

San Juan – Chama
Watershed Partnership

Focal Area Atlas



Photo by Christi Bode



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Introduction

The focal area atlas in your hand is the first edition of what is hoped to be a dynamic document that will be regularly used and updated. It has been compiled by many individuals who are part of the San Juan-Chama Watershed Partnership (SJCWP). This atlas needs your input.

The mission of the SJCWP is to protect and enhance the watershed health and water supply conditions in the San Juan-Chama region. The region encapsulates the entire Rio Chama watershed as well as the headwaters of three tributaries of the San Juan River (Navajo River, Little Navajo, and Rio Blanco) which get diverted into the Rio Chama as part of the San Juan-Chama Project. These watersheds are exceptionally important to residents and downstream water users. The 2020 Forest Action Plan showed this region as having the highest possible ranking in the state for supplying the greatest population of Native American communities and Spanish/Mexican land grant communities with water. In addition, the San Juan Chama Project, which diverts water from the San Juan River basin into the Rio Chama, is the most important watershed area in terms of surface water resources for New Mexican public water systems. The native Rio Chama water and dam infrastructure conveys the San Juan-Chama Project water into the Rio Grande where it eventually makes up about 75% of Albuquerque's drinking water and 50% of Santa Fe's drinking water annually. With the extraordinary importance of the San Juan-Chama region, there is a need to protect the watersheds against the effects of severe wildfire and post-fire erosion.

In 2019, partners in the San Juan Chama-Watershed Partnership (SJCWP) obtained grant funding to update geographic priority areas for watershed protection needs. This task, however, proved challenging due to the large landscape size of the San Juan-Chama region, the amount of area at risk of severe wildfire in several parts of the region, and the many local values at stake. Rather than assigning priorities to areas, partners decided to identify watershed-based "Focal Areas" that partners may use to conduct their own watershed planning and prioritization. Continued funding for watershed planning allowed us to expand this framework into an Atlas to share with land management partners.

Our goals for the SJCWP Focal Area Atlas are as follows:

1. Use both local and scientific knowledge to help identify watershed protection issues and needs in the SJCWP landscape.
2. Describe watershed areas, land jurisdictions, relevant planning and implementation efforts, and important values at risk within mid-scale watershed areas.
3. Use spatial products from the New Mexico Forest Action Plan to show threat of severe wildfire and threat of postfire erosion for mid-scale watershed areas in the SJCWP region.
4. Show potential treatment locations for dry and mesic forest types that are accessible to forestry machinery.
5. In 2022 NMFD submitted these Focal Area boundaries to the NM Shared Stewardship Portal. The Atlas is designed to help provide context for these areas and to aid in land management planning.
6. Make this information available so that partners can more easily list relevant planning and implementation efforts for an area while applying for new grant funding.

To accomplish these goals, we first delineated separate watershed-based Focal Areas at a mid-range scale of between 100,000 – 300,000 acres in size. We used combinations of HUC-12 watershed areas to accomplish this, making sure that every HUC-12 was ranked as one of the top 500 priority watersheds in the 2020 New Mexico Forest Action Plan. We conducted outreach to folks working in these areas to gain information about important issues and relevant planning and implementation efforts.

For each Focal Area in this Atlas, we include a narrative page and 5 accompanying maps. For the spatial analysis and mapmaking, we used a variety of spatial products, including threat of severe wildfire and threat of postfire erosion layers from the 2020 New Mexico Forest Action Plan. In addition to these, we collected land ownership information and vegetation types, and then we build a layer to show dry and mesic forest types that are under 40% slope and accessible by common forestry equipment (we did not exclude wilderness areas in this analysis). For each of these maps, we quantified the different values and included the information in charts included in the narrative section of each Focal Area.

Important limitations exist: This Atlas does not provide comprehensive analysis of watershed risks nor does it provide comprehensive narratives about these areas, which are extremely rich in history. We hope that this may be considered a "first draft" towards a more comprehensive version that can more fully elucidate the rich history and watershed priorities in the region. We hope that this version of the atlas merely provides a tool to aid in planning efforts. No warranties are made as to the accuracy of any the maps or any information in this atlas. Maps are for geographical reference only and are not to be used as a survey or legal document.

Historical Context

According to a 2016 research paper titled "The Rio Chama Basin: A Social-Ecological History Linking Culture and Nature", Sam Markwell and others describe how hunter-gather populations and early Puebloan societies have used areas in the Rio Chama landscape for thousands of years. In more recent history, the Rio Chama basin has been utilized by several different Native American tribes, most notably the Tewa Pueblo. Markwell and others describe that prior to the 1500's, Tewa Pueblo societies were expanding in the Rio Chama basin, with population estimates of over 10,000 people around the mid-fifteenth century. Markwell and others describe how life in this region grew more turbulent in the in the fifteenth and early sixteenth centuries with the arrival of Uto-Aztecan and Athapaskan people (Ute, Apache, Comanche, and Navajo). This period of change coincided with the beginning of Spanish exploration of the New World.

The Spanish arrived in the Lower Rio Chama watershed in 1598 near the present-day Pueblo of Ohkay Owingeh, and settlement continued up the Rio Chama valley in following years. According to Markwell et al. 2016, "During the first century of Spanish colonial rule, the amount of land controlled by the Pueblos and cultivated on the pre-Iberian irrigation system was greatly reduced. The riverine pueblos along the Rio Chama and tributaries had been or were eventually vacated, and Spanish efforts to establish new settlements in the area would not get underway until the middle of the eighteenth century after threats from raids conducted by Utes and Comanches were reduced. The number of Pueblo villages, and the lands these villages had access to, also declined."

Spanish/Mexican settlement continued up the Rio Chama Valley through the 1700's. Lands were settled and villages were established near rivers to provide water for domestic use, animals, gardens and orchards via elaborate acequia systems which are still in use to this day and are considered the lifeblood to communities. The forests surrounding these settlements were considered community owned as they provided building materials, firewood, hunting areas and were used extensively for grazing. Existing Pueblo communities, Hispanized Native American communities, and Spanish/Mexican settlement communities were eventually awarded land grants by the king of Spain and subsequently the Mexican government for title to these lands.

The Treaty of Guadalupe Hidalgo was signed in 1848 after the United States took over the Mexican territory, the Treaty was to confirm property rights of the former Mexican citizens. During the process of adjudication many land grant claims were denied due to a lack of documentation, an unfamiliar legal system and a new unspoken language. In some cases, when the land grant was acknowledged, it was lost due to the high property taxes or under well documented schemes by lawyers and developers that defrauded villagers to lay claim to timber and range resources. Currently, land ownership in the region is comprised of US Forest Service as the largest land jurisdiction, followed by private lands, Jicarilla Apache Nation, state lands, and BLM.

Because of difficulty obtaining information for boundaries of past and current land grant and acequias, we did not include names of specific land grants/mercedes or acequias in the narratives of the Focal Areas. We do, however, want to acknowledge that the land grant/mercedes are extremely important to the Rio Chama region, both historically and currently. While the following list is not intended to be comprehensive, SJCWP wants to specifically acknowledge the following Mercedes: Los Pueblos de Tierra Amarilla, San Joaquin Del Rio De Chama, Piedra Lumbre, Petaca, Canon de Chama, Juan Bautista Valdez, Polvadera, Polvadera/Juan Jose Lobato, Ojo Caliente, Abiquiu, Plaza Colorada and Plaza Blanca.

The Jicarilla Apache Nation was moved to the current Jicarilla Reservation in the late 1800's. Although the majority of the Jicarilla Apache ancestral lands are to the east, the Jicarilla Apache are an integral part of this watershed and this landscape.

The great land loss remains a bitter issue today for Native American and Spanish/Mexican communities. Many of the common lands that were not recognized by the United States were later converted to USFS lands, making up most of the Carson and Santa Fe National Forests. The USFS managed the community forests and grazing resources and did not understand the agro-pastoral relationship of the villagers to the common lands and began instituting new policies that were not compatible to the sustenance needs of the local communities. The cumulative aggravations from these events have led to sometime combative relationships between federal land managers and the local communities. The relationship between agency land managers and the local communities is less adversarial today due to efforts by the USFS to take a more culturally sensitive approach with the local people who are now considered permittees and efforts to recruit and hire local people, but tensions remain as some issues have never been resolved.

Despite long-held tensions, there is a widely-shared sense that the watersheds in our region are extraordinarily important and that we all must work to protect the forests, rangelands, and streams from the devastating effects of severe wildfire and post-fire erosion and debris flows. The recently awarded USFS Rio Chama Collaborative Forest Restoration Program (CFLRP) will be bringing in a decade of funding for work on USFS lands. Local Soil and Water Conservation Districts have been implementing a Regional Conservation Partnership Program (RCPP) for fuel treatments on private lands. Rio Grande Water Fund has been funding treatments on private lands in the region to protect crucial watersheds. Jicarilla Apache Nation has been implementing forestry projects. Cross-jurisdictional efforts to improve forest resilience provide a sense of hope that the Rio Chama landscape and residents may avoid the fate of nearby watersheds that have experienced catastrophic effects of severe wildfire.

Ultimately, we hope that partners utilize this Focal Area Atlas to better understand values at risk and opportunities to alleviate threats in these incredibly important watersheds and communities.

Utilizing this Focal Area Atlas

We envision that this Atlas will find many uses, but our hope is that this project helps increase the pace and scale of forest restoration on our landscape. We call this document an “atlas” because it is map based, but it is a landscape management plan (especially for those grant programs that require a plan to qualify for funding). For the first time we have the tools to be able to estimate how much treatment is needed to create a resilient landscape, and to present this information in functional focal areas.

The focal area concepts tie directly to the Shared Stewardship Portal, which is a geospatial workspace for all stakeholders to communicate on planned, current and completed natural resource management projects. The Shared Stewardship Portal and this development of these focal areas is based on the assessment and strategies developed in the 2020 New Mexico Forest Action Plan, a plan for all jurisdictions within the State of New Mexico.

We hope this atlas will provide the understanding and knowledge of the area to help select priority areas to concentrate funding for effective landscape scale results. We also hope this atlas will help identify opportunities for collaboration, such as the mixing of riparian projects with hazardous fuel reduction projects to create more fire resilient landscapes.

Perhaps one of the most desired outcomes of this first draft of the San Juan – Chama Watershed Partnership’s Focal Area Atlas is for you the user to help identify and fill the gaps in knowledge and understanding of our local landscapes.

Acknowledgements

Many team members contributed to this Atlas, special thanks to Mary Stuever (New Mexico Forestry Division), Caleb Stotts (Chama Peak Land Alliance), Joe Carrillo (New Mexico Forestry Division), Jessica Johnston (Aguas Nortenas, LLC), Melissa Ryan (Tierra Buena GIS, LLC), Jesse Ramirez (Ramirez Natural Resources Consulting, LLC), Sandra Dingman (USFS), Angie Krall (USFS), Page Buono (Page by Page, LLC), Brittany Ference (Song Dog Media, LLC).

Special thanks to the many folks who provided information for the Atlas.

Special thanks to Network for Collaborative Conservation’s Catalyst Fund and the US Bureau of Reclamation’s WaterSMART program for watershed planning financial assistance.

Navajo - Blanco Headwaters Focal Area

Acres – 122,328

Background Information

- In the San Juan watershed, this focal area lies just north of the New Mexico/Colorado border and is entirely within the state of Colorado. The area is made up of San Juan National Forest and private lands, and includes the headwaters of the Rio Blanco, the Little Navajo and the Navajo River. Wilderness and roadless areas within the San Juan National Forest limit restoration and thinning opportunities on USFS lands.
- This focal area is known to have San Juan Colorado Cutthroat habitat in high elevation streams.
- This area is also of high importance as it is the source water for the San Juan- Chama diversion and can make up 75% of Albuquerque’s and 50% of Santa Fe’s annual municipal water usage. The Nature Conservancy 2022 Rio Grande Water Fund Wildfire Risk Assessment shows this area to be the most important public water source for New Mexico’s population.

Surface Water Users

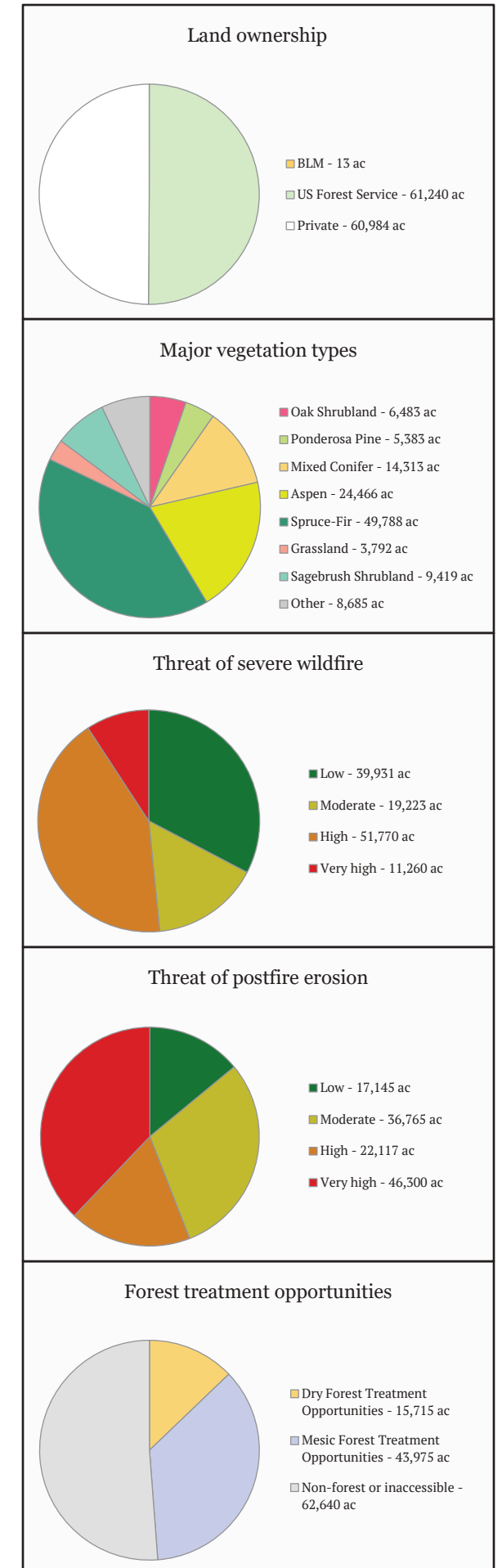
- Active source water irrigation present in the river valleys.
- Downstream users include the Village of Dulce, NM, which utilizes the Navajo River as the primary source of municipal water.
- San Juan- Chama Diversion source water for many New Mexico communities. Beneficiaries include Albuquerque Bernalillo County Water Utility Authority, Middle Rio Grande Conservancy District, Jicarilla Apache Nation, City of Santa Fe, Taos Pueblo, Ohkay Owingeh, County of Los Alamos, City of Española, City of Belen, Town of Bernalillo, Town of Taos, Town of Taos Settlement, Village of Los Lunas, County of Santa Fe, Town of Red River, El Prado Water and Sanitation District, Village of Taos Ski Valley, Pojoaque Valley Irrigation District, Aamodt Settlement, Cochiti Recreation Pool.

Threats and Opportunities

- The threat of severe wildfire and post-fire erosion is significant for most of this area.
- Many USFS acres in this area are Wilderness or Roadless designation, so management opportunities will be limited in these designations. Due to a large amount of steep topography, surface rock, and wilderness designation on USFS lands, much of the forest treatment opportunities are on private land and within large ranches.

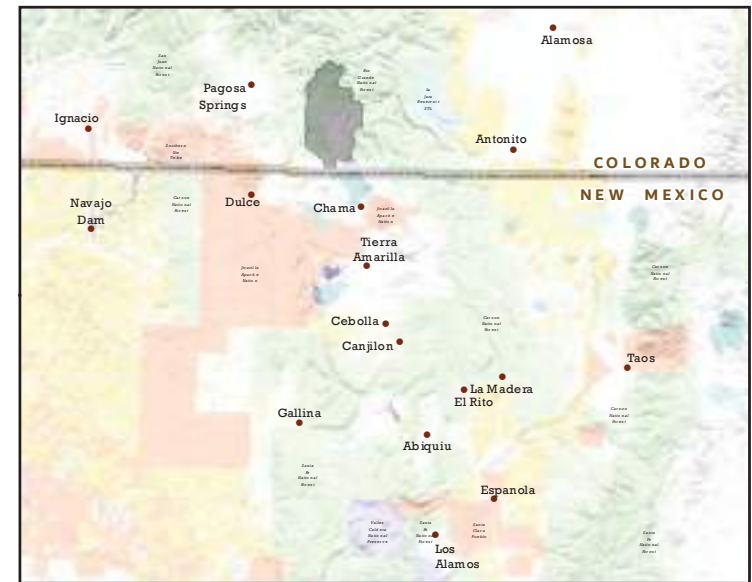
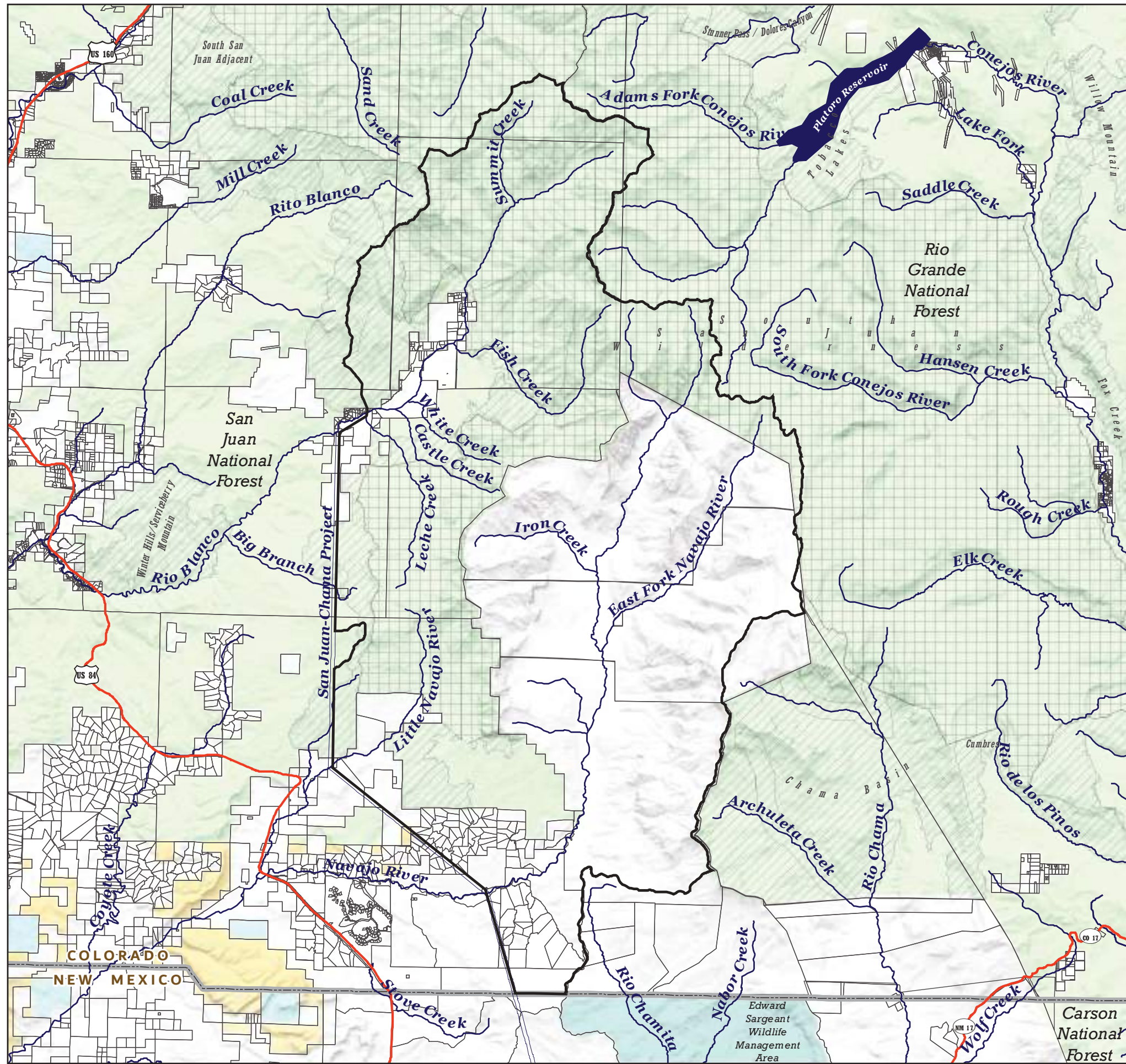
Known Watershed Plans and Projects










- Proposed fuel mitigation treatments will help achieve goals listed as part of the 2-3-2 Cohesive Strategy Partnership, San Juan-Chama Watershed Partnership, San Juan Headwaters Forest Health Partnership, Chama Peak Land Alliance, Colorado Forest Action Plan, Rio Chama Collaborative Forest Landscape Restoration Program (CFLRP), Rio Grande Water Fund Cohesive Strategy, and Navajo - Blanco Resiliency Strategy. Some larger ranches have Forest Management Plans.
 - Working for Rio Grande Water Fund and downstream water users, CPLA has treated over 900 acres between 2018-2022.
 - USFS are in planning stages for treatments along the Price Lakes Road. Rio Chama CFLRP could help fund treatments in this area.
 - Private landowners have completed treatments on a substantial portion of treatable acres on larger ranches. Some larger ranches have Forest Management Plans.
 - The Upper San Juan Watershed Enhancement Partnership convened in 2022 to examine environmental and recreational water needs and have described restoration opportunities in this area to the Colorado Water Plan.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources management.

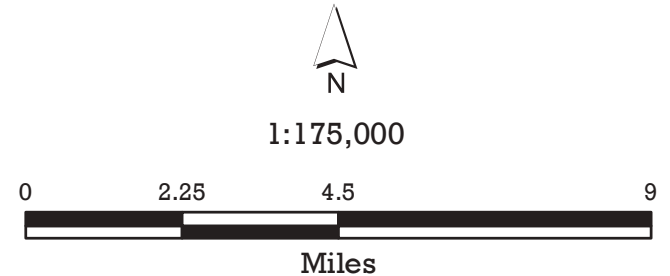


Land ownership

Navajo-Blanco Headwaters



-  Focal Area boundary
-  Parcel boundaries
-  BLM
-  State
-  State Game & Fish
-  Private
-  US Forest Service
-  Wilderness
-  Roadless Area



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

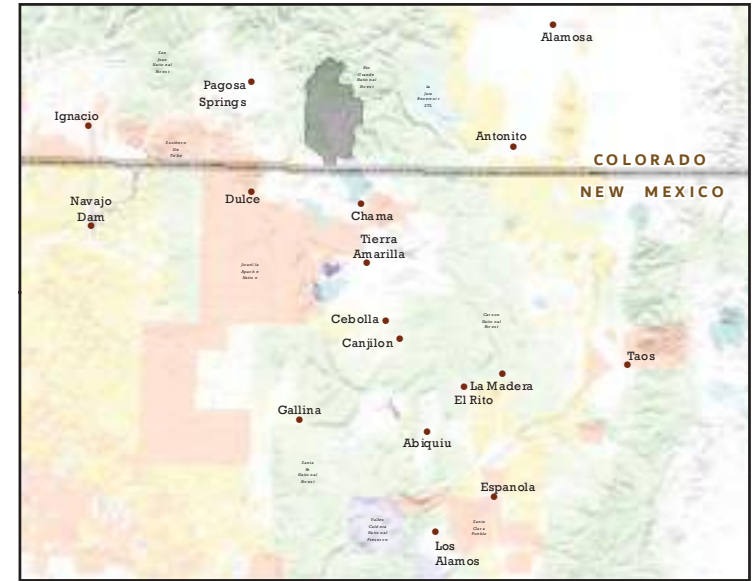
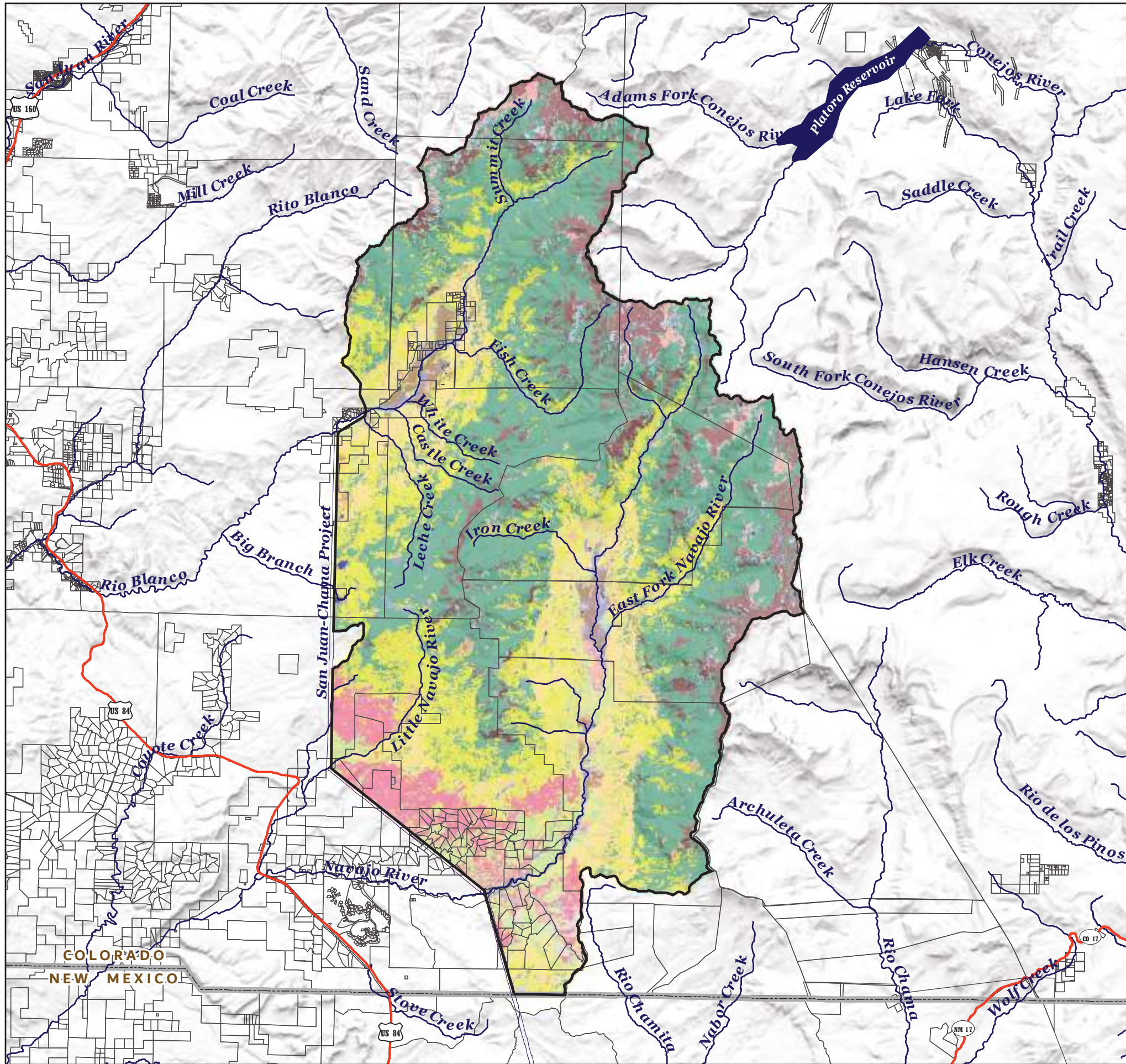
U.S. Department of Interior, Bureau of Land Management (BLM). BLM Colorado Surface Management Agency, 2021.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

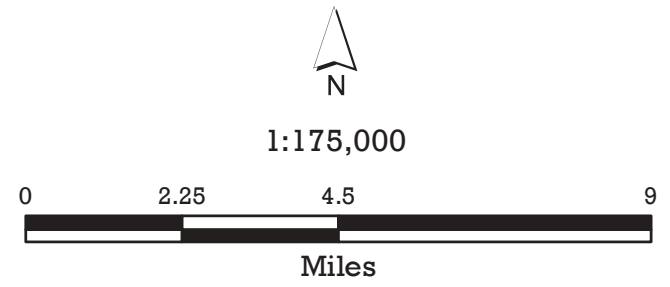
No warranties are made as to the accuracy of this map. This map is for geographical reference only and is not to be used as a survey or legal document.

