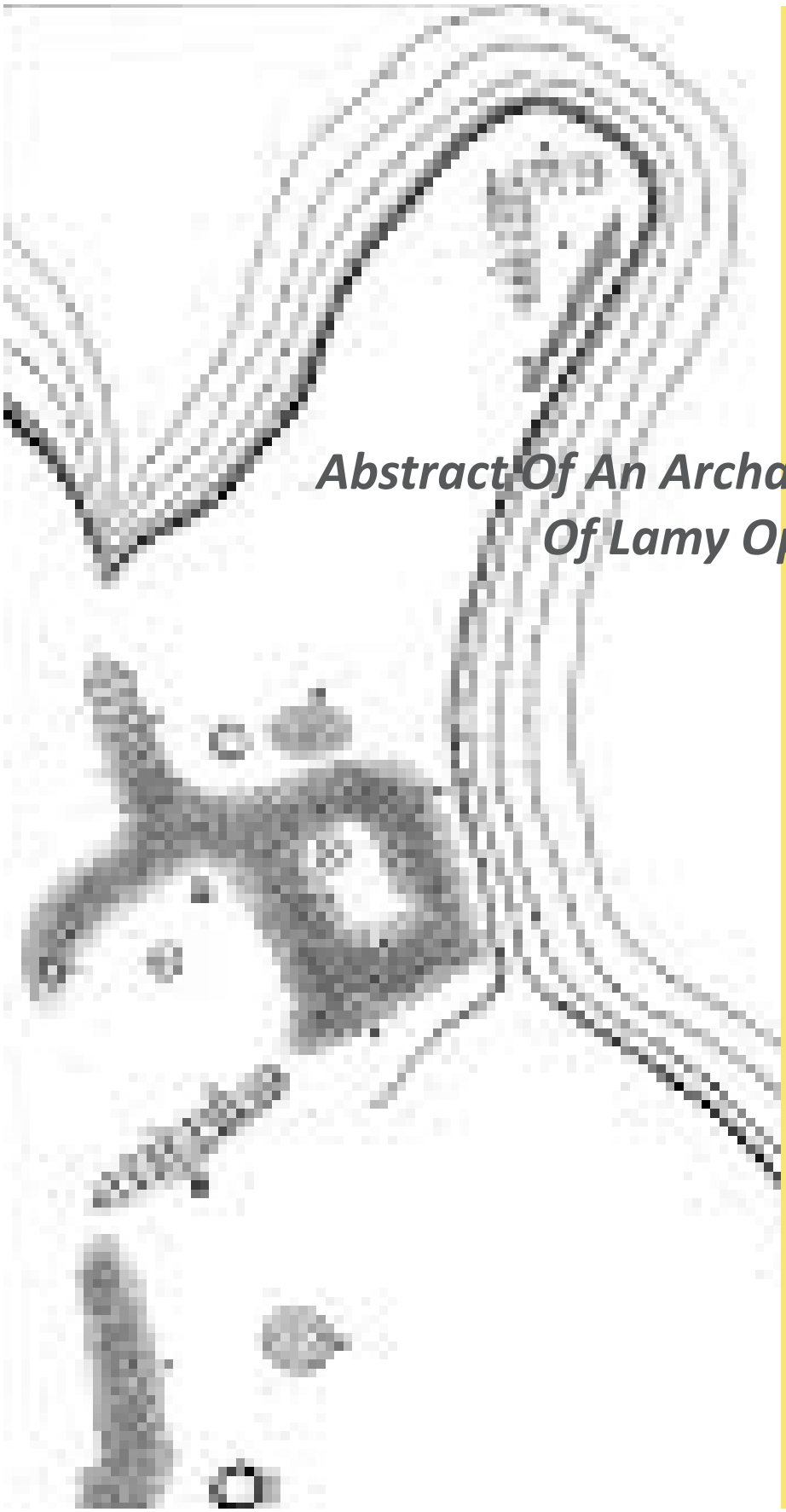
1. *National Audubon Society Field Guide to the Southwestern States.* Peter Alden and Peter Friederichi, editors. NY: Alfred A. Knopf, 1999.
2. *National Geographic Society Field Guide to the Birds: Arizona & New Mexico.* Jonathan Alderfer, editor. Washington, DC: National Geographic Society, 2006.
3. *The Sibley Field Guide to Birds of Western North America.* Written and illustrated by David Allen Sibley. NY: Alfred A. Knopf, 2003.
4. *Nature a Day at a Time: An Uncommon Look at Common Wildlife*. Written and illustrated by Cathie Katz. San Francisco: Sierra Club Books, 2000.