Vegetation type

Navajo-Blanco Headwaters



- | | |
|-----------------------------|---|
| Focal Area boundary | Parcel boundaries |
| Vegetation | |
| Agriculture | Piñon-Juniper Woodland or Savanna |
| Aspen Forest or Woodland | Ponderosa Pine Forest, Woodland, or Savanna |
| Barren or Sparse Vegetation | Recently Burned, Logged, or Otherwise Disturbed |
| Developed | Riparian Forest or Shrubland |
| Grassland | Sagebrush Shrubland |
| Mixed Conifer - Dry | Oak Shrubland |
| Mixed Conifer - Mesic | Spruce-Fir Forest |
| Open Water | Wetland |



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

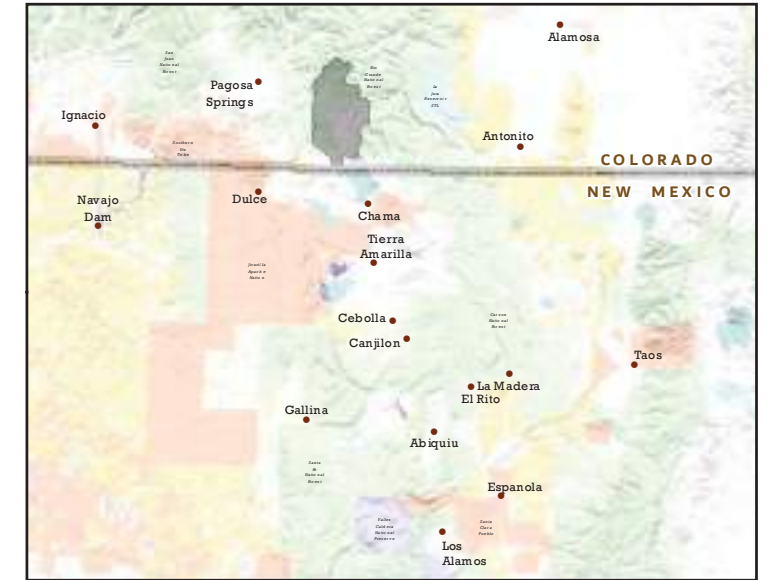
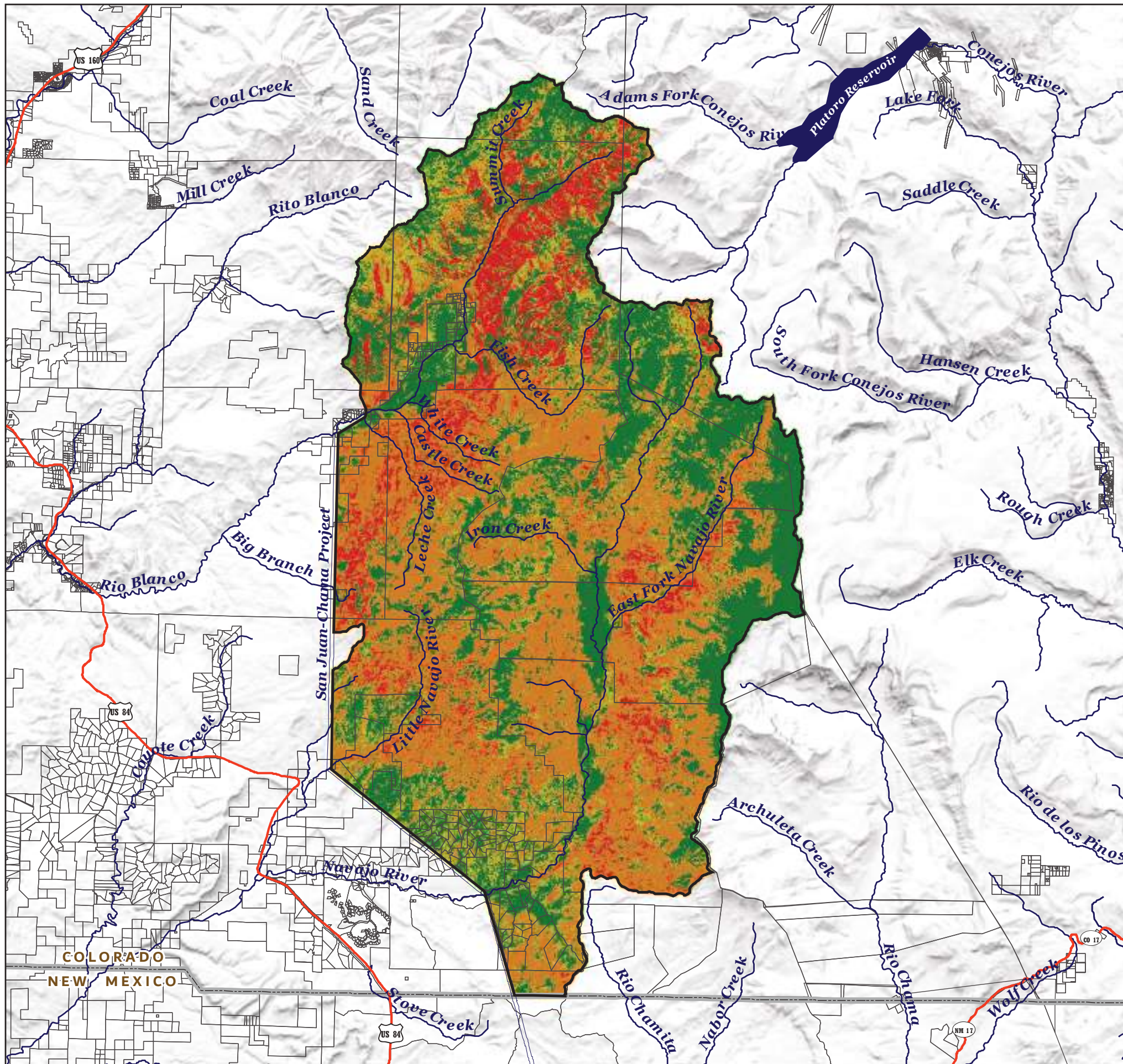
LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by The Nature Conservancy, 2022.







USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

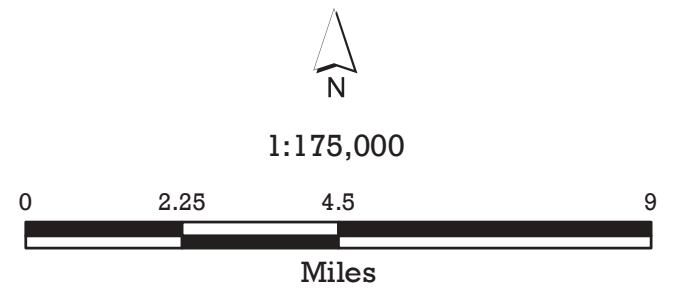
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Threat of severe wildfire

Navajo-Blanco Headwaters



-  Focal Area boundary
-  Parcel boundaries
- Threat of wildfire burn severity**
-  Low
-  Moderate
-  High
-  Very high



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

Threat of wildfire burn severity. Data published by New Mexico Forest Action Plan (NMFAP), 2020.

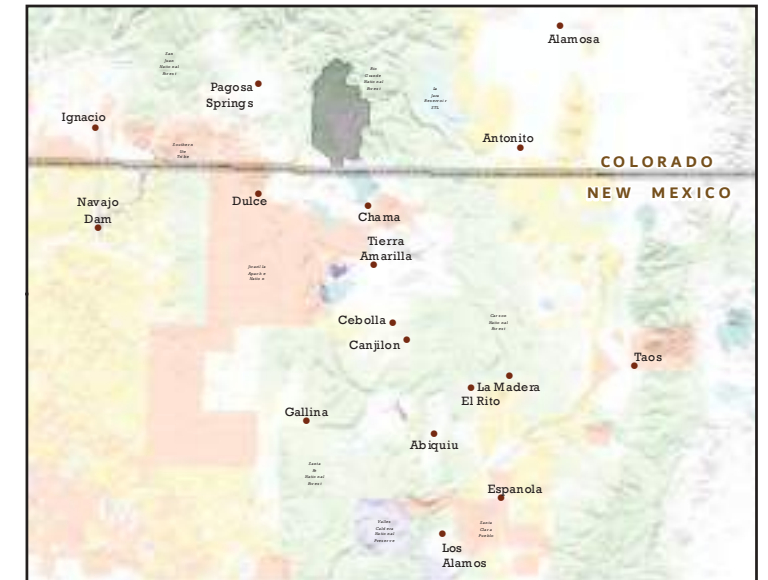
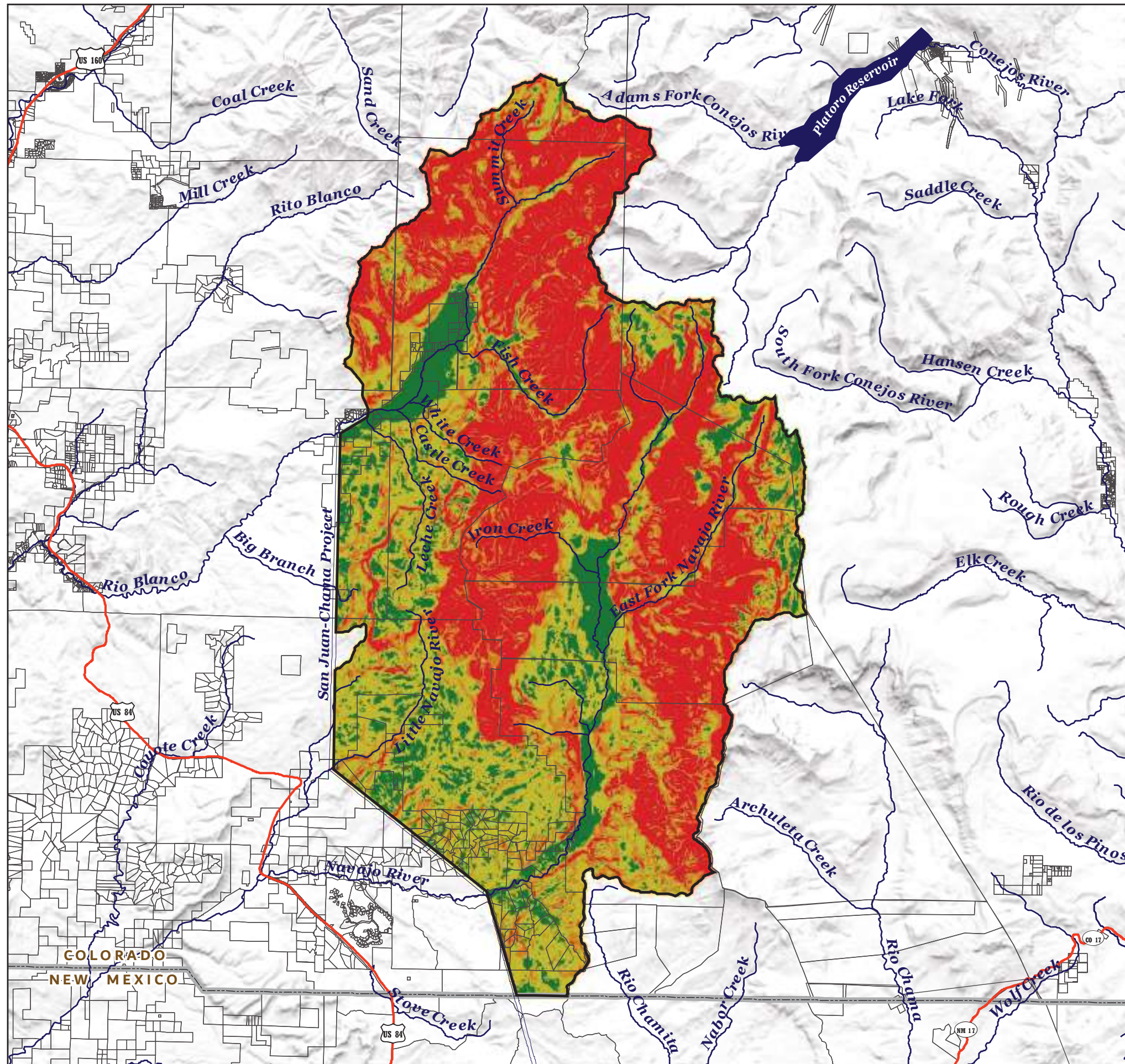
Probability of extreme fire behavior. Data provided by The Nature Conservancy (TNC), 2022.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

No warranties are made as to the accuracy of this map. This map is for geographical reference only and is not to be used as a survey or legal document.

Threat of postfire erosion

Navajo-Blanco Headwaters



Focal Area boundary

Parcel boundaries

Threat of postfire erosivity index

Low

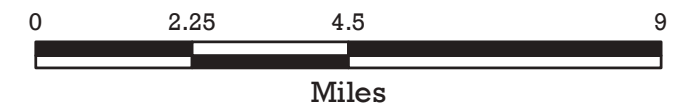
Moderate

High

Very high



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Geographic Coordinate System: North American Datum of 1983
Projected Coordinate System: NAD83 UTM Zone 13 North

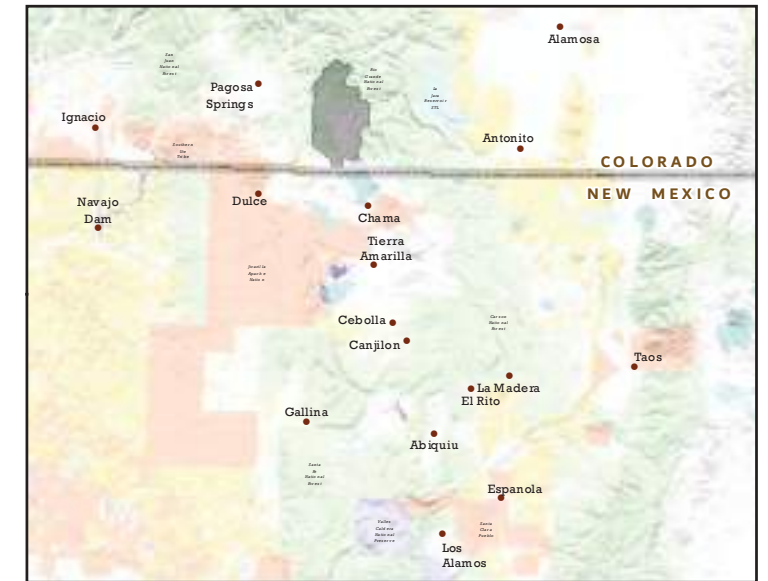
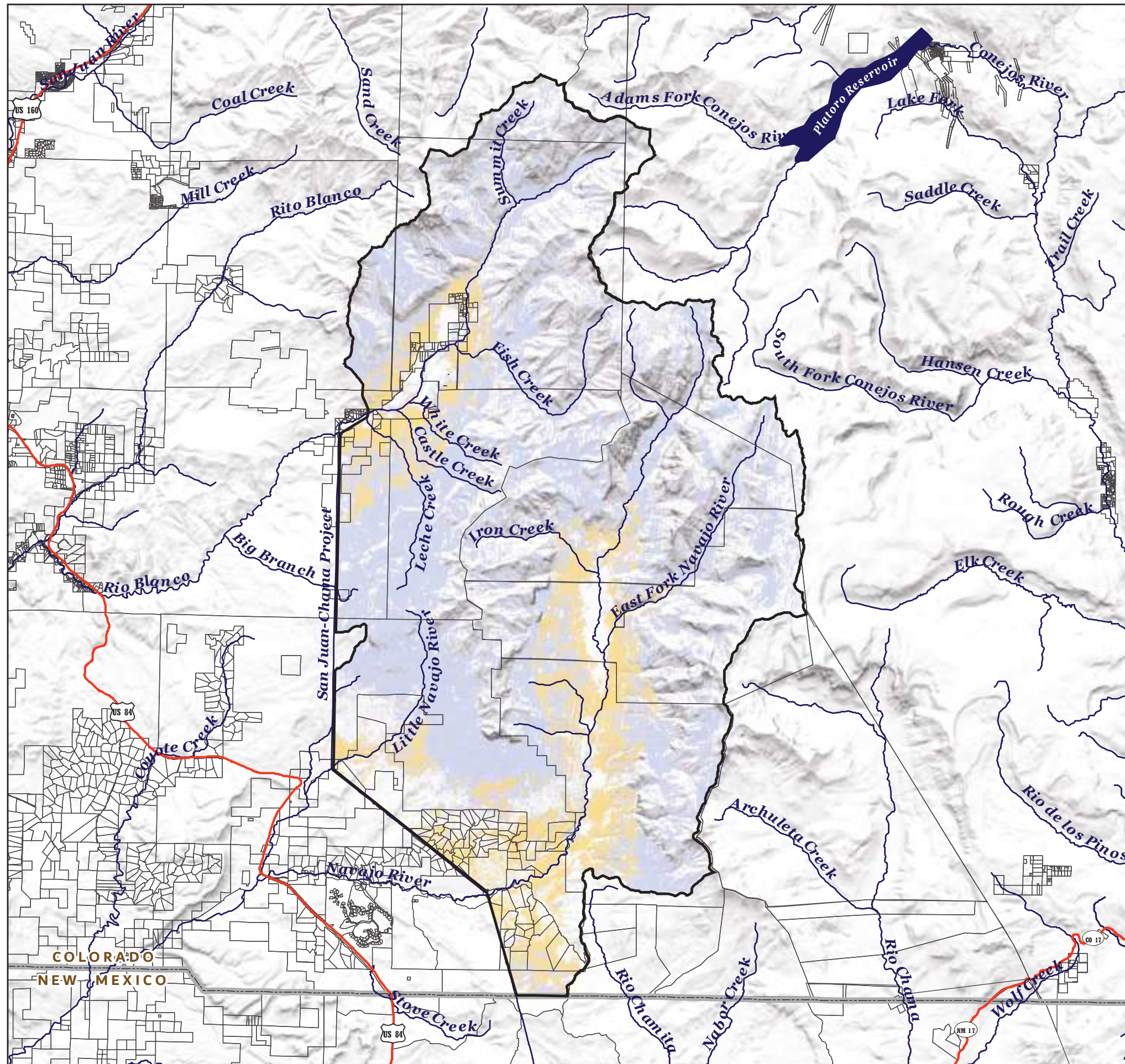
Threat of postfire erosivity index. Data published by New Mexico Forest Action Plan (NMFAP), 2020.





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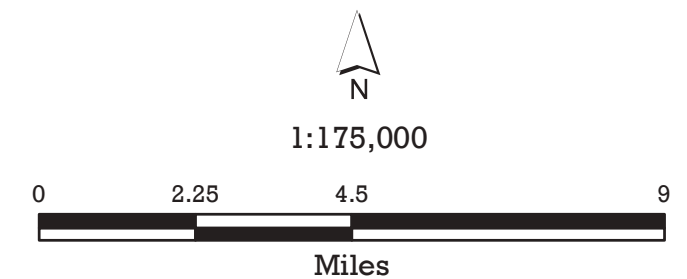
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Dry and mesic forest treatment opportunities on slopes under 40%

Navajo-Blanco Headwaters



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by Tierra Buena GIS, 2022.

U.S. Geological Survey, 2017, 1 Arc-second Digital Elevation Models (DEMs) - USGS National Map 3DEP Downloadable Data Collection: U.S. Geological Survey.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Rio Chama Headwaters Focal Area

Acres – 227,030

Background Information

- The Rio Chama Headwaters focal area straddles the Colorado and New Mexico state lines. It includes the headwaters of the Rio Chama and tributaries including Rio Chamita, Wolf Creek, Little Willow Creek and Cañones Creek.
- The village of Chama is in the center of this focal area and is home to the Cumbres and Toltec Scenic Railroad. Outside of the village are many large privately owned ranches, Jicarilla Apache Nation Tribal Lands and the Edward Sargent and Bill Humphries Wildlife Management Areas, both managed by the New Mexico Department of Game and Fish.
- This area is a migration corridor for elk and deer and is known to have Rio Grande Cutthroat habitat in high elevation streams.

Surface Water Users

- The village of Chama obtains its municipal water supply from the Rio Chama.
- Active surface water irrigation and acequias in river valleys. This focal area is within La Asociacion de las Acequias Nortefias del Rio Arriba region.
- The 2020 New Mexico Forest Action Plan showed this area as having the highest possible ranking in New Mexico for watershed supply to tribal communities (supplying water for 10 tribes) and the highest possible ranking for watershed supply to Hispanic Land Grant communities (supplying water for 4 land grant communities).
- Supplying water to El Vado Reservoir, the native Rio Chama water is managed by the Bureau of Reclamation to convey essential San Juan Chama Project water to many downstream New Mexico communities.

Water Quality

Rio Chama (CO border to headwaters) 17.4 miles no known impairments. Rio Chama (Little Willow Creek to CO border) 9.01 miles impaired by temperature. Rio Chama (Rio Brazos to Little Willow Creek) 13.42 miles impaired by temperature. Rio Chamita (Rio Chama to CO border) 13.87 miles impaired by ammonia, E coli, nutrients and temperature. Cañones Creek (Rio Chama to Jicarilla Apache boundary) 8.38 miles currently impaired by temperature. Wolf Creek (Rio Chama to CO border) 16.81 miles not assessed. Little Willow Creek (Rio Chama to Jicarilla Apache boundary) .45 miles no known impairments.

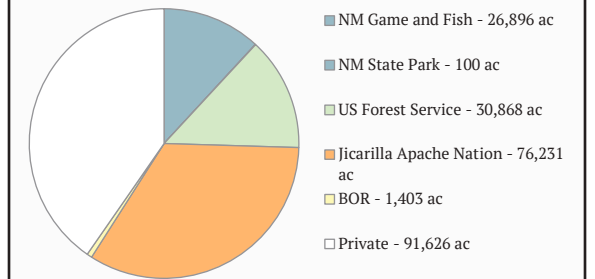
Threats and Opportunities

- There are multiple streams with high quality populations of native Rio Grande Cutthroat Trout (RGCT). Forests surrounding these streams are at high risk of wildfire.
- Several communities have been classified as moderate or high risk from wildfire by the 2017 Rio Arriba CWPP: Chamita West Subdivision, Chama, and Canones Creek.
- Over 50% of this FA has been classified as having moderate or greater risk of severe fire.
- Approximately, 60% of this FA has been classified as having moderate or greater risk of postfire erosion.
- UFSF has identified the Headwaters Rio Chama and Archuleta Creek HUC12 watersheds as Priority Watersheds for CFLRP monitoring.

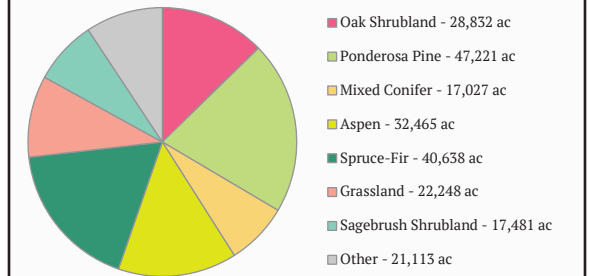
Known Watershed Plans and Projects

- Watershed protection treatments will also help advance goals listed as part of the 2-3-2 Cohesive Strategy Partnership, San Juan Chama Watershed Partnership, Chama Peak Land Alliance, Colorado Forest Action Plan, New Mexico Forest Action Plan, Rio Chama CFLRP, Rio Grande Water Fund Cohesive Strategy, Rio Arriba County Community Wildfire Protection Plan (CWPP), Archuleta County CWPP, Upper Chama Soil and Water Land Use Plan. Many larger ranches have Forest Management Plans.
- The Carson NF participates in the Northern New Mexico Riparian, Aquatic and Wetland Restoration Project NEPA, whose purpose is to maintain or enhance watershed and range health by restoring riparian, wetland, and associated upland and aquatic habitats.
- The village of Chama has recently upgraded the wastewater treatment facilities to improve water quality in the Rio Chamita.
- The New Mexico Game and Fish and private landowners have worked on Rio Grande Cutthroat habitat restoration in headwater streams.
- The National Resources Conservation Service (NRCS) Resource Conservation Partnership Program (RCPP) and Environmental Quality Incentives Program (EQIP) has funded mastication on private lands.
- The New Mexico Forestry Division (NMFD) has been implementing hazardous fuel treatments on private and public lands using multiple federal and state funding streams. Substantial amounts of privately funded projects have also been implemented on large ranches in this area.
- National Wildlife Federation (NWF) has created an operational portfolio of priority riparian conservation opportunities in the Upper Rio Grande. This Focal Area contains some of these areas which NWF lists among the greatest opportunities for conservation and restoration to help build resilience into riparian ecosystems of the Upper Rio Grande. The NWF also has completed a “Who is doing what where?” assessment which is available on their website.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources management.

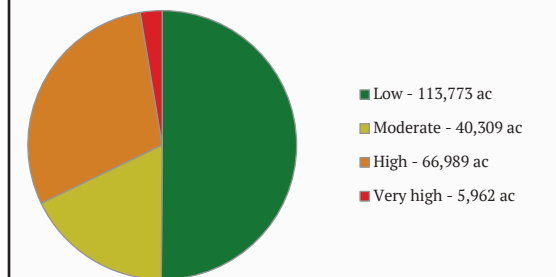
Land ownership



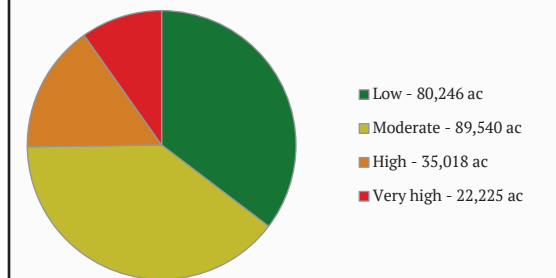
Major vegetation types



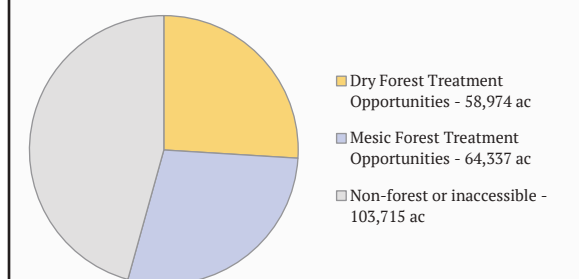
Threat of severe wildfire



Threat of postfire erosion

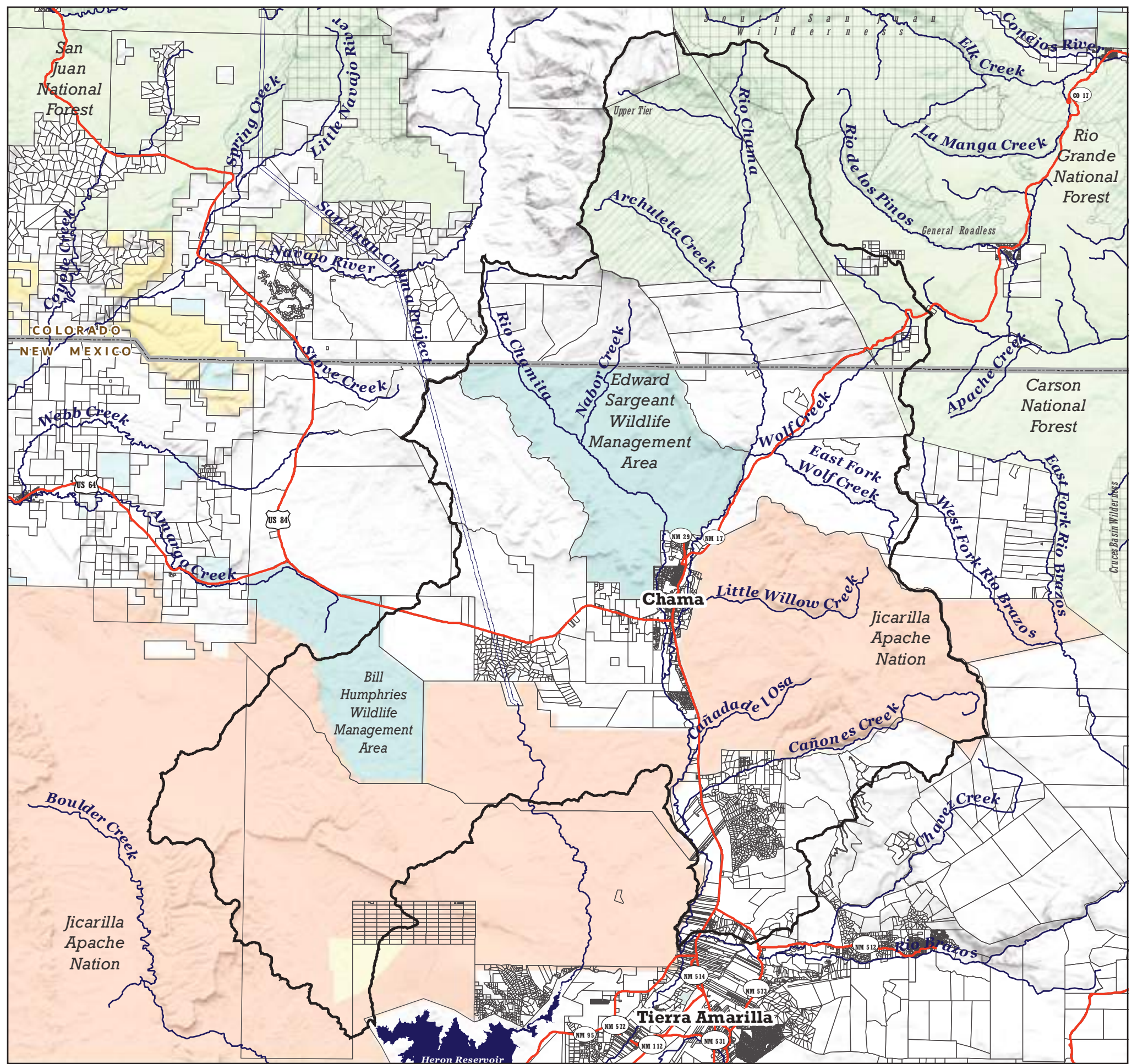
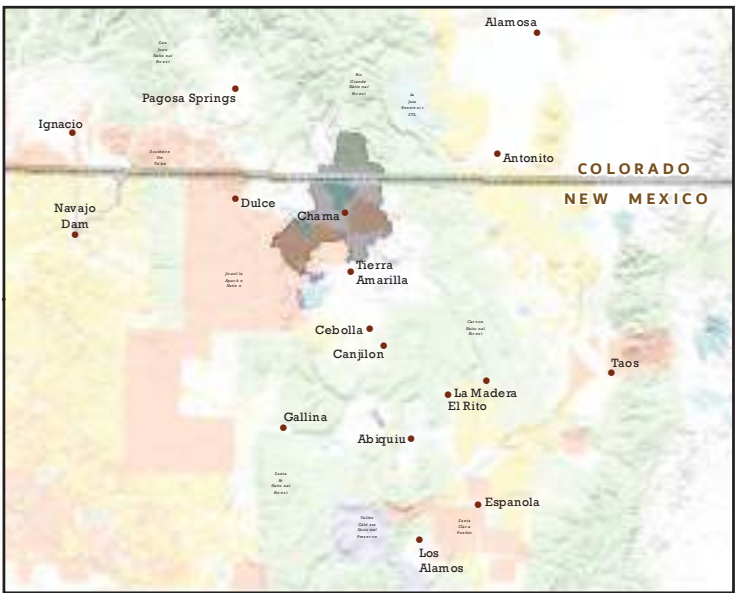


Forest treatment opportunities

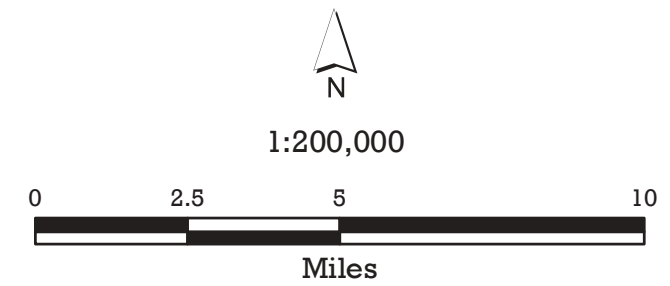


Land ownership

Rio Chama Headwaters



- Focal Area boundary
- Parcel boundaries
- US Forest Service
- BOR
- US Forest Service
- Jicarilla-Apache Nation
- Private
- State Game & Fish
- Wilderness
- Roadless Area



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

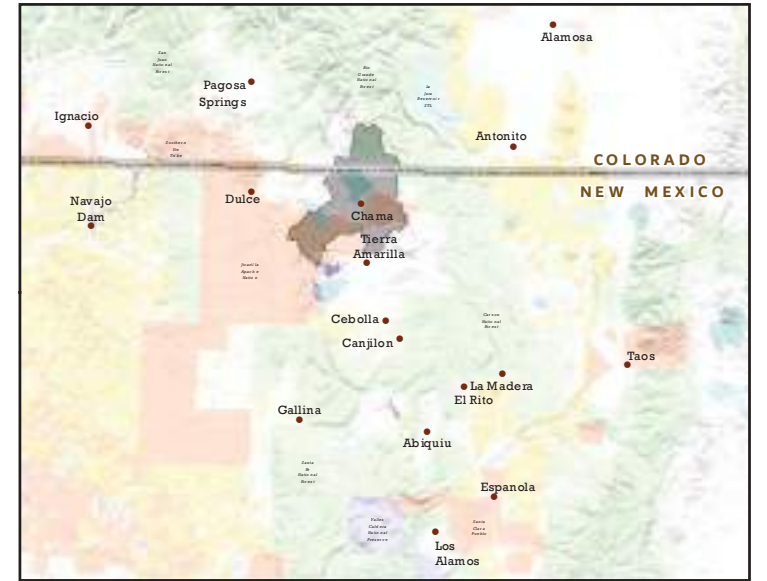
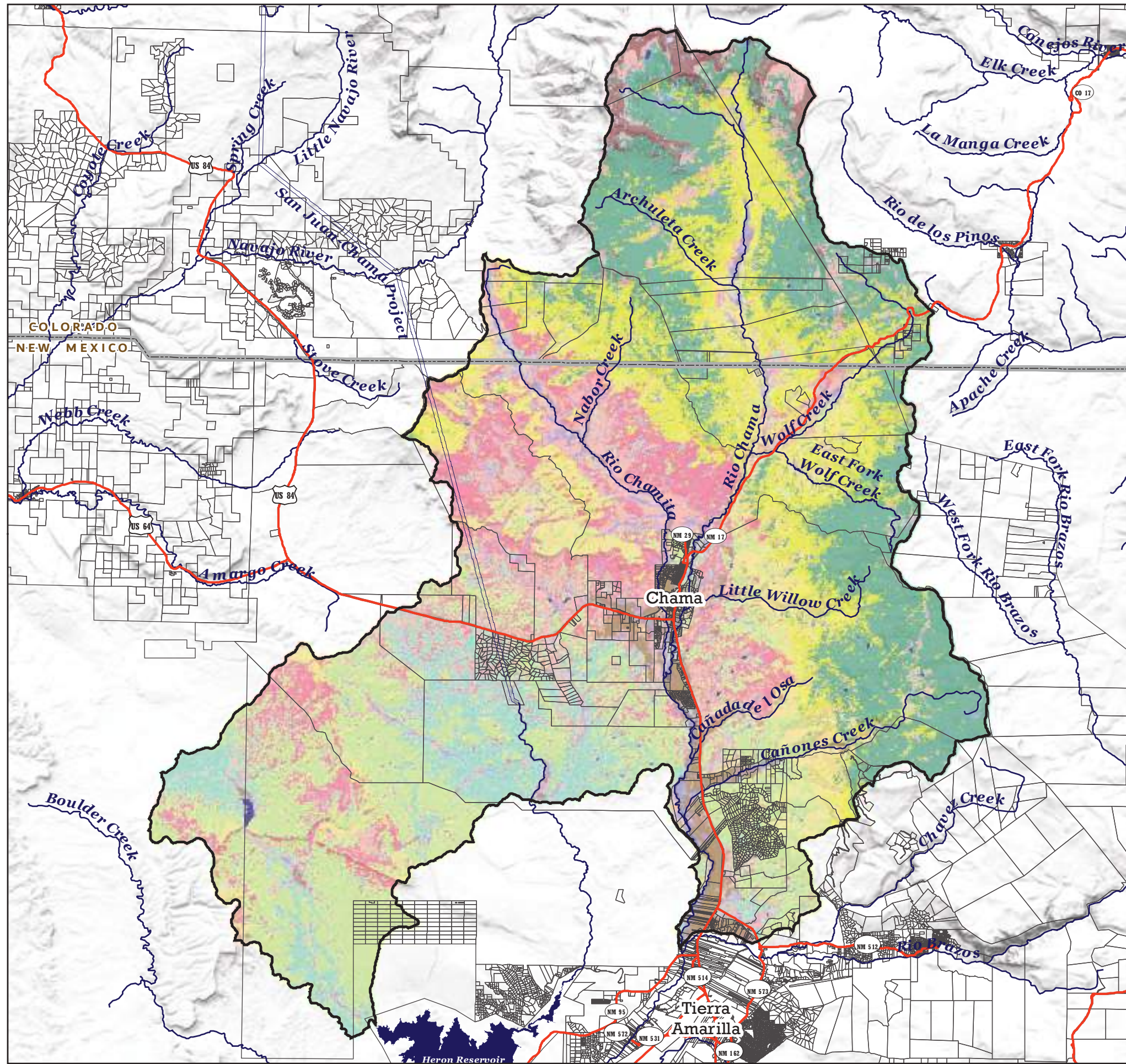
U.S. Department of Interior, Bureau of Land Management (BLM), BLM Colorado Surface Management Agency, 2021.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

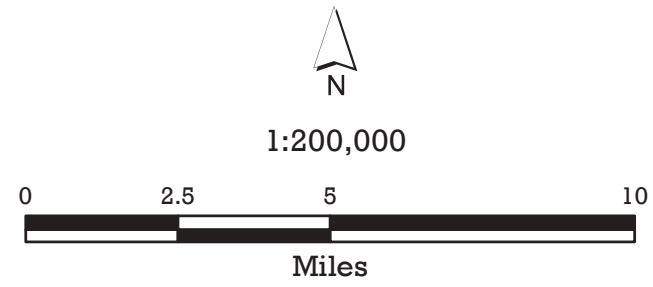
No warranties are made as to the accuracy of this map. This map is for geographical reference only and is not to be used as a survey or legal document.

Vegetation type

Rio Chama Headwaters



- | | |
|-----------------------------|---|
| Focal Area boundary | Parcel boundaries |
| Vegetation | |
| Agriculture | Piñon-Juniper Woodland or Savanna |
| Aspen Forest or Woodland | Ponderosa Pine Forest, Woodland, or Savanna |
| Barren or Sparse Vegetation | Recently Burned, Logged, or Otherwise Disturbed |
| Developed | Riparian Forest or Shrubland |
| Grassland | Sagebrush Shrubland |
| Mixed Conifer - Dry | Oak Shrubland |
| Mixed Conifer - Mesic | Spruce-Fir Forest |
| Open Water | Wetland |



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

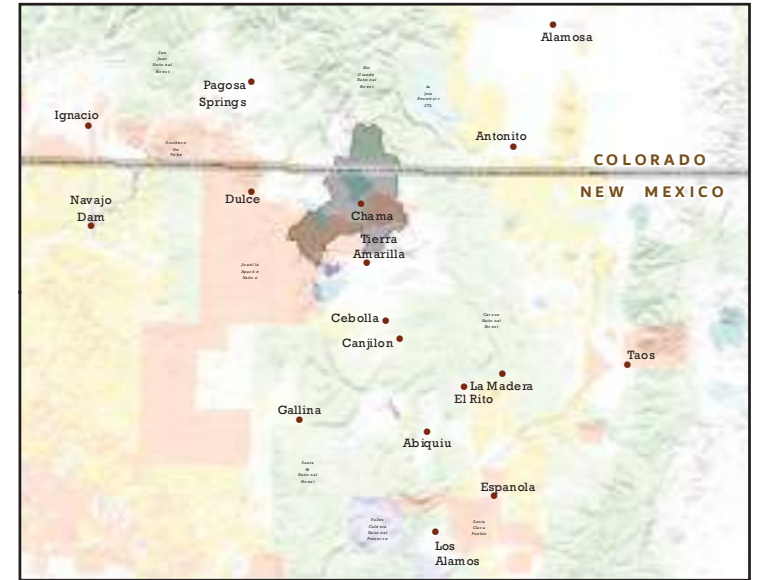
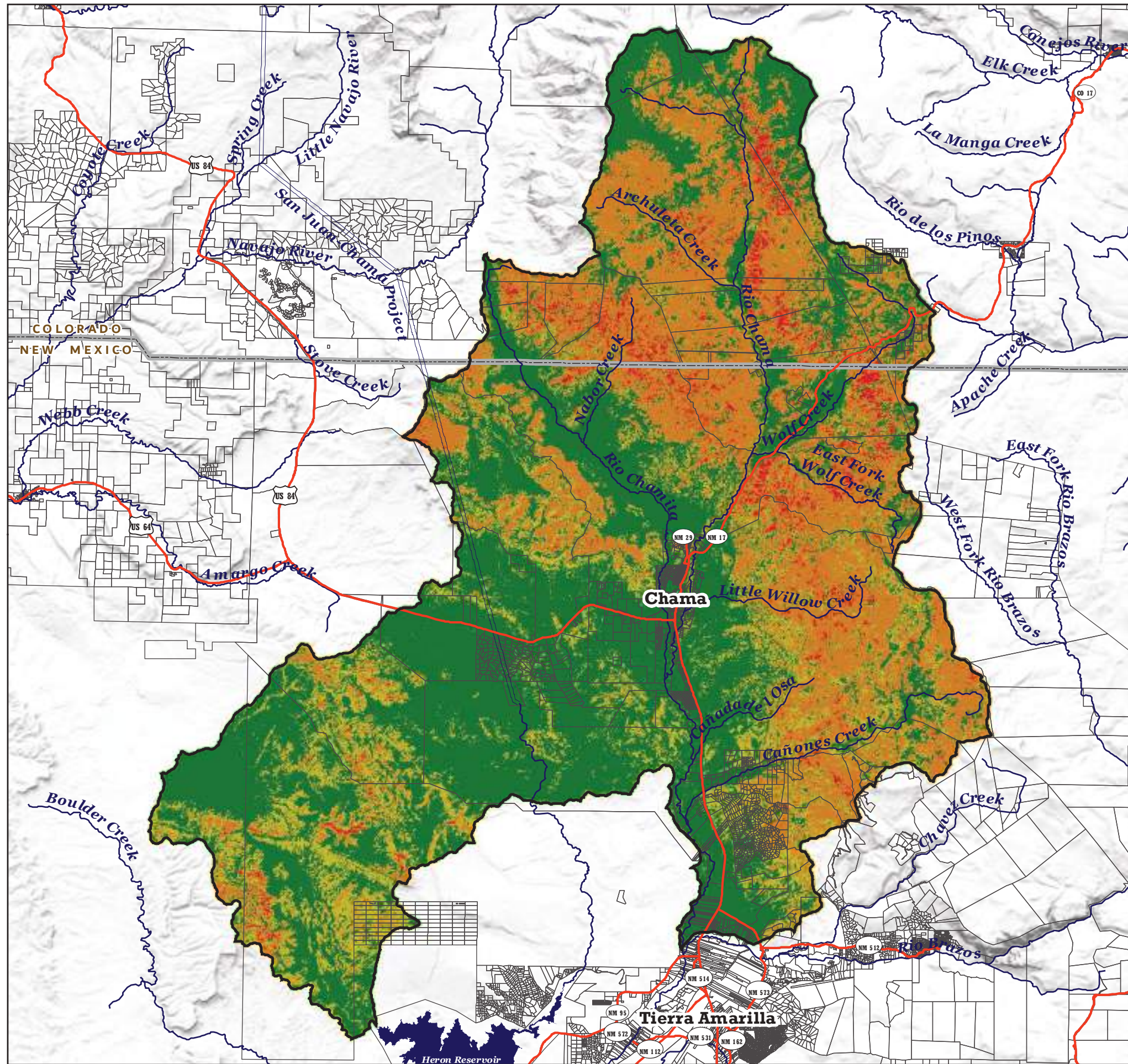
LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by The Nature Conservancy, 2022.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Threat of severe wildfire

Rio Chama Headwaters



Focal Area boundary

Parcel boundaries

Threat of wildfire burn severity

Low

Moderate

High

Very high



1:200,000

0 2.5 5 10



Geographic Coordinate System: North American Datum of 1983
Projected Coordinate System: NAD83 UTM Zone 13 North

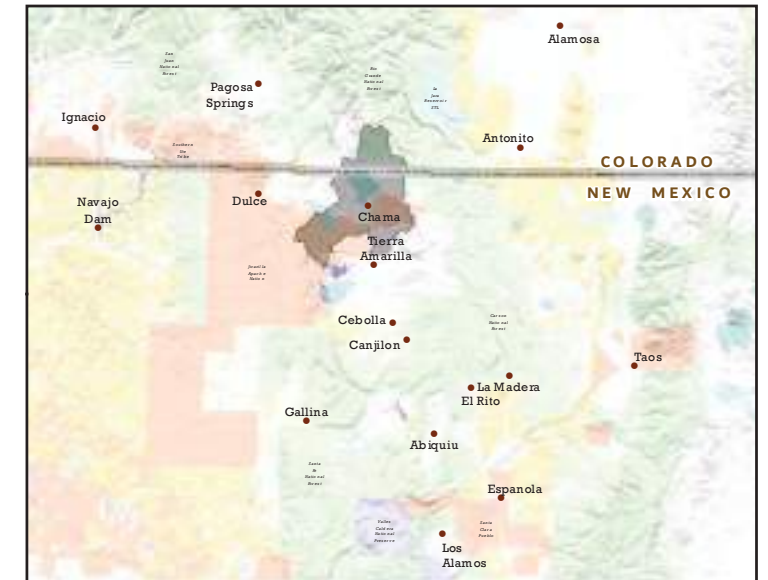
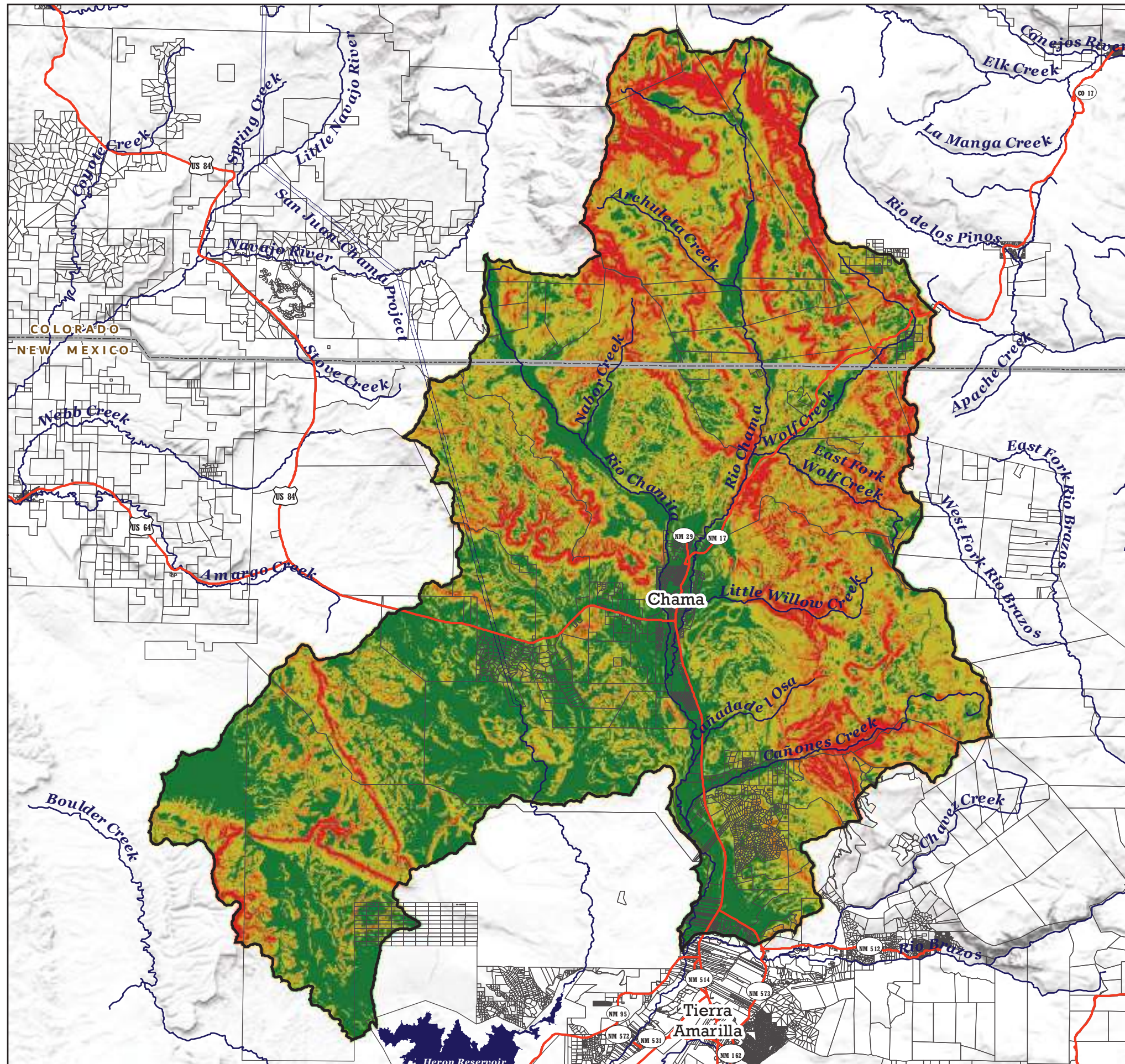
Threat of wildfire burn severity. Data published by New Mexico
Forest Action Plan (NMFAP), 2020.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation &
Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Threat of postfire erosion