APPENDIX F

Abstract Of An Archaeological Survey Of Lamy Open Space + Park Santa Fe County, New Mexico

Tamarch 2016

APPENDIX F



Abstract Of An Archaeological Survey Of Lamy Open Space + Park

Santa Fe County, New Mexico

Tamarch
2016

Lamy Open Space & Park Archeological and Historic Survey

Tamach
2016

ABSTRACT
In May and June 2016, TAMARCH CRM Services conducted a cultural resource survey of the Santa Fe County-owned 57.1-hectare (ha) [141.2-acre (ac)] Lamy Park and Open Space property located partly within the Village of Lamy in the Galisteo Basin of Santa Fe County, New Mexico (refer to Figures 1-2). The two adjacent parcels border the south side of County Road (CR) 33 (formerly NM 41) and are bounded on the south by the Atchison Topeka & Santa Fe (AT&SF) Southern Railroad that runs parallel to Galisteo Creek, and on the west by US 285 (Figure 3). Santa Fe County owns the 37-ha (91.2-ac) Lamy Open Space parcel containing Lamy Junction Archaeological District and the adjacent 20.2-ha (50-ac) Lamy Park parcel, and requested the archaeological survey in order to better understand the location and boundaries of the cultural resources within the entire 57.1-ha (141.2-ac) area (Figures 1-2). The two parcels are located on unplatted land in the Bishop John Lamy Grant in projected Section 5, Township 14 North, Range 10 East, N.M.P.M. on the Galisteo, NM Quadrangle (Figures 1-2).

Lamy Junction Archaeological District, contained within the Lamy Open Space parcel, was listed on the National Register of Historic Places (NRHP) in June 2016 (NR #16000388) (Figure 8). No other properties listed on the State Register of Cultural Properties (SRCP) or on the NRHP are located within the parcel boundaries or vicinity, defined as a 1.6-kilometer (km) [1.0-mile (mi)] radius around the parcels. Farther to the northeast within the Village of Lamy, the Mission Chapel of Our Lady of Light, built in 1926, is listed on the SRCP (SR # 1949).

A check of the New Mexico Cultural Resource Information System (NMCRIS) revealed 25 previously recorded archaeological sites within the two adjacent County parcels under study (Table 1). Sixteen sites comprise Lamy Junction Archaeological District in the 37-ha (91.2-ac) western tract adjacent to US 285 (LA 27, LA 361-368, LA 31774-31779, LA 112329) (Figure 3). The district includes 19 pueblo mounds, a possible great kiva, and four associated features that together comprise the ancestral Puebloan settlement, occupied during the Coalition period between about A.D. 1175 and the early 1300s (Head 2008; Stewart 2015; Wiseman 1981). At least two late 19th through mid-20th century roads once ran roughly north-south and east-west through this parcel, the old roads to Galisteo and Clines Corners forming an important crossroads in the northwestern portion of the property (Figure 9). The 16 sites that comprise the archaeological district and the two historic road alignments are considered significant cultural resources that are listed on the NRHP and should be avoided (Head 2008; Stewart 2012, 2015). Nine archaeological sites that include a historic road alignment, numerous historic artifact scatters, a former historic well site, and two adjacent prehistoric fieldhouses, have been previously recorded on the adjacent 20.2-ha (50-ac) Lamy Park parcel (Figure 3) (Brown and Brown 1999). Two of these sites, the fieldhouses (LA 126174) and the road alignment (LA 126169), are recommended as potentially eligible for inclusion on the NRHP and should be avoided. A previously recorded historic artifact scatter (LA 126170) could not be relocated, vegetation having become very dense in this area. LA 126173, a previously recorded historic windmill/well site that appears on a 1966 USGS map, has been removed and no longer exists. No new archaeological sites were discovered within the County property.

Thirteen previously recorded sites are located in a 1.6-km (1.0-mi) radius vicinity of the property: LA 10-11, LA 31044-31048, LA 78943, LA 103861, LA 107266-107267, LA 115269, and LA 126174, consisting of prehistoric mounds and prehistoric and historic artifact scatters. None of these sites are listed on the SRCP or the NRHP.

One hundred sixty-six isolated occurrences (IOs) were identified within the property, consisting of prehistoric and historic artifacts and small artifact scatters associated with the prehistoric Lamy Junction Archaeological District, the historic roads that pass through the property, historic ranching and homesteading practices, and late 19th century through recent historic railroad activities associated with the railroad that bounds the property on the south (Table 3, Figure 4). The information potential of the IOs is considered to have been exhausted through in-field recordation. Santa Fe County should avoid significant identified sites within the property boundaries. Additional archaeological investigations may be required at any significant archaeological sites that cannot be avoided.