Rio Chama Headwaters



Focal Area boundary

Parcel boundaries

Threat of postfire erosivity index

Low

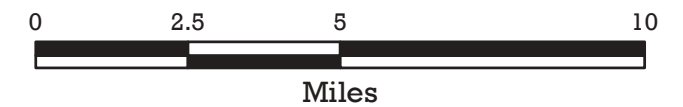
Moderate

High

Very high



1:200,000



Geographic Coordinate System: North American Datum of 1983
Projected Coordinate System: NAD83 UTM Zone 13 North

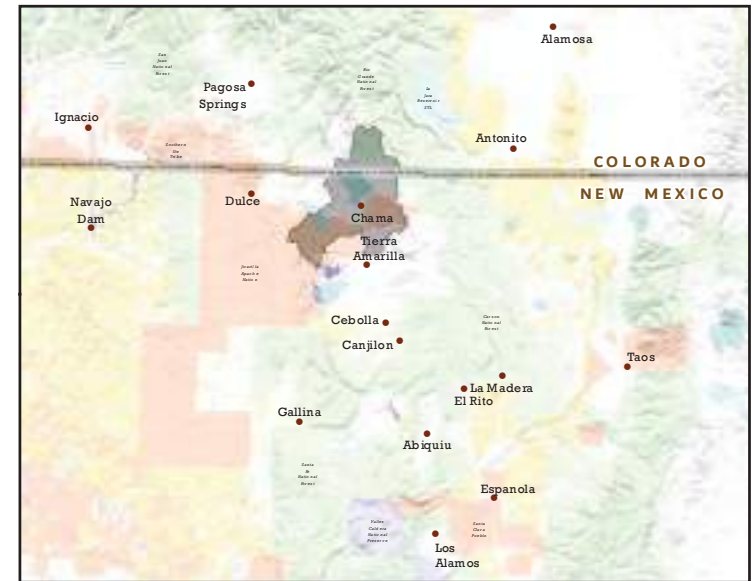
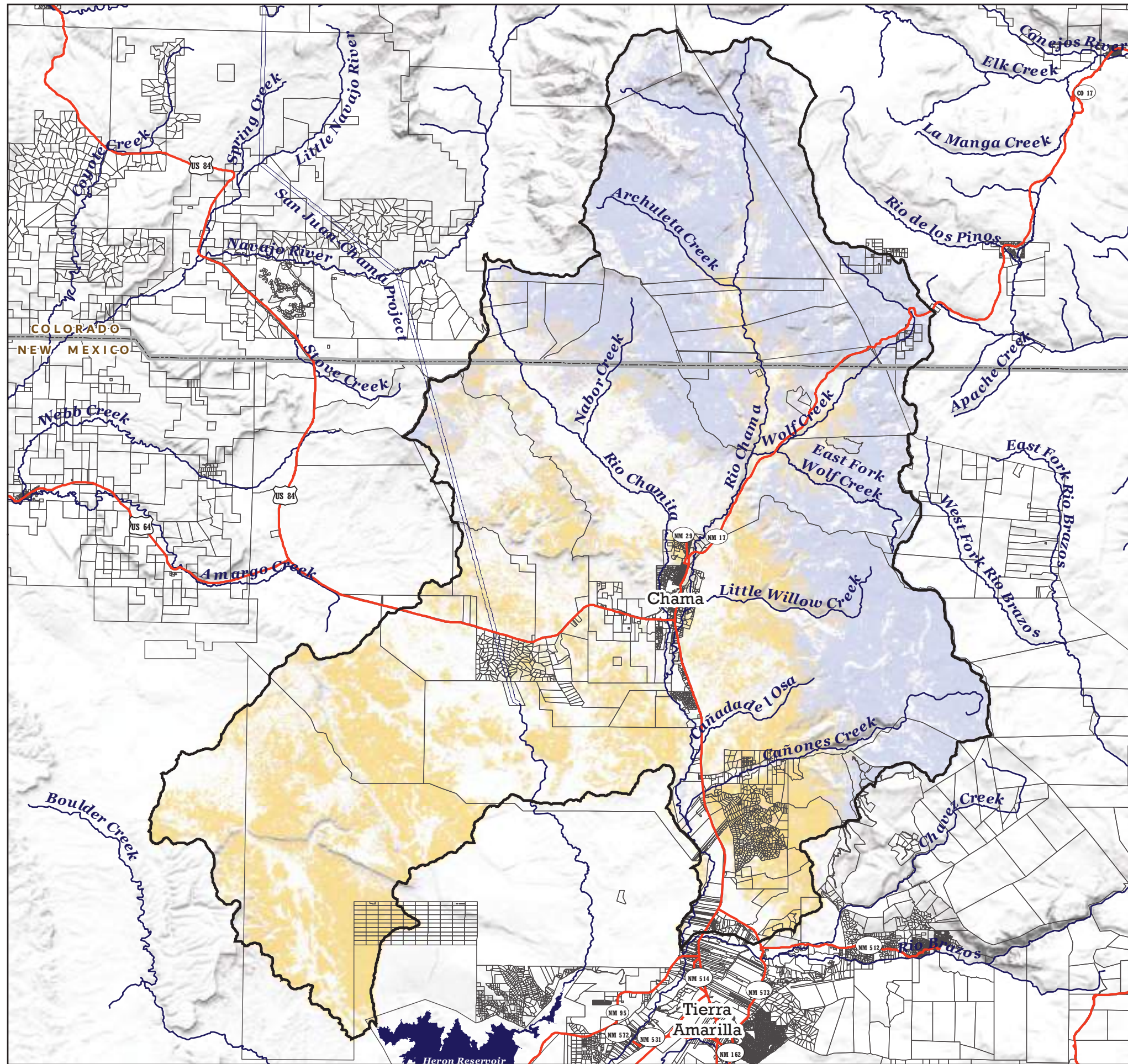
Threat of postfire erosivity index. Data published by New Mexico Forest Action Plan (NMFAP), 2020.





USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

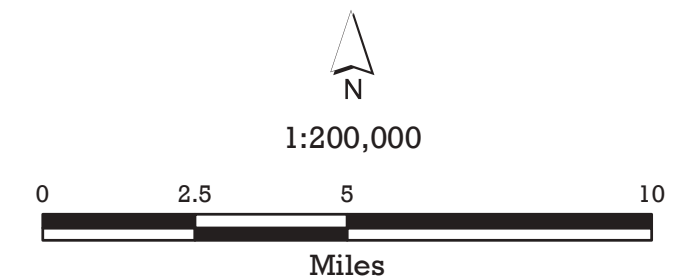
No warranties are made as to the accuracy of this map. This map is for geographical reference only and is not to be used as a survey or legal document.

Dry and mesic forest treatment opportunities on slopes under 40%

Rio Chama Headwaters



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by Tierra Buena GIS, 2022.

U.S. Geological Survey, 2017, 1 Arc-second Digital Elevation Models (DEMs) - USGS National Map 3DEP Downloadable Data Collection: U.S. Geological Survey.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data refreshed March, 2021.

No warranties are made as to the accuracy of this map. This map is for geographical reference only and is not to be used as a survey or legal document.

Brazos - Tierra Amarilla Focal Area

Acres – 146,872

Background Information

- This focal area encompasses the Rio Brazos and Rito Tierra Amarilla watersheds.
- This focal area is almost entirely private land and includes some land managed by the Carson NF as well as a portion of the Jicarilla Apache Nation Reservation.

Source Water Users

- Active surface irrigation and acequias present in the river valleys. This focal area is within La Asociacion de las Acequias Norteñas del Rio Arriba region.
- Brazos mutual domestic water provided by a well. Tierra Amarilla mutual domestic water provided by a well.
- This FA supplies a substantial amount of water to the Rio Chama. Supplying water to El Vado Reservoir, the native Rio Chama water is managed by the Bureau of Reclamation to convey the extremely important San Juan Chama Project water to many downstream New Mexico communities.
- The 2020 New Mexico Forest Action Plan showed this area as having the highest possible ranking in New Mexico for watershed supply to tribal communities (supplying water for 10 tribes) and the highest possible ranking for watershed supply to Hispanic Land Grant communities (supplying water for 4 land grant communities).

Water quality

There have been some recent assessments of water quality within this focal area. Rio Chama (Rito de Tierra Amarilla to Rio Brazos) 6.34 miles impaired by nutrients, temperature and e coli. Rio Chama (El Vado Reservoir to Rito de Tierra Amarilla) 9.54 miles impaired by nutrients, temperature and e coli. Rito de Tierra Amarilla (HWY 64 to headwaters) 6.27 miles impaired by aluminum and temperature. Rito de Tierra Amarilla (Rio Chama to HWY 64) 18.39 miles impaired by temperature, turbidity, specific conductance, sedimentation/siltation and nutrients. Rio Brazos (Chavez Creek to Jicarilla Apache boundary) 22.7 miles no known impairments. Rio Brazos (Rio Chama to Chavez Creek) 3.93 miles impaired by temperature. Chavez Creek (Rio Brazos to headwaters) 13.09 miles impaired by temperature.

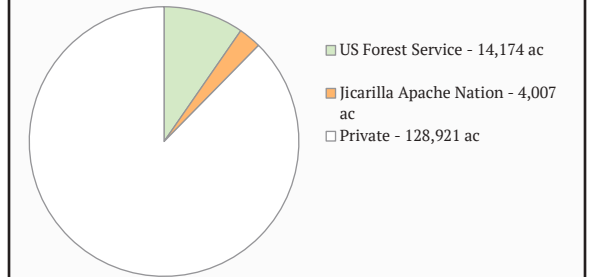
Threats and Opportunities

- Several communities have been identified within the focal area, by the 2017 Rio Arriba CWPP, as having medium or high risk from wildfire and include: Brazos Canyon and portions of Ponderosa Subdivision, Nutrias, and El Vado.
- The community of Brazos Canyon is a high wildfire risk community and is subject to one way in one way out transportation corridor. Fire professionals expect that a severe fire in this vicinity would funnel up the canyon and create a chimney effect that could be an extreme threat to public safety.
- Serious challenges exist for private landowners interested in forest treatments that require removal of wood. Challenges include acquiring access permission through national forest lands in two states and two regions, very poor road conditions, and limited seasonal opportunities for activity.
- Approximately, 60% of this FA has been classified as having moderate or greater risk of postfire erosion.

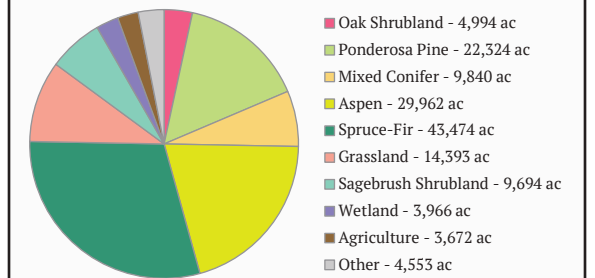
Known Watershed Plans and Projects

- Watershed protection treatments will also help advance goals listed as part of the 2-3-2 Cohesive Strategy Partnership, San Juan Chama Watershed Partnership, Chama Peak Land Alliance, New Mexico Forest Action Plan, Rio Chama CFLRP, Rio Chama Regional Water Plan, Rio Grande Water Fund Cohesive Strategy, Rio Arriba County CWPP, Upper Chama Soil and Water Land Use Plan. Many private properties have Forest Management Plans.
- The Carson NF is within the Northern New Mexico Riparian, Aquatic and Wetland Restoration Project NEPA, whose purpose is to maintain or enhance watershed and range health by restoring riparian, wetland, and associated upland and aquatic habitats.
- Carson NF – Apache Grazing project intersects the northeast corner of this area and includes management actions intended to increase water quality and improve watershed health.
- NM Division of Forestry has prioritized creating a fuel break along the US Hwy 64 corridor to prevent fires from entering the Brazos Canyon from the south, since Brazos Canyon has limited pre-suppression and fire suppression opportunities.
- National Wildlife Federation has created an operational portfolio of priority riparian conservation opportunities in the Upper Rio Grande. This Focal Area contains some of these areas which NWF lists among the greatest opportunities for conservation and restoration to help build resilience into riparian ecosystems of the Upper Rio Grande. The NWF also has completed a “Who is doing what where?” assessment which is available on their website.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources management.

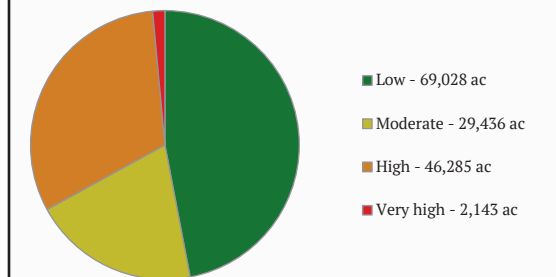
Land ownership



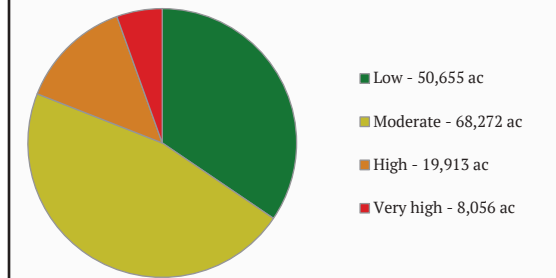
Major vegetation types



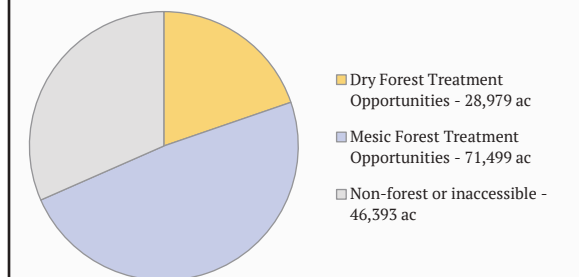
Threat of severe wildfire



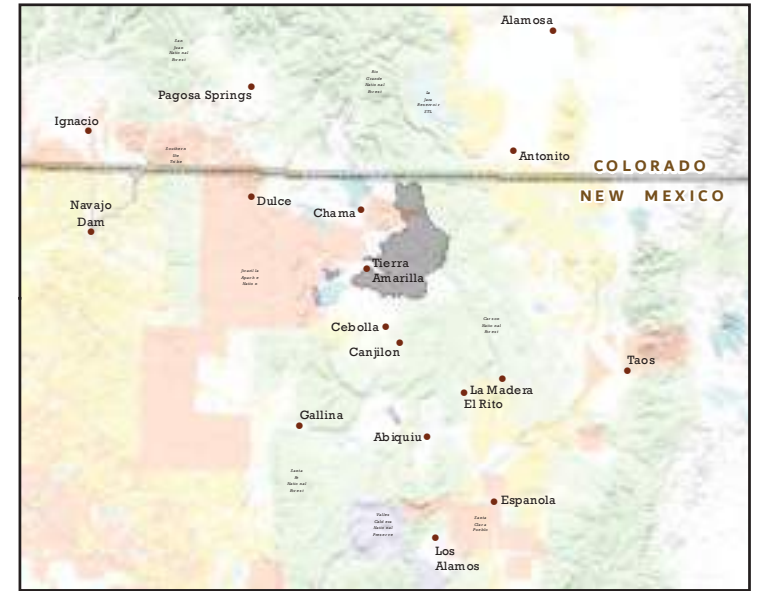
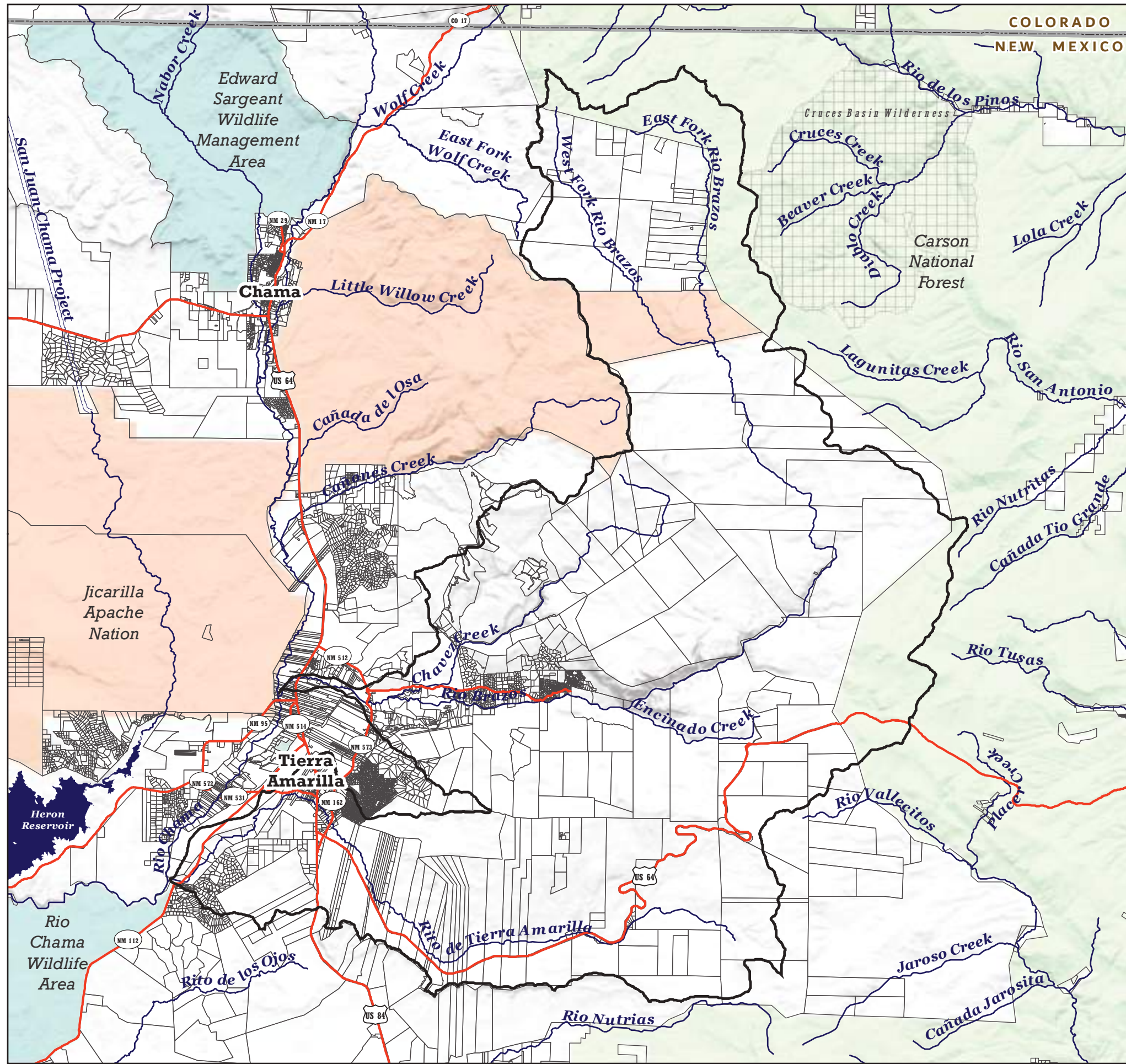
Threat of postfire erosion



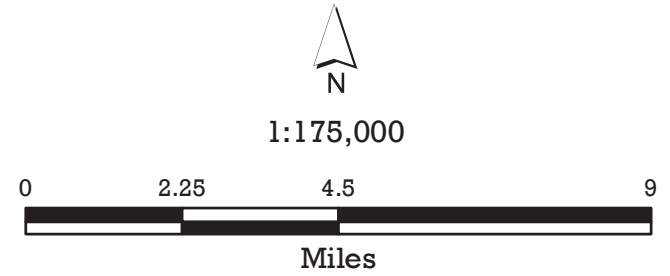
Forest treatment opportunities



Land ownership Brazos-Tierra Amarilla



-  Focal Area boundary
-  Parcel boundaries
-  US Forest Service
-  Jicarilla-Apache Nation
-  Private
-  State Game & Fish
-  Wilderness



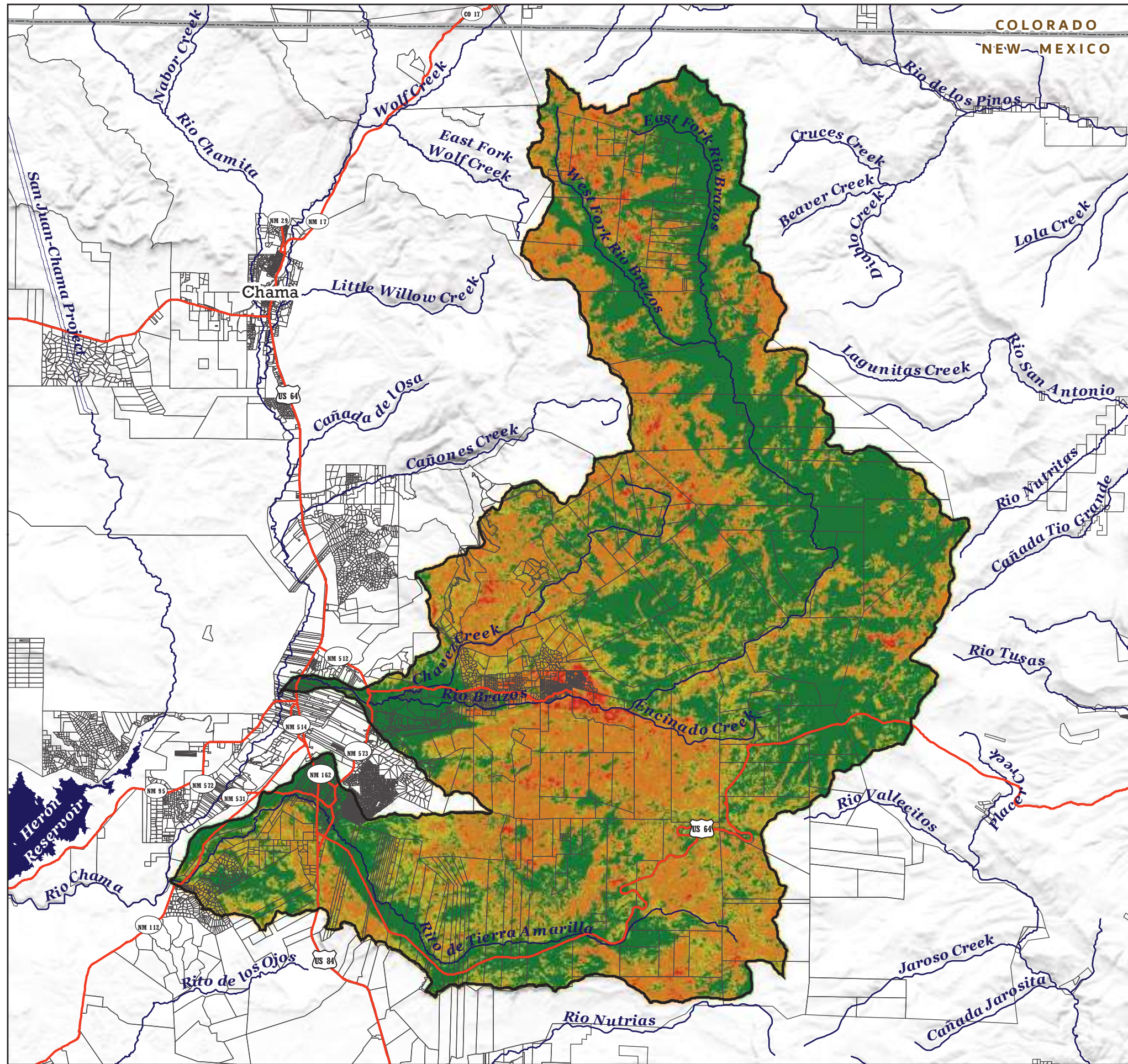
Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

U.S. Department of Interior, Bureau of Land Management (BLM), BLM Colorado Surface Management Agency, 2021.

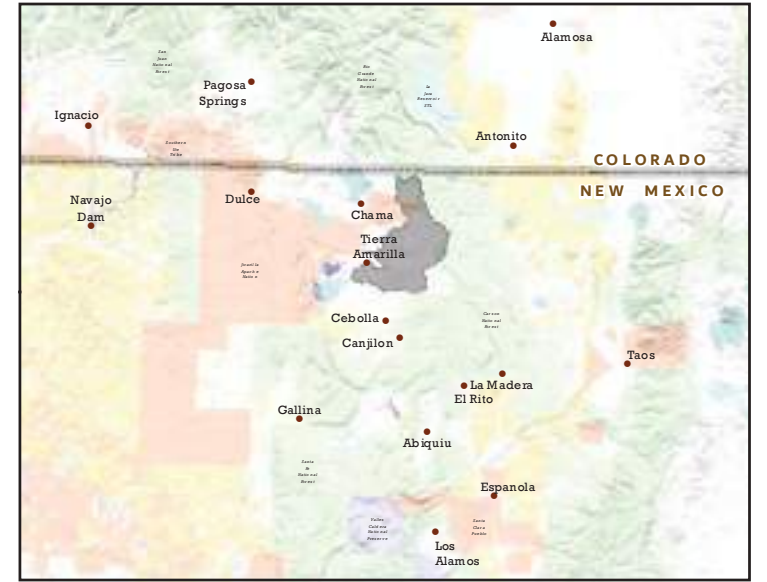
USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.







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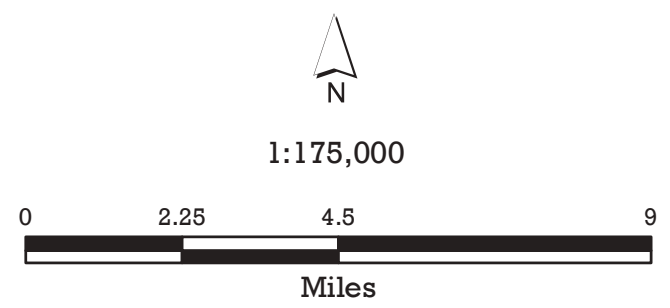


Threat of severe wildfire

Brazos-Tierra Amarilla



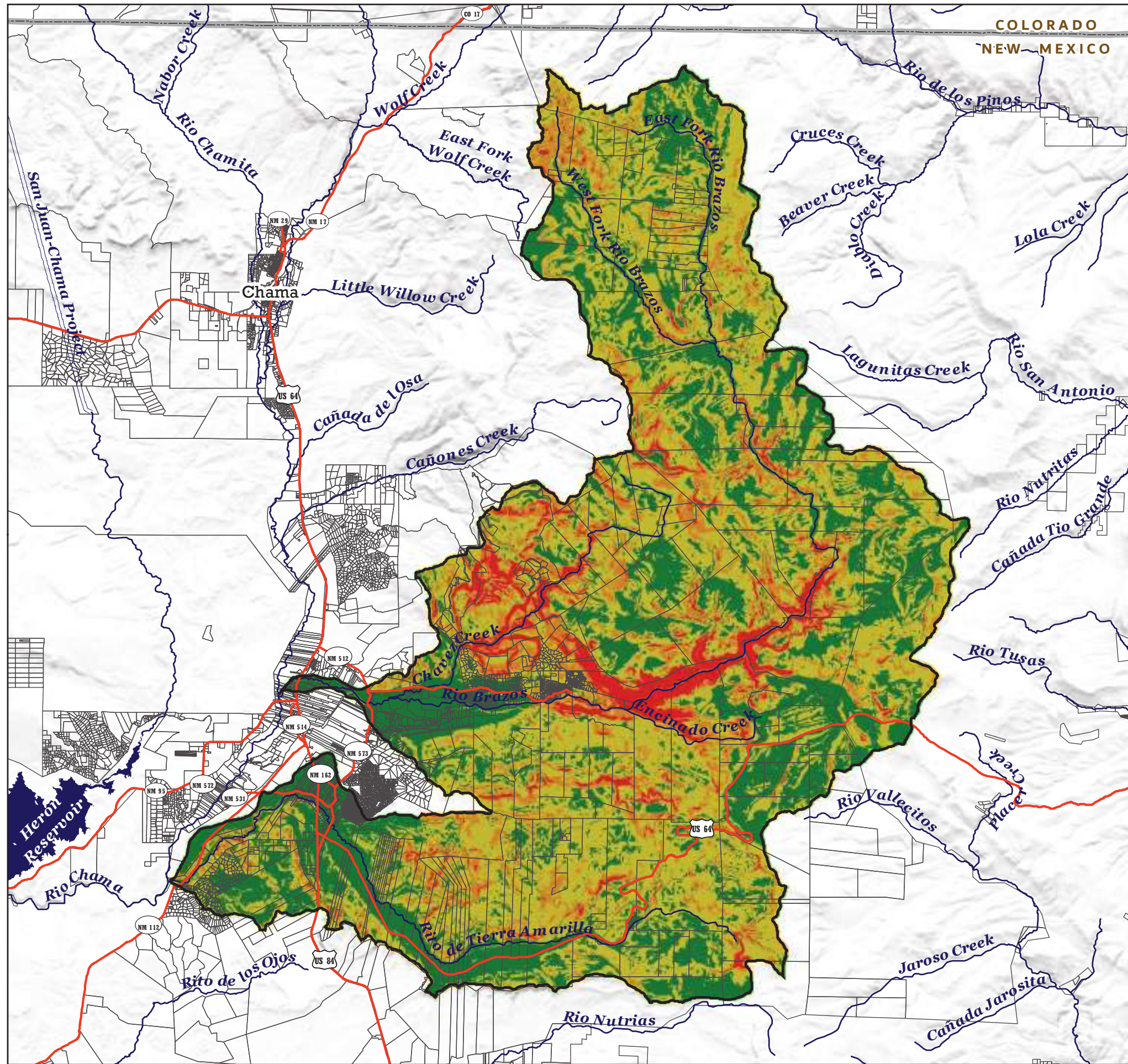
-  Focal Area boundary
-  Parcel boundaries
- Threat of wildfire burn severity**
-  Low
-  Moderate
-  High
-  Very high



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North
 Threat of wildfire burn severity. Data published by New Mexico Forest Action Plan (NMFAP), 2020.

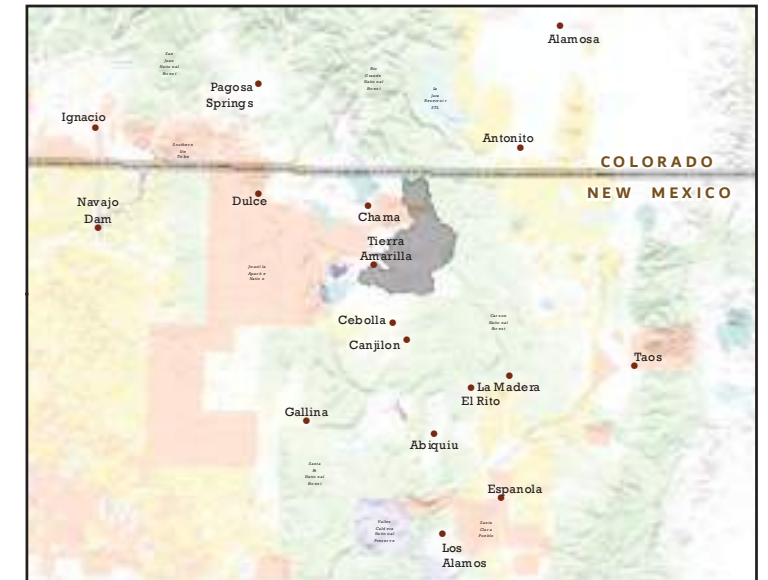
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Threat of postfire erosion

Brazos-Tierra Amarilla



Focal Area boundary

Parcel boundaries

Threat of postfire erosivity index

Low

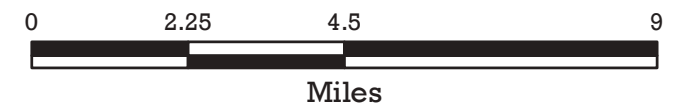
Moderate

High

Very high



1:175,000



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

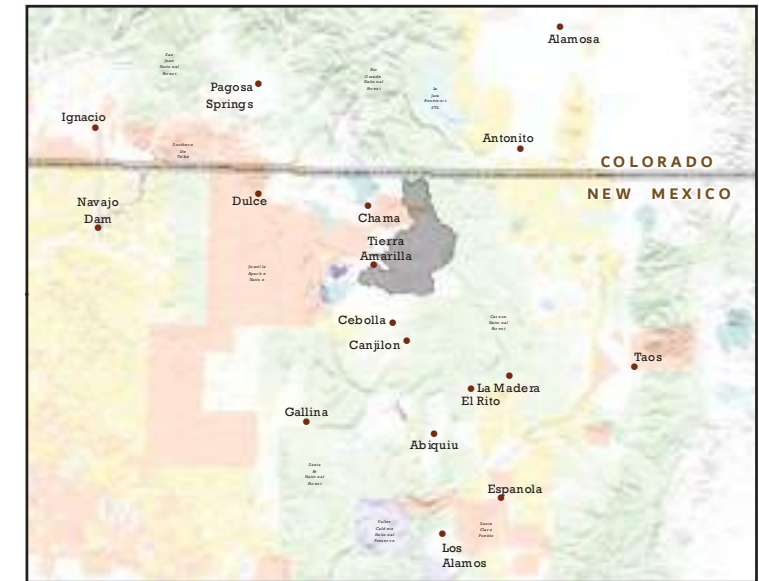
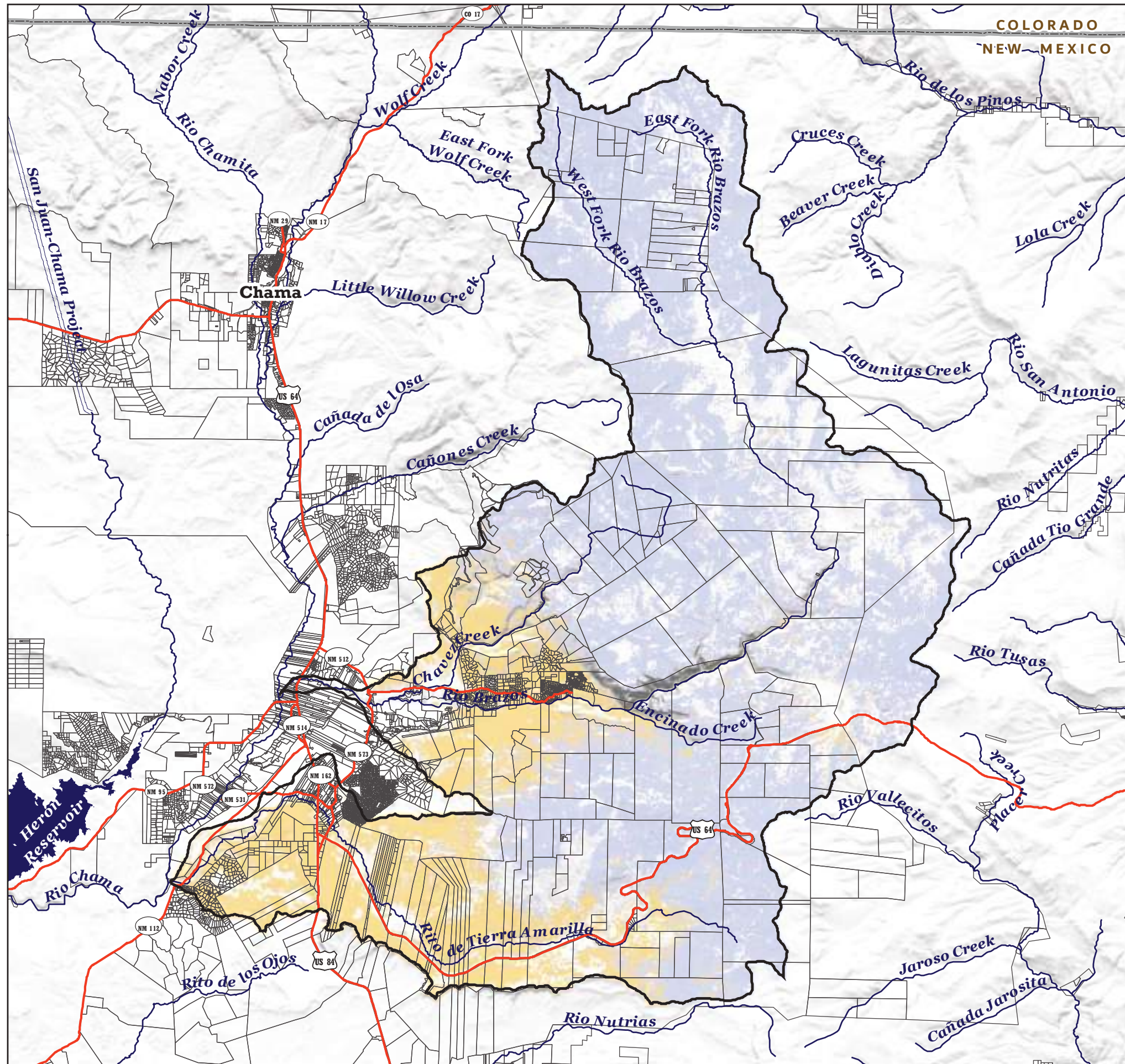
Threat of postfire erosivity index. Data published by New Mexico
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USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation &
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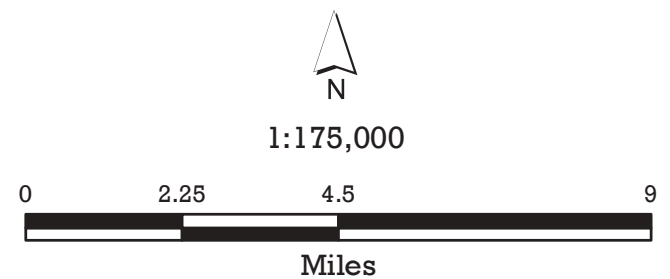
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Dry and mesic forest treatment opportunities on slopes under 40%

Brazos-Tierra Amarilla



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by Tierra Buena GIS, 2022.

U.S. Geological Survey, 2017, 1 Arc-second Digital Elevation Models (DEMs) - USGS National Map 3DEP Downloadable Data Collection: U.S. Geological Survey.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

No warranties are made as to the accuracy of this map. This map is for geographical reference only and is not to be used as a survey or legal document.

El Rito - Vallecitos Focal Area

Acres – 273,553

Background Information

- This focal area encompasses the El Rito and Rio Vallecitos basins as part of the Rio Chama watershed.
- Most of the focal area is land managed by USFS with BLM and private land interspersed.
- This focal area has a long history of timber harvesting, at one time there were at least 6 active sawmills. The Vallecitos Federal Sustained Yield Unit was the first Federal Sustained Yield Unit established by the USFS in 1948. This 73,400-acre unit was established with the express goal of providing long-term sustainable forest industry to support the local community. The Vallecitos Federal Sustained Yield Unit (VFSYU) is a congressionally designated effort designed to support local economic development is within this focal area.
- In the early summer of 2022, the Midnight Fire ignited approximately 9 miles north of El Rito, the fire burned 4,896 acres. NIFC records indicate an additional five fires over 50 acres have occurred within this Focal area since 2000. The median size for these fires is approximately 2,200 acres. Previous fire management actions, including prescribed fire and managed wildfires treated approximately 21,000 acres in the vicinity of the Midnight Fire.
- This is a popular area for hunting, rock climbing, and mountain biking. Hopewell Lake, a popular fishing and camping area, is on the north end of this area.
- The Continental Divide National Scenic Trail (CDNST) crosses the northern reach of this focal area. Management activities within the CDNST corridor require special consideration.
- There are several Forest Legacy Conservation Easements on private lands in this FA.

Source Water Users

- Active surface water irrigation and acequias in the river valleys. This focal area is within La Asociacion de las Acequias Norteñas del Rio Arriba, the Rio Vallecitos, Rio Tusas, Ojo Caliente Acequia Association, El Rito Acequia Association, as well as a small portion of the Rio Chama Acequia Association regions. There are likely other acequia systems present, but not listed, within this focal area. The Village of Vallecitos has a surface water system which was negatively affected by the Bonita Fire in 2017.
- El Rito, El Rito Canyon, Cañon Plaza, La Madera and Ojo Caliente all have mutual domestic associations with water supplied by groundwater wells.

Water Quality

There have been some recent assessments of water quality within this focal area. Jarosa Creek (Rio Vallecitos to headwaters) 7.29 miles no known impairments. Rio Ojo Caliente (Arroyo El Rito to Rio Vallecitos) 6.86 miles impaired by nutrients. Rio Vallecitos (Rio Tusas to headwaters) 36.77 miles impaired by temperature.

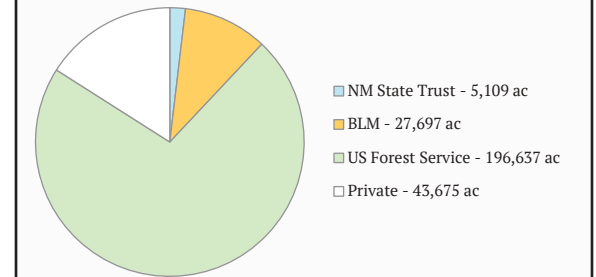
Threats and Opportunities

- Several communities, rated as moderate or higher risk from wildfire, have been identified by the 2017 Rio Arriba CWPP within the focus area and include: Cañon Plaza, Vallecitos, Ancones, La Madera, La Cueva, Cañon (El Rito), El Rito, Placitas, as well as portions of La Zorra, Ojo Caliente, Santa California, Las Tusas, and Servilleta Plaza. Several of these communities were on pre-evacuation notice during the 2022 Midnight fire.
- Over 50% of this focal area has a rating of moderate or greater, in both threats from severe wildfire as well as post fire erosion.
- Although much of the land in this focal area is under Federal or State management, private land treatments along the major drainages can provide critical buffering and resilience to downstream community water sources. The presence of State Trust Lands can facilitate cross-boundary treatments within the focal area where NMED funds can be utilized on the State lands and leveraged for additional funding for private land treatments.
- USFS has identified the Headwaters El Rito HUC12 watershed as a priority watershed for CFLRP treatments and monitoring.
- Within the West Zone 5-Year Fuels plan, the USFS has multiple opportunities to implement additional treatments in areas already approved under existing NEPA.

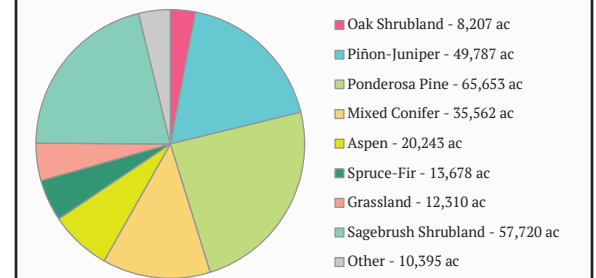
Known Watershed Plans and Projects

- Watershed protection treatments will also help advance goals listed as part of the 2-3-2 Cohesive Strategy Partnership, San Juan Chama Watershed Partnership, Rio Ojo Consortium, New Mexico Forest Action Plan, Rio Chama CFLRP, Rio Chama Regional Water Plan, Rio Grande Water Fund Cohesive Strategy, Rio Arriba County CWPP, Upper Chama Soil Water Land Use Plan.
- In addition to fire activity described above, this area has been actively managed. Recent projects have included the Rio Chama Regional Conservation Partnership Program which put several fuel mitigation projects on private land. In addition to currently being a focus of CFLRP, there have also been Collaborative Forest Restoration Projects), including two in the vicinity of FR 44 and 137 (Alfonso Chacon & Sons and Joe Gurule & Sons).
- Two land parcels are under Forest Legacy conservation easements.
- Carson NF has a CFRP project - Multi-Jurisdictional, Landscape-Scale Restoration in the Rio Grande Del Norte National Monument, Taos County, New Mexico- Revision which overlaps with the northeastern portion of this focal area. Additionally, the 2015 El Rito Canyon Landscape Restoration Project and the 2010 Livestock Grazing Management for Jarita Mesa and Alamosa Grazing Allotments project include ecosystem health/sustainability along with watershed improvement as goals and priorities for mitigation. Other FS projects intersect with focal area, but project goals and objectives were not able to be gathered at the time of this printing.
- Rio Chama CFLRP includes these planned treatments scheduled for FY24-27: El Rito Creek Watershed Restoration Project and Upper Canjilon Creek Watershed Restoration Project
- National Wildlife Federation has created an operational portfolio of priority riparian conservation opportunities in the Upper Rio Grande. This Focal Area contains some of these areas which NWF lists among the greatest opportunities for conservation and restoration to help build resilience into riparian ecosystems of the Upper Rio Grande.
- The Carson NF is a participant in the Northern New Mexico Riparian, Aquatic and Wetland Restoration Project NEPA, whose purpose is to maintain or enhance watershed and range health by restoring riparian, wetland, and associated upland and aquatic habitats.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources.

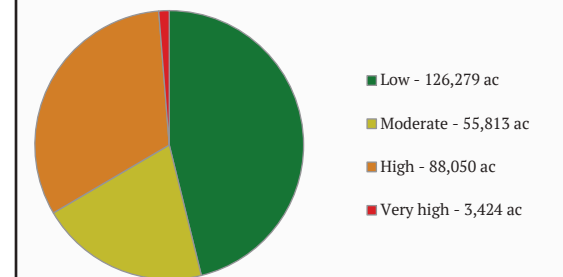
Land ownership



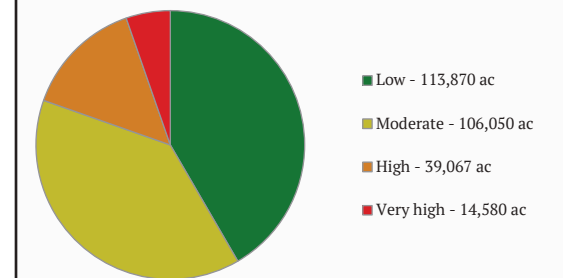
Major vegetation types



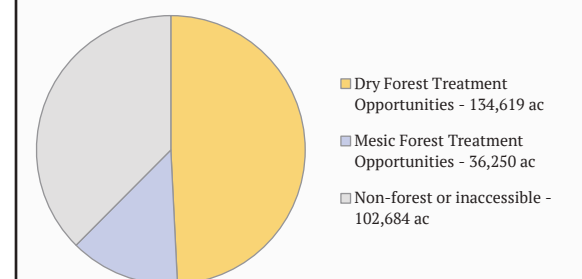
Threat of severe wildfire



Threat of postfire erosion

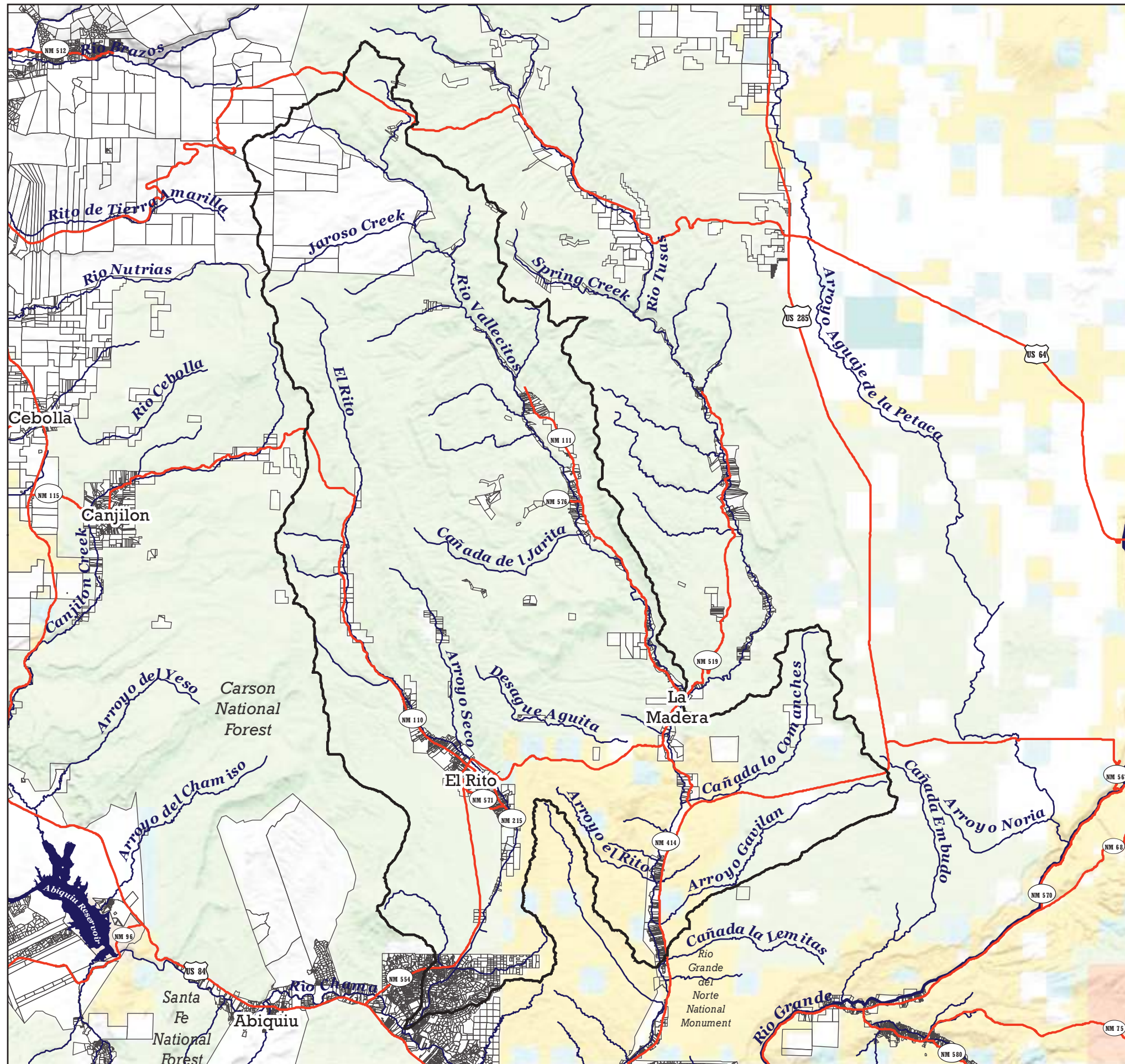
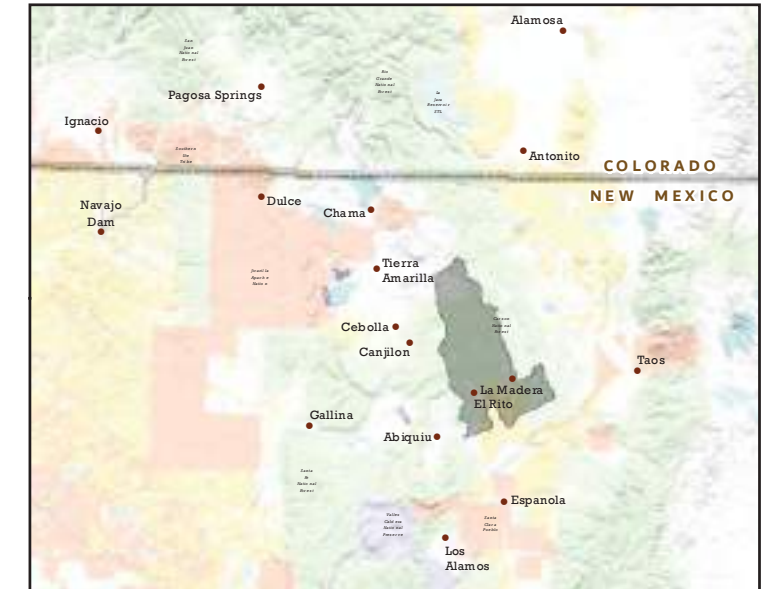






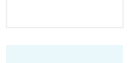
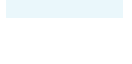
Forest treatment opportunities



Land ownership

El Rito-Vallecitos



-  Focal Area boundary
-  Parcel boundaries
-  BLM
-  US Forest Service
-  Private
-  State Trust Land



1:260,000



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

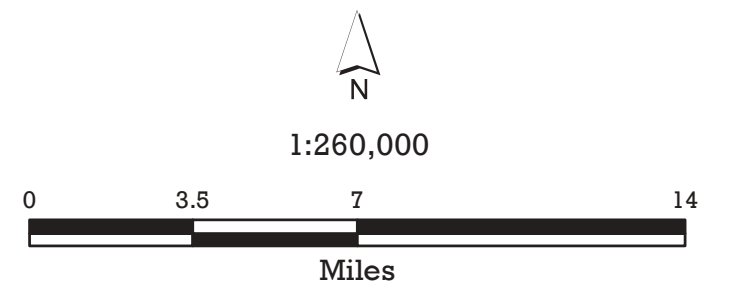
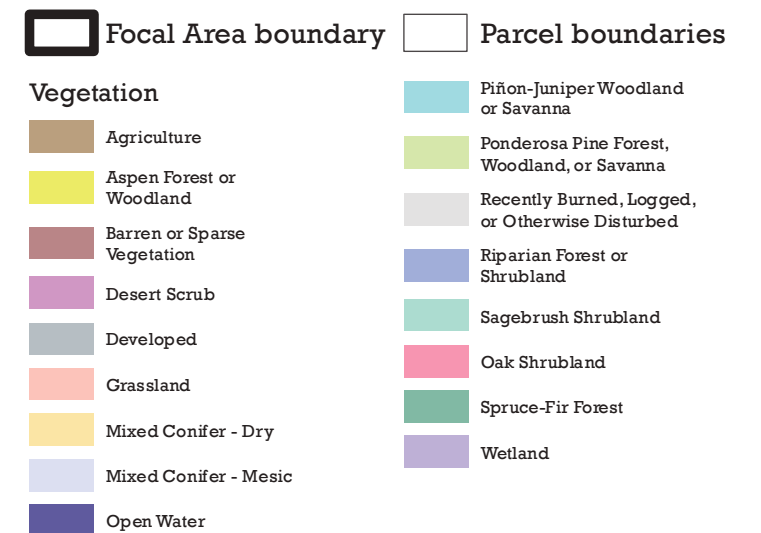
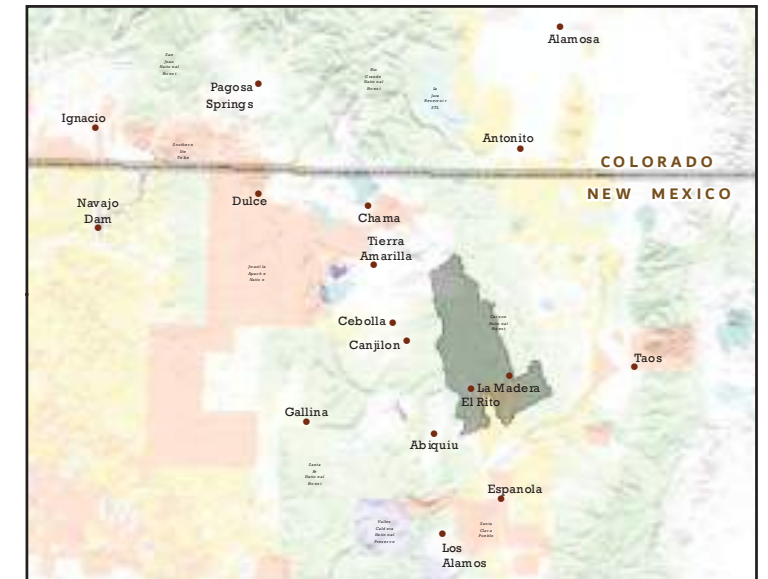
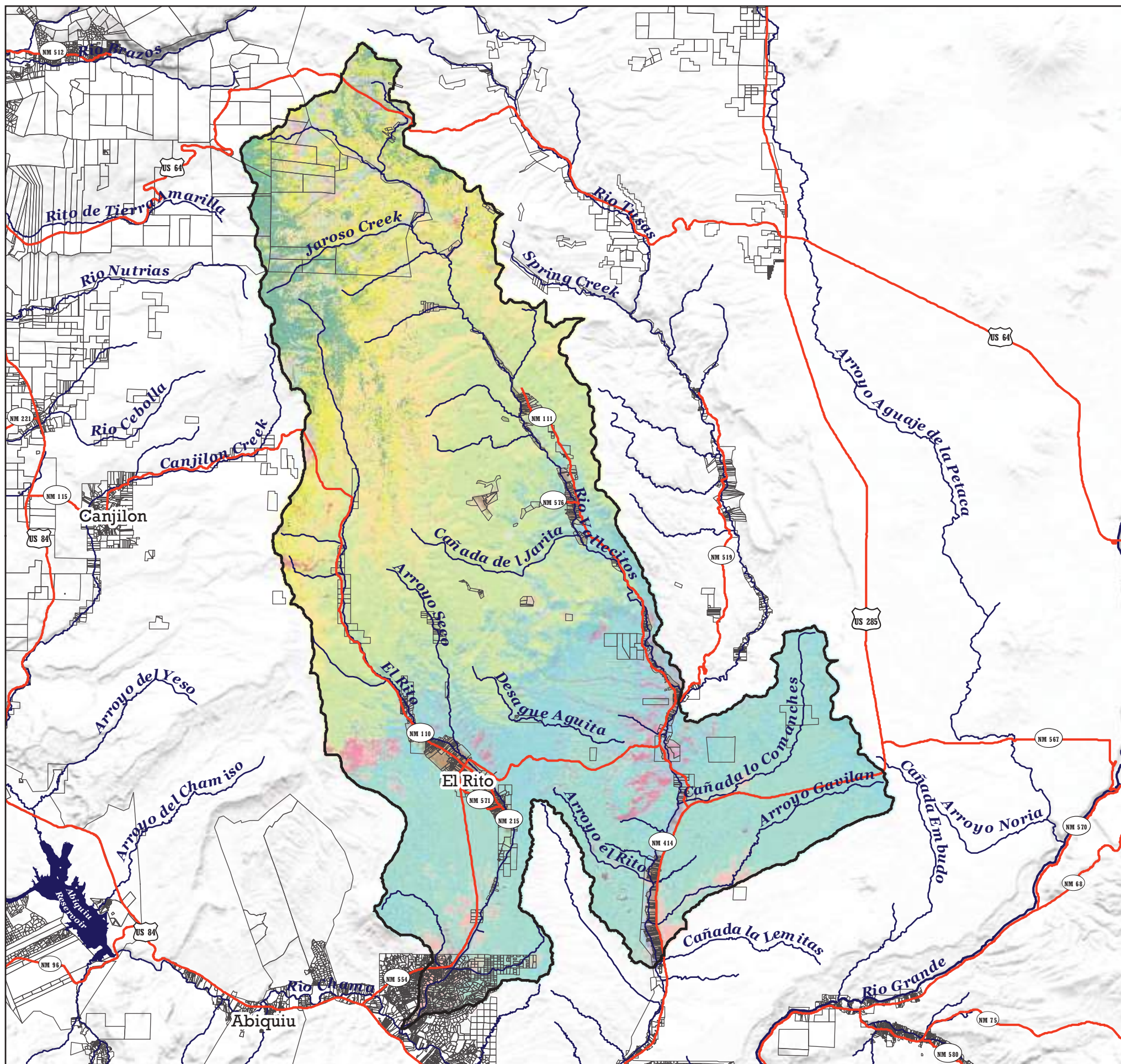
U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Vegetation type

El Rito-Vallecitos



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

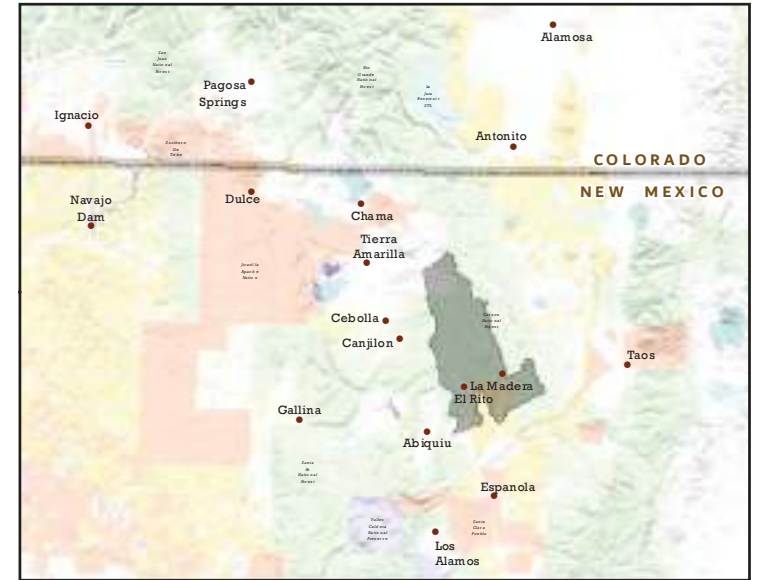
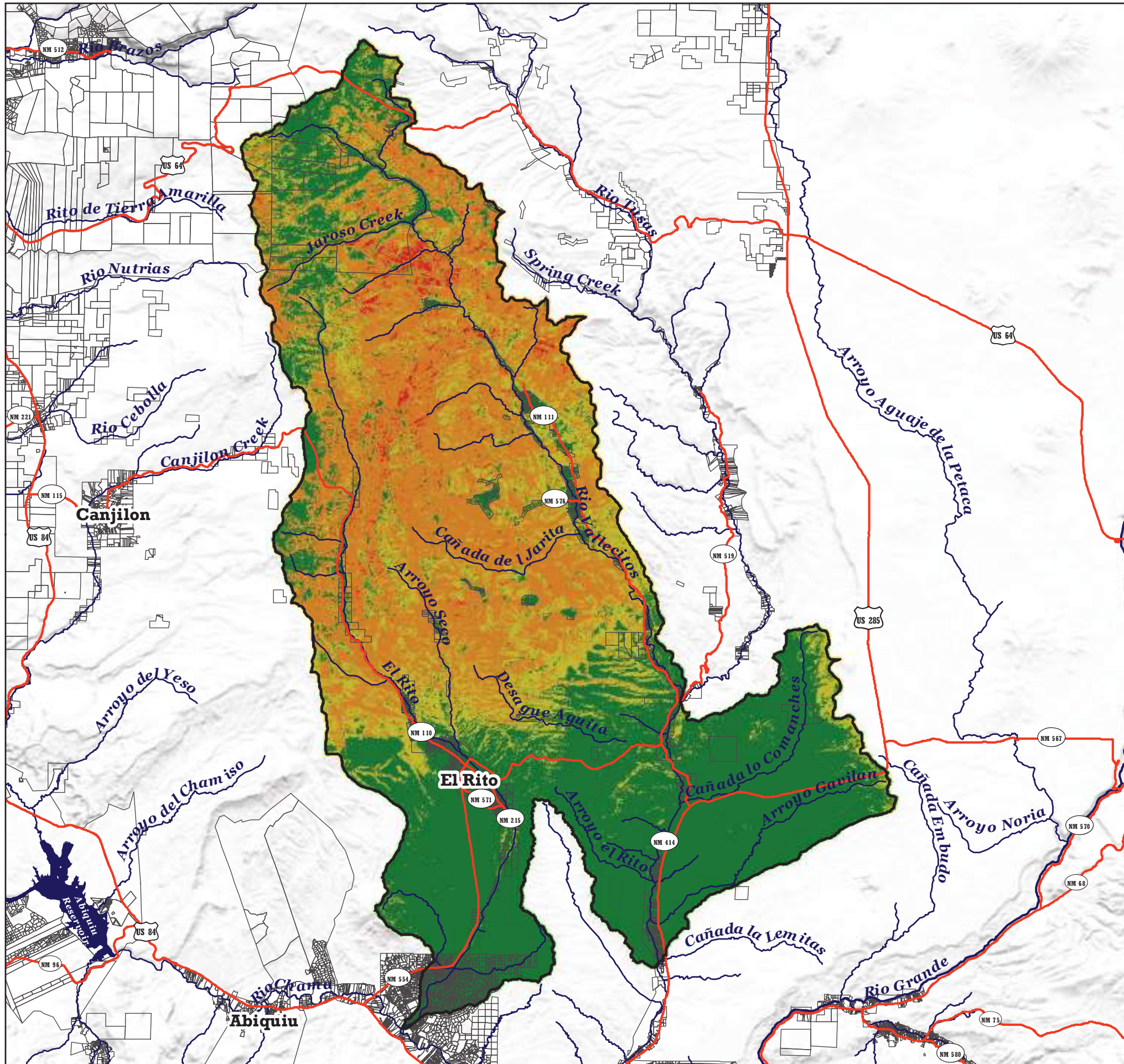
LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by The Nature Conservancy, 2022.







USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

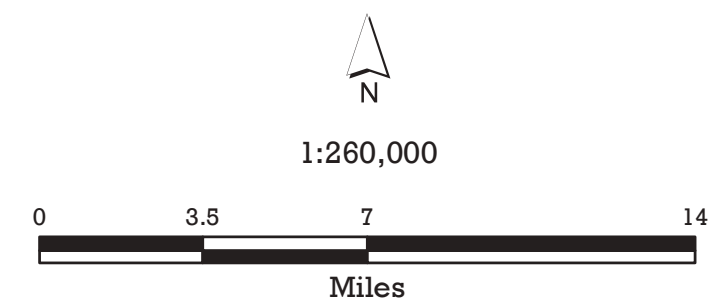
No warranties are made as to the accuracy of this map. This map is for geographical reference only and is not to be used as a survey or legal document.

Threat of severe wildfire

El Rito-Vallecitos



-  Focal Area boundary
-  Parcel boundaries
- Threat of wildfire burn severity**
-  Low
-  Moderate
-  High
-  Very high



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

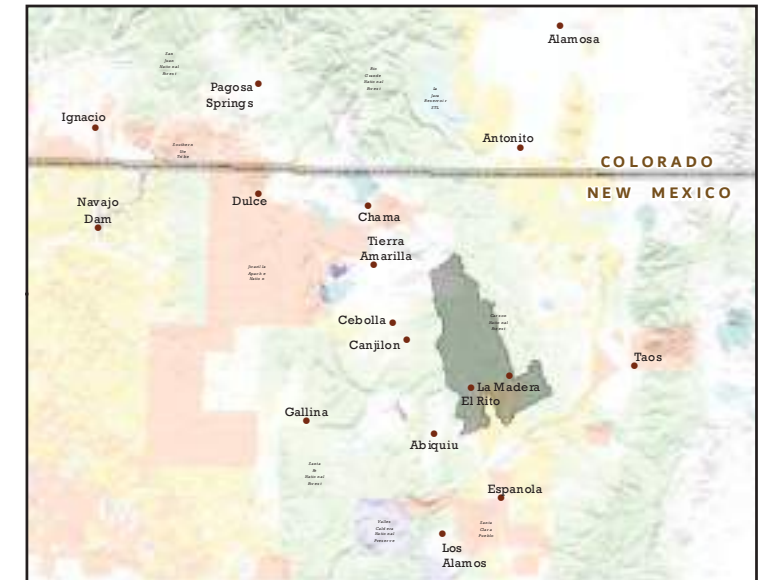
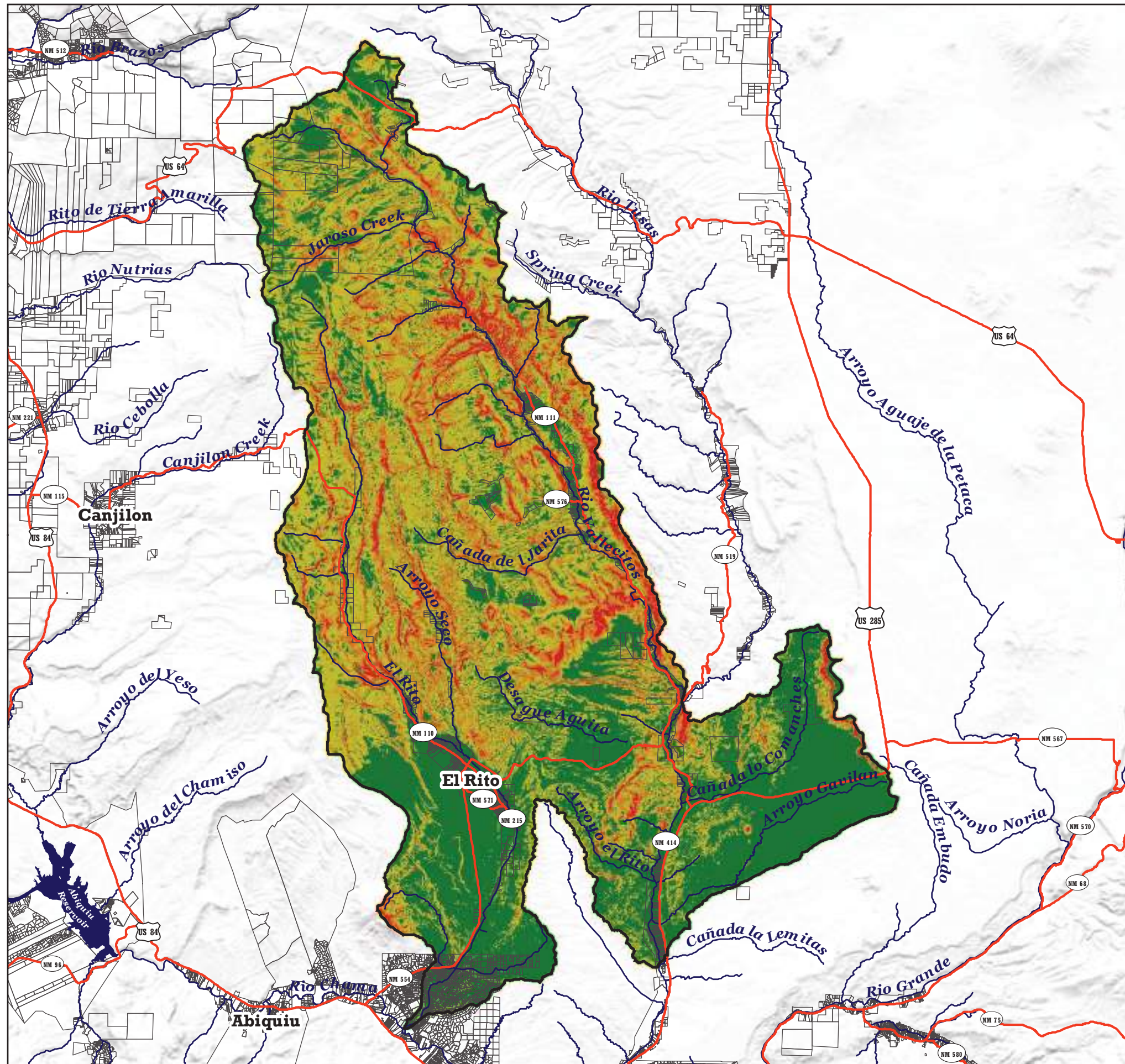
Threat of wildfire burn severity. Data published by New Mexico
 Forest Action Plan (NMFAP), 2020.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation &
 Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Threat of postfire erosion

El Rito-Vallecitos



Focal Area boundary

Parcel boundaries

Threat of postfire erosivity index

Low

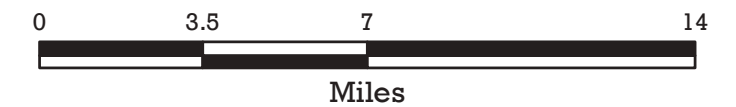
Moderate

High

Very high



1:260,000



Geographic Coordinate System: North American Datum of 1983
Projected Coordinate System: NAD83 UTM Zone 13 North

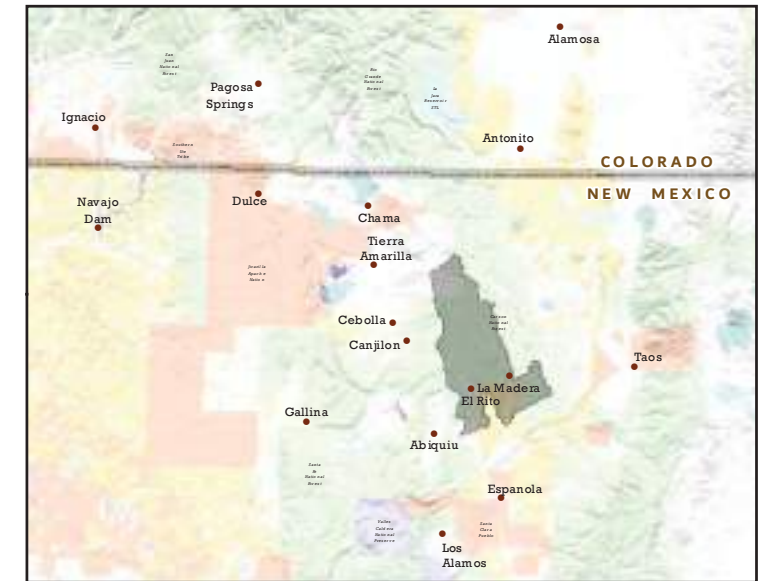
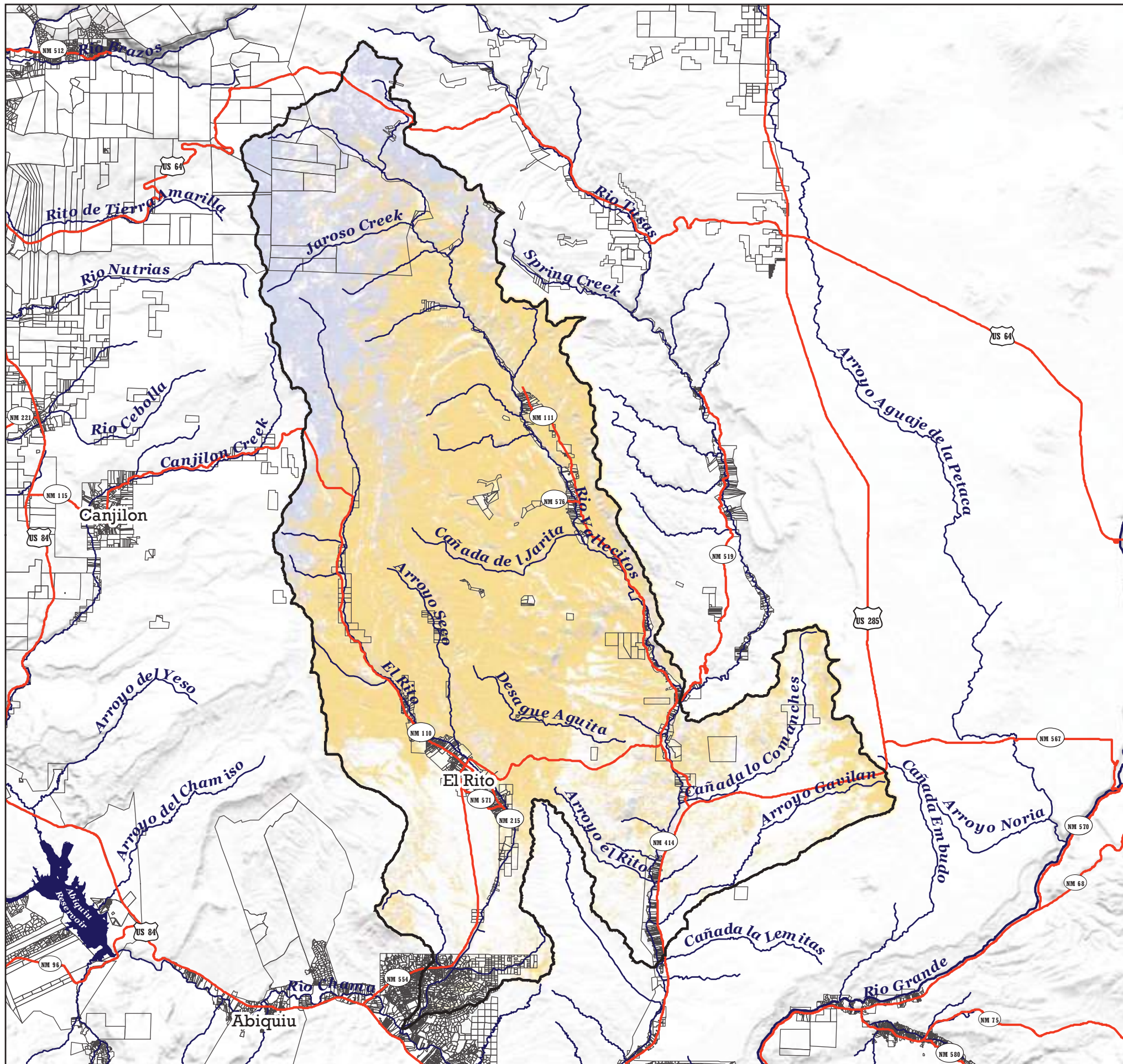
Threat of postfire erosivity index. Data published by New Mexico Forest Action Plan (NMFAP), 2020.





USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

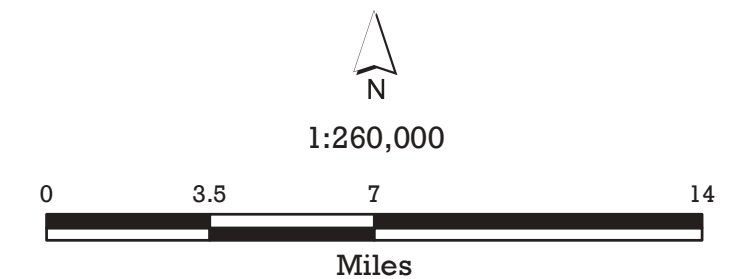
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Dry and mesic forest treatment opportunities on slopes under 40%

El Rito-Vallecitos



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by Tierra Buena GIS, 2022.

U.S. Geological Survey, 2017, 1 Arc-second Digital Elevation Models (DEMs) - USGS National Map 3DEP Downloadable Data Collection: U.S. Geological Survey.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Tusas - San Antonio Focal Area

Acres – 285,350

Background Information

- This focal area encompasses the Rio Tusas as part of the Rio Chama watershed, the Rio San Antonio as part of the Conejos watershed, as well as portions of the Arroyo Aquaje de la Petaca watershed which drains directly into the Rio Grande.
- The Carson National Forest has management responsibility of most of this focal area, and the area also includes small sections of the Rio Grande del Norte National Monument (BLM) among other jurisdictions. Management of this FA affects the Monument, which has critical natural resources but is not included in this atlas due to the lack of priority forest land.
- The Continental Divide National Scenic Trail traverses the northwest portion of the focal area. The presence of this feature increases recreational use of the area as well requiring additional management considerations when conducting treatments.
- Northern boundary of this FA shares a boundary with the Cruces Basin Wilderness. The 2022 Carson NF Land Management Plan recommends northeast and northwest expansions of this Wilderness area.
- NIFC records identify three fires greater than 50 acres have occurred that intersected this Focal Area since 2000. The median fire size for these fires is 7,000 acres and includes fires managed for resource benefit.

Source Water Users

- Surface irrigation and acequias are present in all river valleys. This focal area is within La Asociacion de las Acequias Norteñas del Rio Arriba region and the Rio Vallecitos, Rio Tusas,
- Ojo Caliente Acequia Association regions. There are likely other acequia systems present, but not listed, within this focal area.
- Tres Piedras Water Association is a mutual domestic that supplies water from a groundwater well.

Water Quality

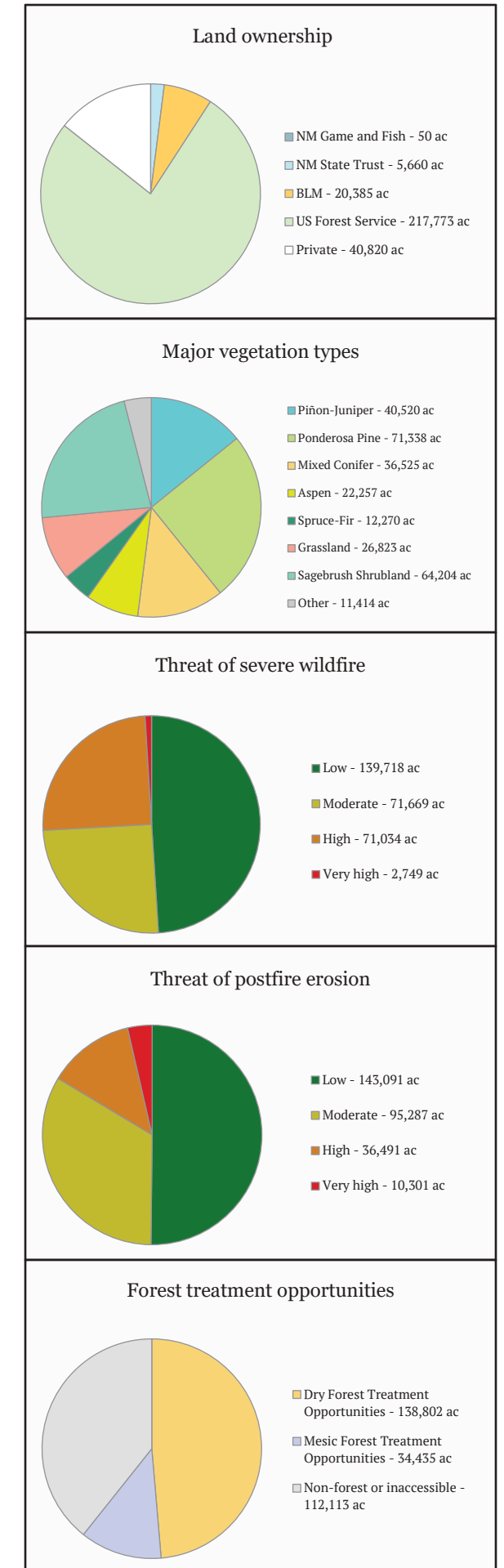
There have been some recent assessments of water quality within this focal area. Rio Tusas (Perennial prt Rio Vallecitos to headwaters) 46.34 miles impaired by nutrients and temperature. Canada Tio Grande (Rio San Antonio to headwaters) 10.58 miles impaired by dissolved oxygen, temperature, and e coli. Rio Nutritas (Rio San Antonio to headwaters) 7.99 miles impaired by temperature and e coli. Rio San Antonio (CO border to Montoya Canyon) 11.86 miles impaired by aluminum, temperature, and dissolved oxygen. Rio San Antonio (Montoya Canyon to headwaters) 20.87 miles impaired by temperature, aluminum, and e coli.

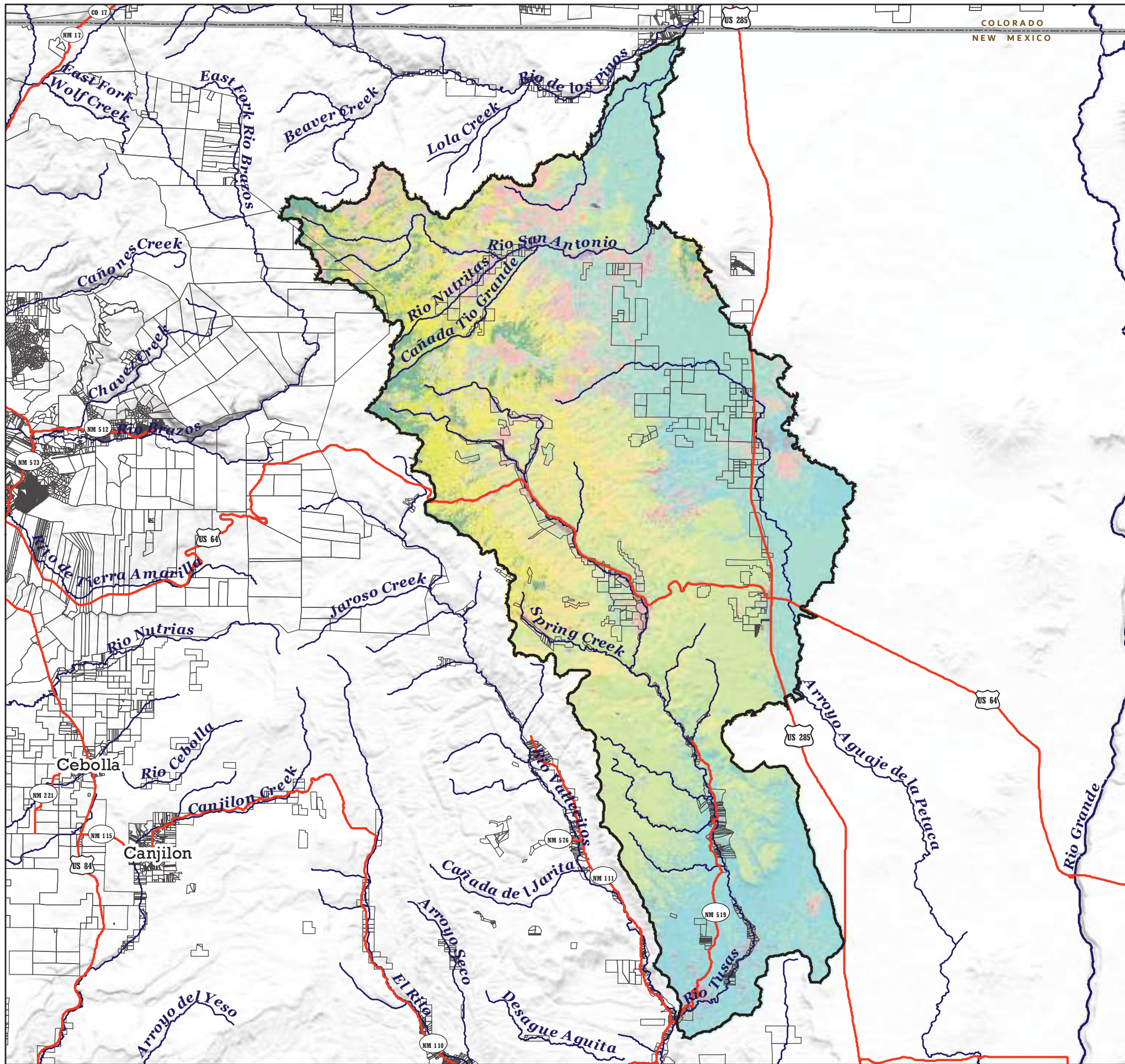
Threats and Opportunities

- Several communities, rated as moderate or higher risk from wildfire, have been identified by the 2017 Rio Arriba CWPP within the focus area and include: the Village of Petaca, Las Tablas, Servietta Plaza, La Zorra, Los Pinos, Las Tusas, Highland Estates and Tres Piedras, a historical stop on the Chile Line Railroad.
- Approximately 50% of this focal area has a rating of moderate or greater, in both threats from severe wildfire as well as post fire erosion. Although much of the land in this focal area is under Federal or State management, private land treatments along the major drainages can provide critical buffering and resilience to downstream community water sources.
- Presence of State Trust Lands can facilitate cross-boundary treatments within the focal area where NMED funds can be utilized on the State lands and leveraged for additional Federal private land treatments.
- USFS has identified the Canada Tio Grande/Rio San Antonio HUC12 watershed is classified as a priority for CFLRP treatments and monitoring.

Known Watershed Plans and Projects

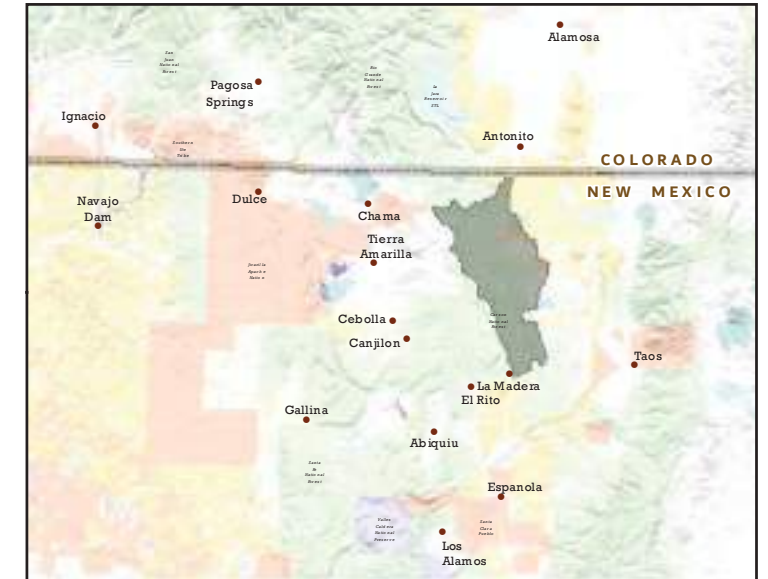
- Watershed protection treatments will also help advance goals listed as part of the 2-3-2 Cohesive Strategy Partnership, San Juan Chama Watershed Partnership, Rio Ojo Consortium, New Mexico Forest Action Plan, Rio Chama CFLRP, Rio Chama Regional Water Plan, Rio Grande Water Fund Cohesive Strategy, Rio Arriba County CWPP, Upper Chama Soil and Water Land Use Plan.
- BLM has initiated treatments in the Cerro del Aire vicinity to reduce fire danger and increase watershed and habitat conditions. This project is located on the eastern boundary of this FA.
- The 2022 Carson NF Land Management Plan address the San Antonio Management Area which overlap with this focal area and includes management approaches that focus on improving wildlife or aquatic habitat connectivity through coordination with adjacent landowners, partners, and other stakeholders.
- Carson NF has a CFRP project - Multi-Jurisdictional, Landscape-Scale Restoration in the Rio Grande Del Norte National Monument, Taos County, New Mexico- Revision which overlaps with much of this FA's northern extent. Management approaches focus on improving wildlife or aquatic habitat connectivity through coordination with adjacent landowners, partners, and other stakeholders. The Carson NF is a participant within the Northern New Mexico Riparian, Aquatic and Wetland Restoration Project NEPA, whose purpose is to maintain or enhance watershed and range health by restoring riparian, wetland, and associated upland and aquatic habitats.
- The Carson NF has several projects proposed: the Stewarts Meadow Restoration Project, which has planned treatments scheduled for FY24-27, as part of the 10-year plan for the Rio Chama CFLRP, and dovetails with the NMED Upper Rio San Antonio Watershed-Based Plan (WBP).
- National Wildlife Federation has created an operational portfolio of priority riparian conservation opportunities in the Upper Rio Grande. This Focal Area contains some of these areas which NWF lists among the greatest opportunities for conservation and restoration to help build resilience into riparian ecosystems of the Upper Rio Grande. The NWF also has completed a "Who is doing what where?" assessment which is available on their website.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources management.



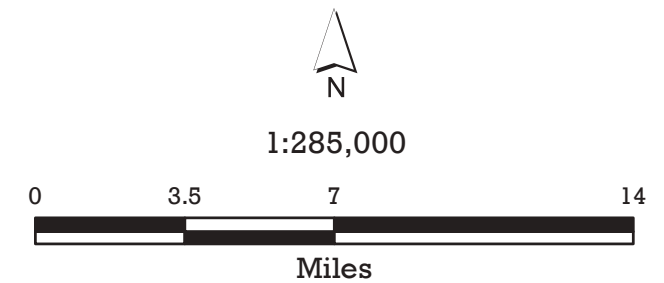


Vegetation type

Tusas-San Antonio



- Focal Area boundary
 - Parcel boundaries
- | Vegetation | |
|-----------------------------|---|
| Agriculture | Piñon-Juniper Woodland or Savanna |
| Aspen Forest or Woodland | Ponderosa Pine Forest, Woodland, or Savanna |
| Barren or Sparse Vegetation | Recently Burned, Logged, or Otherwise Disturbed |
| Developed | Riparian Forest or Shrubland |
| Grassland | Sagebrush Shrubland |
| Mixed Conifer - Dry | Oak Shrubland |
| Mixed Conifer - Mesic | Spruce-Fir Forest |
| Open Water | Wetland |

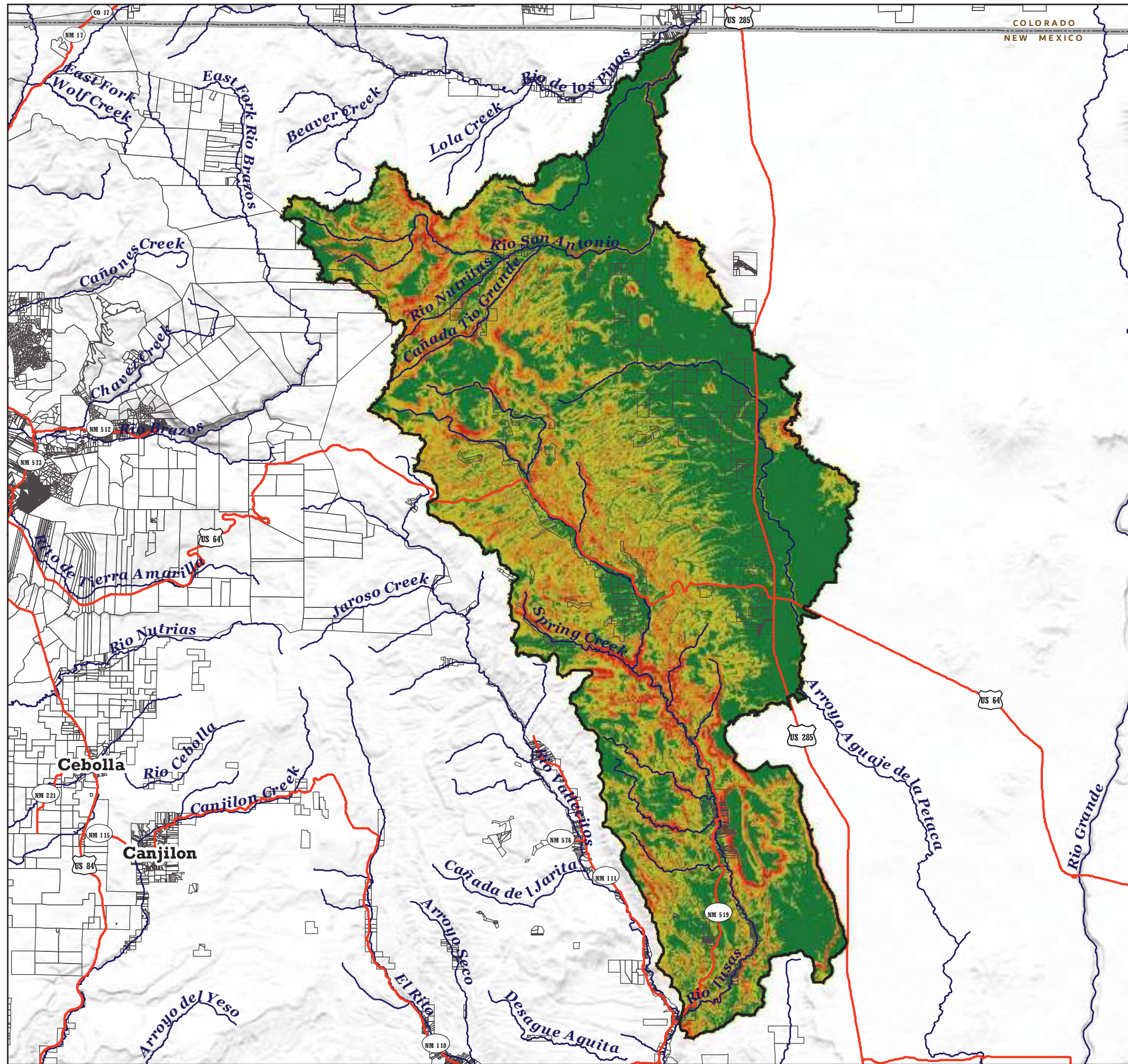


Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by The Nature Conservancy, 2022.

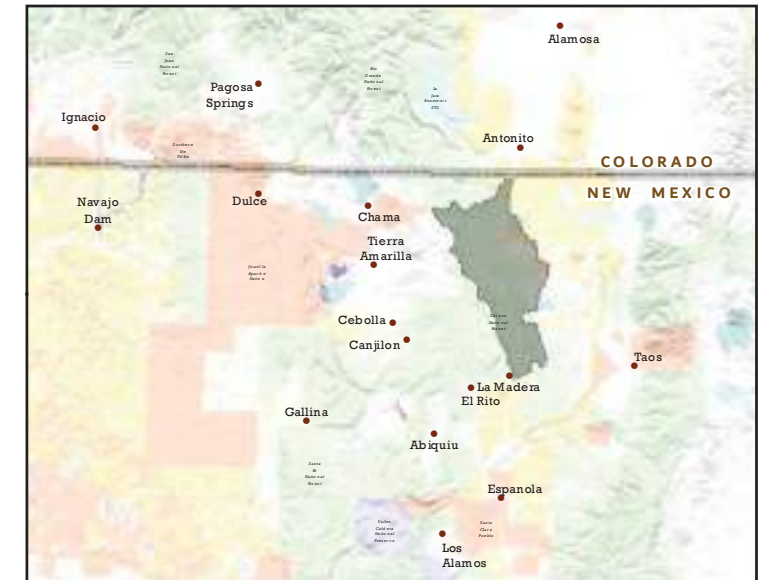
USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Threat of postfire erosion

Tusas-San Antonio



Focal Area boundary

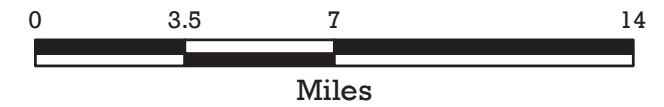
Parcel boundaries

Threat of postfire erosivity index

- Low
- Moderate
- High
- Very high



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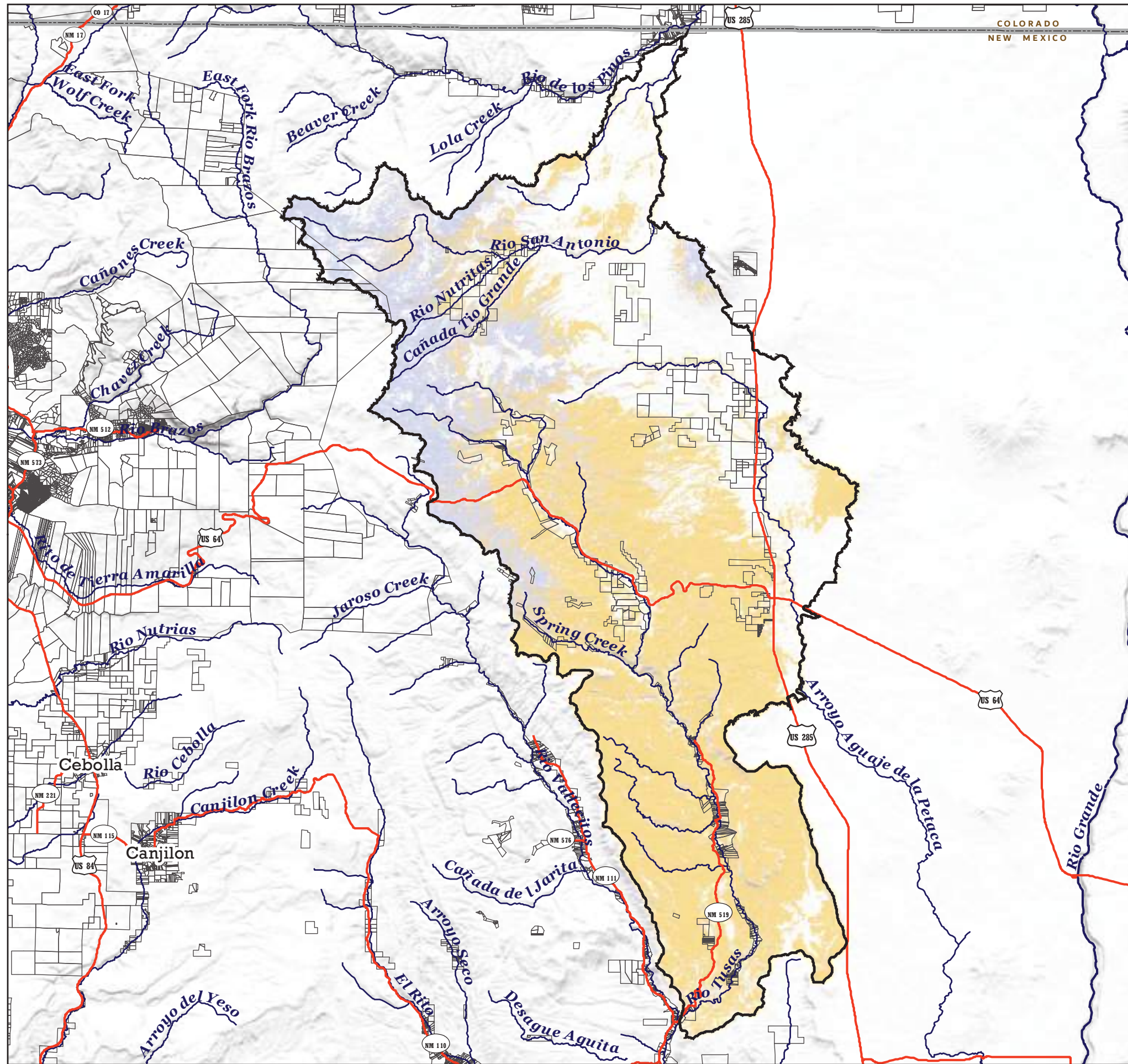


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Threat of postfire erosivity index. Data published by New Mexico Forest Action Plan (NMFAP), 2020.

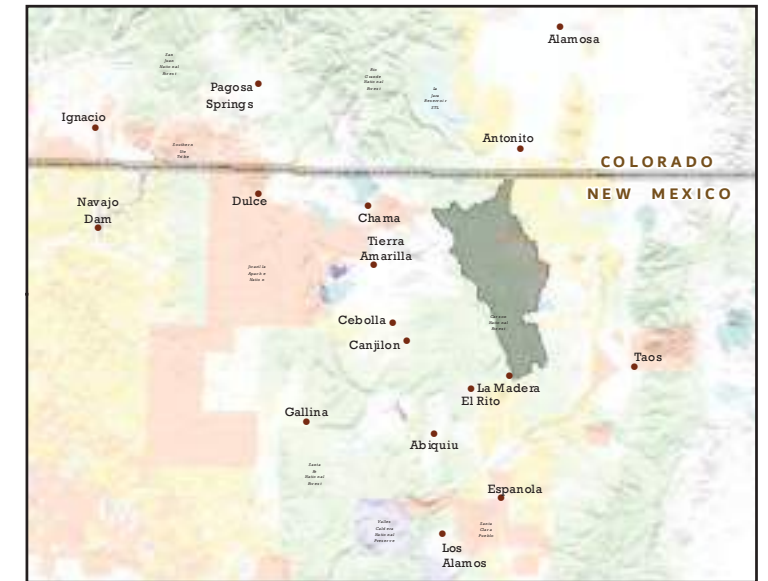
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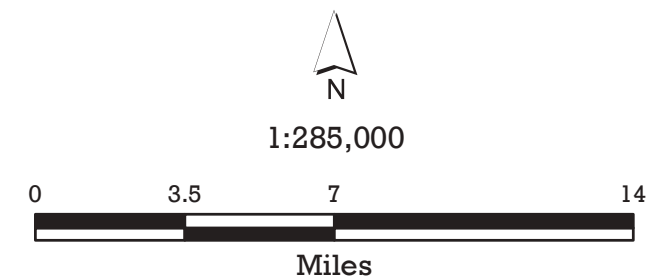


Dry and mesic forest treatment opportunities on slopes under 40%

Tusas-San Antonio



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



Geographic Coordinate System: North American Datum of 1983
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LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by Tierra Buena GIS, 2022.

U.S. Geological Survey, 2017, 1 Arc-second Digital Elevation Models (DEMs) - USGS National Map 3DEP Downloadable Data Collection: U.S. Geological Survey.

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Nutrias - Cebolla - Canjilon Focal Area

Acres – 202,021

Background Information

- This focal area encompasses the Rio Nutrias, the Rio Cebolla, and the upper stretches of Canjilon Creek.
- Private land and lands managed by the Carson NF make up most of the FA, along with BLM and State Trust lands. The northwest corner of this FA includes a small portion of land managed by NM Game and Fish.
- This area is primarily used for grazing and is a popular winter habitat for elk and deer. Ongoing resource concerns in this focal area include elk depredation, forest conditions, brush encroachment, adaptation to ongoing severe drought, highly erosive soils and streambank destabilization including channel incision.
- There is a long history of watershed improvement projects including large scale brush removal, native grass reseeding, erosion control projects, habitat restoration and river restoration.
- NIFC records identify one fire greater than 50 acres, the 2019 Montoya Springs Fire, occurred that intersected this Focal Area since 2000. However, the 2005 Montoya Fire threatened the communities of Canjilon and Placita Garcia and were the catalyst for conducting NEPA and over 12 years of project implementation that has included over 20 activities funded with multiple sources that have collectively treated over 12,000 acres in the area on federal, state, and private lands.

Source Water Users

- Active surface water irrigation and acequias in the river valleys. This focal area is within La Asociacion de las Acequias Norteñas del Rio Arriba region.
- The village of Canjilon has a Mutual Domestic water supply from a spring. The village of Cebolla has a Mutual Domestic water supply from a well.
- There are many livestock catchment tanks that supply water to livestock and wildlife.

Water quality

Rio Nutrias (Perennial prt Rio Chama to headwaters) 41.06 miles currently impaired by turbidity and e coli. Rio Cebolla (Rio Chama to headwaters) 23.46 miles not assessed. Canjilon Creek (Perennial portions Abiquiu Rsrv to headwaters) 37.43 miles currently impaired by turbidity, specific conductance, nutrients, and temperature.

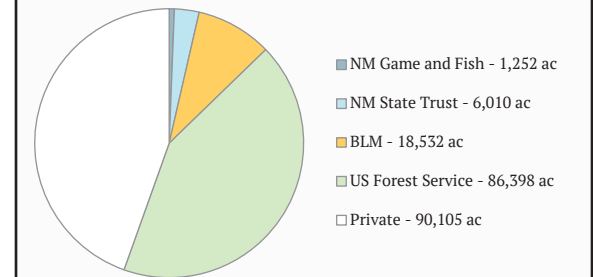
Threats and Opportunities

- Several communities have been identified at risk of wildfire by the 2017 Rio Arriba CWPP within the focus area and include: the greater portions of Nutrias, Cebolla, and Canjilon as well as a portion of El Vado.
- A large portion of this area is rated as moderate or greater regarding threats from severe wildfire, as well as at risk from postfire erosion.
- The presence of State Trust Lands can facilitate cross-boundary treatments within the focal area where NMED funds can be utilized on the State lands and leveraged for additional Federal private land treatments.
- USFS has identified the Montoya Canyon-Canjilon Creek HUC12 watershed as a priority watershed for CFLRP treatments and monitoring.
- There is an opportunity to implement a collaborative maintenance initiative to maintain treatments in this area, including the opportunity for collaborative prescribed burning and managing fire.

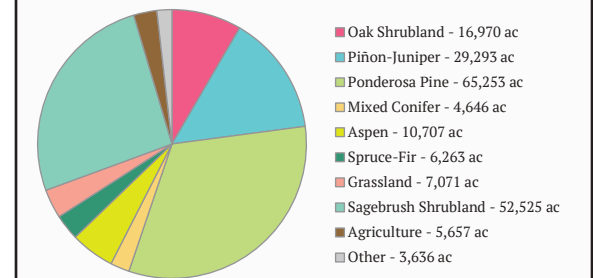
Known Watershed Plans and Projects

- Watershed protection treatments will also help advance goals listed as part of the Cebolla/Nutrias Watershed Group, 2-3-2 Cohesive Strategy Partnership, San Juan Chama Watershed Partnership, New Mexico Forest Action Plan, Rio Chama CFLRP, Rio Chama Regional Water Plan, Rio Grande Water Fund Cohesive Strategy, Rio Arriba County CWPP, Upper Chama Soil and Water Land Use Plan. Some larger ranches have Forest Management Plans.
- The Carson NF and Santa Fe NF are both participants with the Northern New Mexico Riparian, Aquatic and Wetland Restoration Project NEPA, whose purpose is to maintain or enhance watershed and range health by restoring riparian, wetland, and associated upland and aquatic habitats.
- Rio Chama CFLRP has planned treatments scheduled for FY24-27: Upper Canjilon Creek Watershed Restoration Project
- The Cebolla/Nutrias Watershed Group and livestock associations are very active in planning and implementing conservation projects, including a EPA Section 319 Source Water Protection Grant.
- A cross-boundary (USFS and private lands) proposal for stream and riparian restoration was developed in Canjilon Creek and submitted to NMED River Stewardship Program.
- The Rio Nutrias Watershed Management Plan and the Cebolla/Nutrias Coordinated Resource Management Plan were both published in 2015.
- This has been an active area for forest thinning and management over the last 15 years. Numerous hazardous fuels reduction projects have occurred including the Canjilon-Cebolla Wildland Urban Interface, USFS Bano and the NMSLO Mesa de Los Viejos projects.
- The Cebolla/Nutrias Watershed Group has been awarded the New Mexico Forest and Watershed Restoration Act funding for future forest management projects.
- National Wildlife Federation has created an operational portfolio of priority riparian conservation opportunities in the Upper Rio Grande. This Focal Area contains some of these areas which NWF lists among the greatest opportunities for conservation and restoration to help build resilience into riparian ecosystems of the Upper Rio Grande. The NWF also has completed a “Who is doing what where?” assessment which is available on their website.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources management.

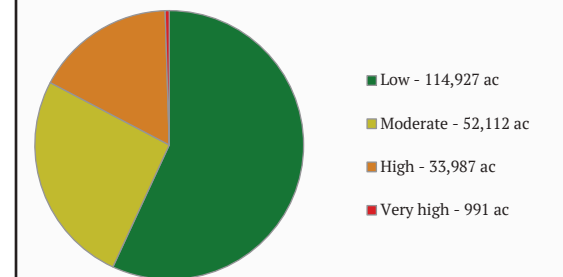
Land ownership



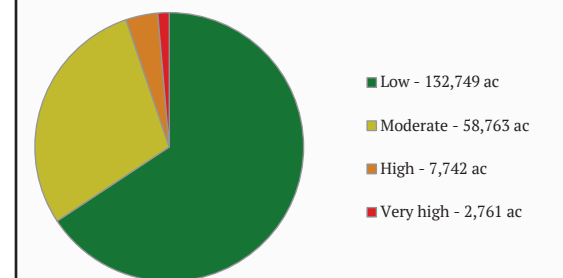
Major vegetation types



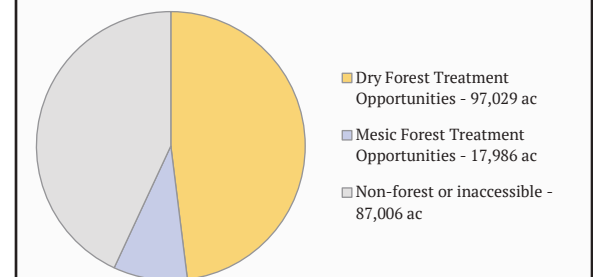
Threat of severe wildfire



Threat of postfire erosion

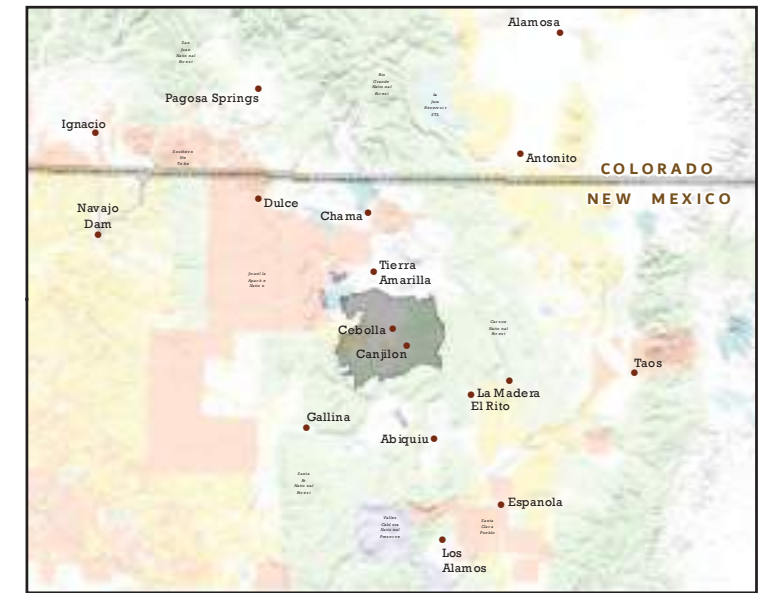
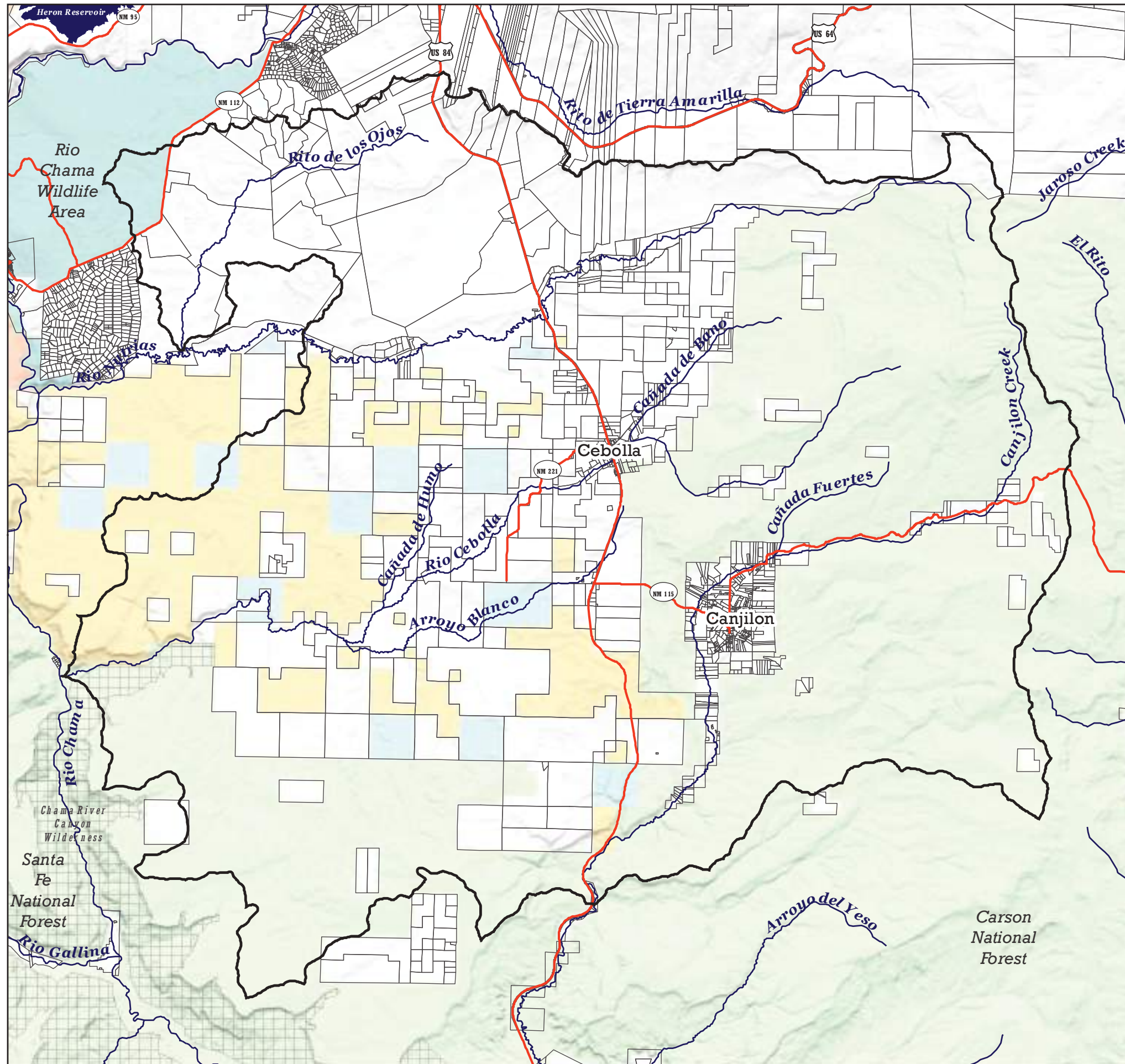



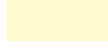

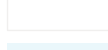
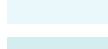
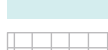

Forest treatment opportunities

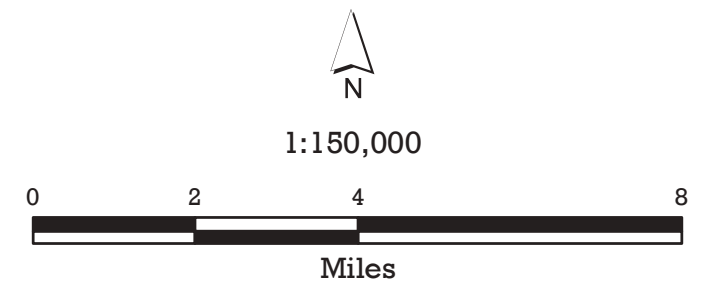


Land ownership

Nutrias-Cebolla-Canjilon



-  Focal Area boundary
-  Parcel boundaries
-  BLM
-  US Forest Service
-  Private
-  State Trust Land
-  State Game & Fish
-  Wilderness

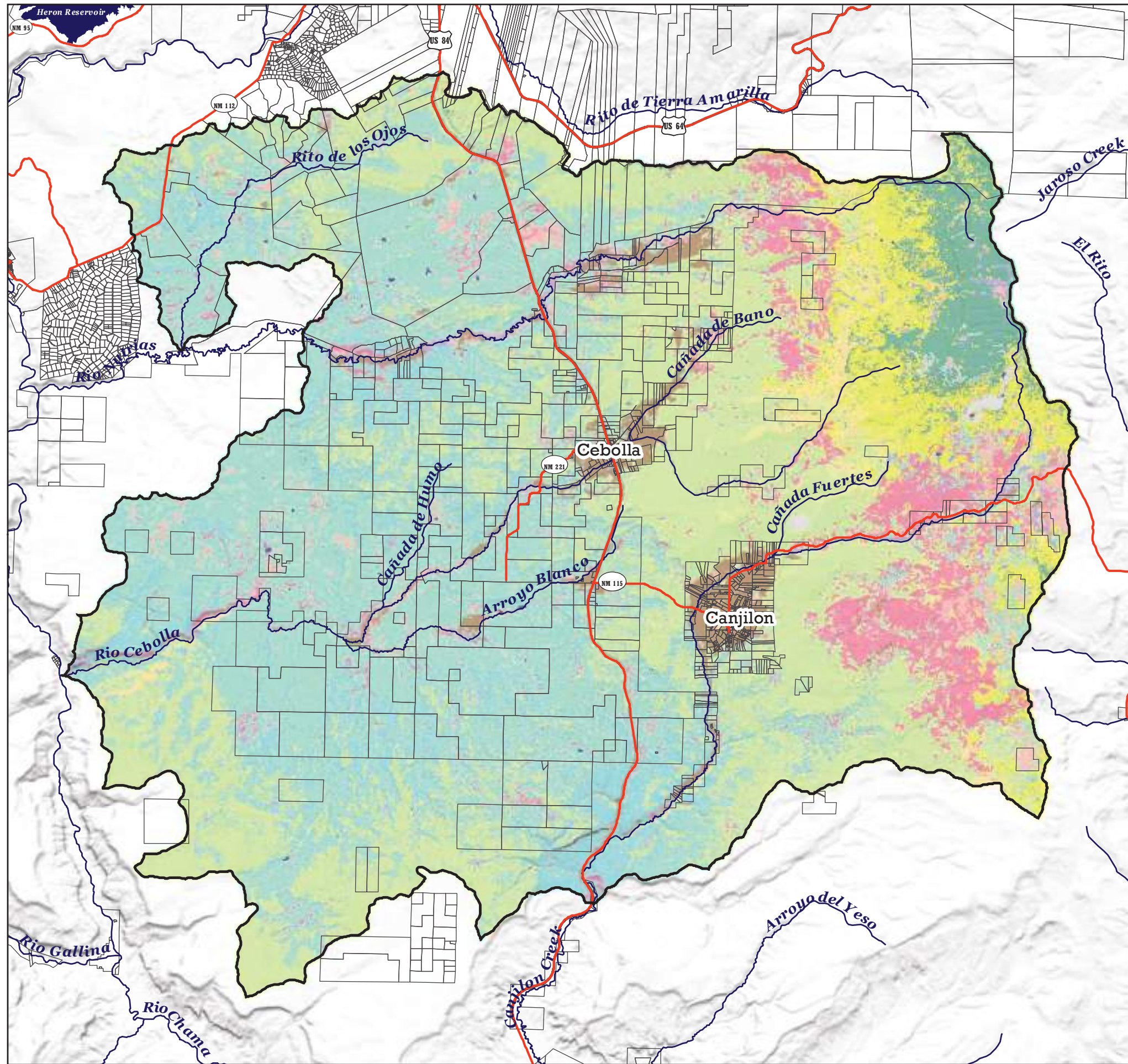


Geographic Coordinate System: North American Datum of 1983
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U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

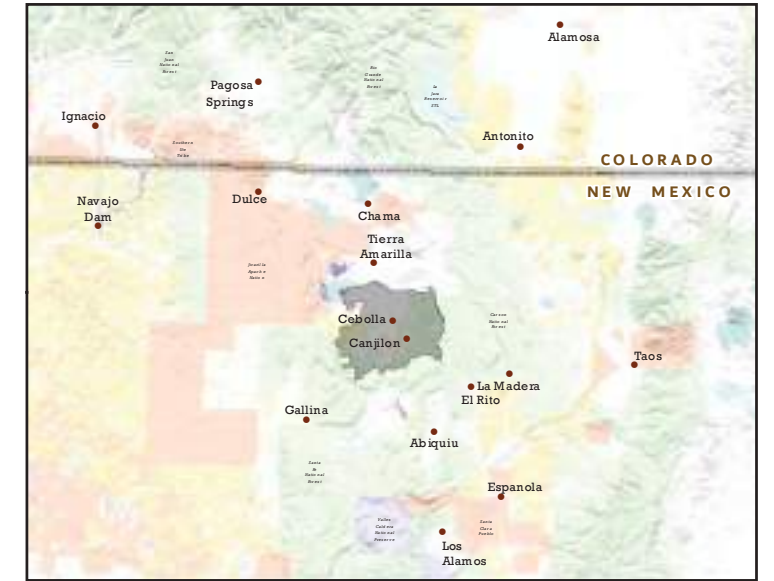
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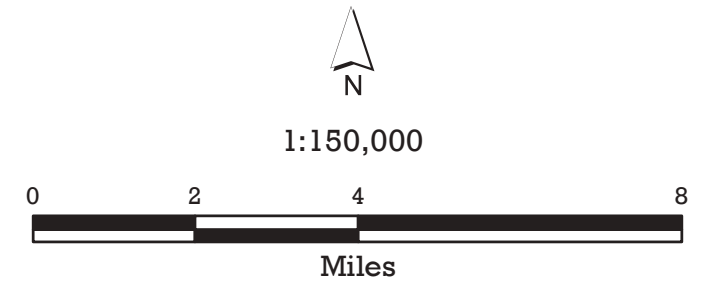


Vegetation type

Nutrias-Cebolla-Canjilon



- | | |
|-----------------------------|---|
| Focal Area boundary | Parcel boundaries |
| Vegetation | |
| Agriculture | Piñon-Juniper Woodland or Savanna |
| Aspen Forest or Woodland | Ponderosa Pine Forest, Woodland, or Savanna |
| Barren or Sparse Vegetation | Recently Burned, Logged, or Otherwise Disturbed |
| Developed | Riparian Forest or Shrubland |
| Grassland | Sagebrush Shrubland |
| Mixed Conifer - Dry | Oak Shrubland |
| Mixed Conifer - Mesic | Spruce-Fir Forest |
| Open Water | Wetland |



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

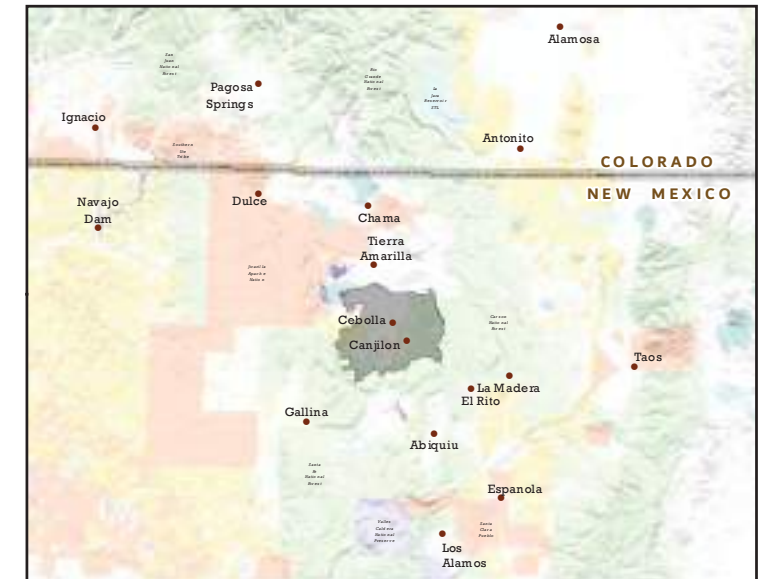
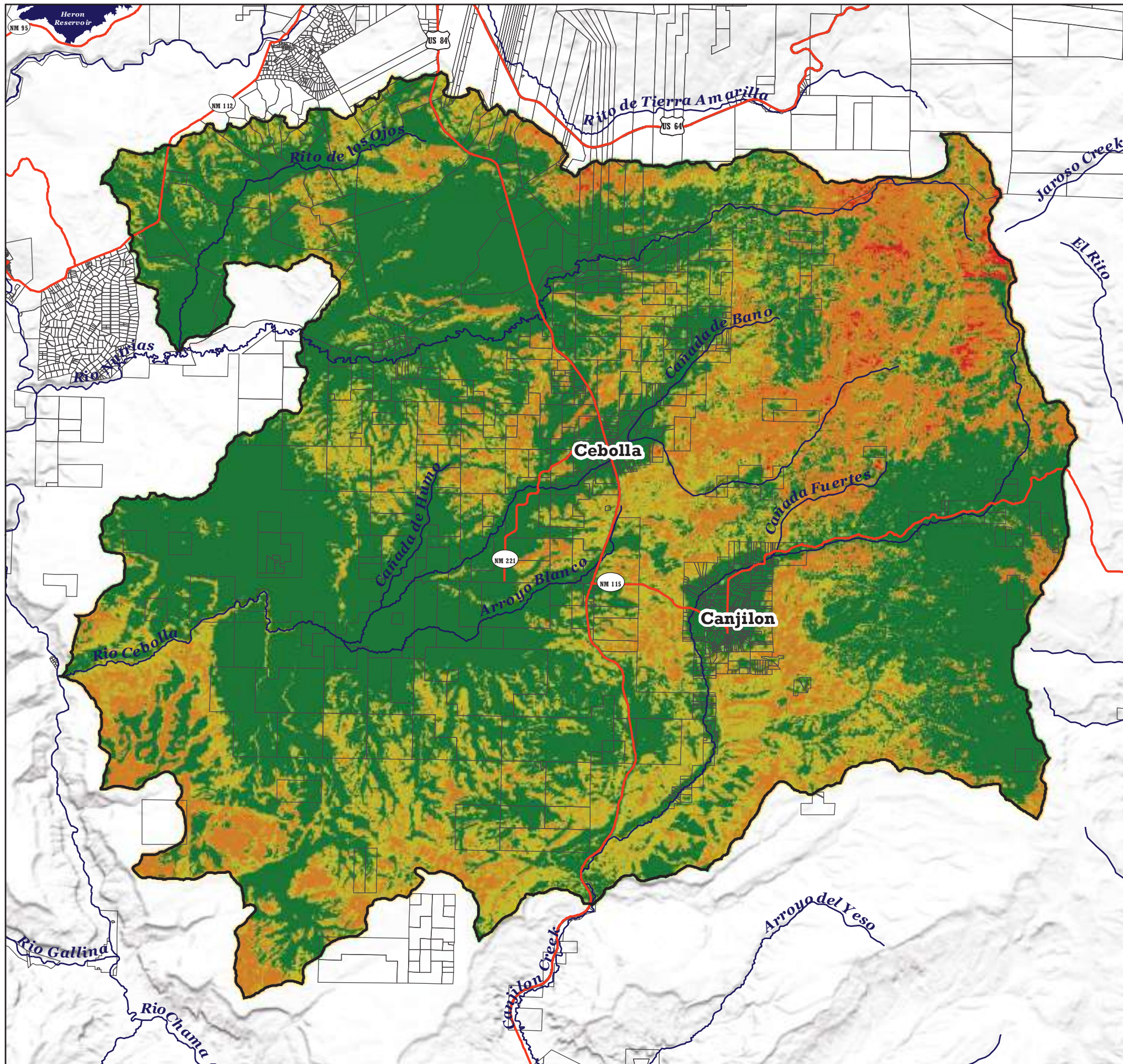
LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by The Nature Conservancy, 2022.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Threat of severe wildfire

Nutrias-Cebolla-Canjilon



Focal Area boundary

Parcel boundaries

Threat of wildfire burn severity

Low

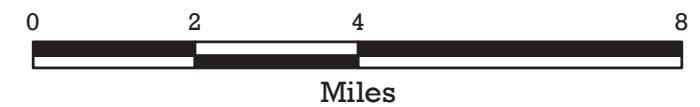
Moderate

High

Very high



1:150,000



Geographic Coordinate System: North American Datum of 1983
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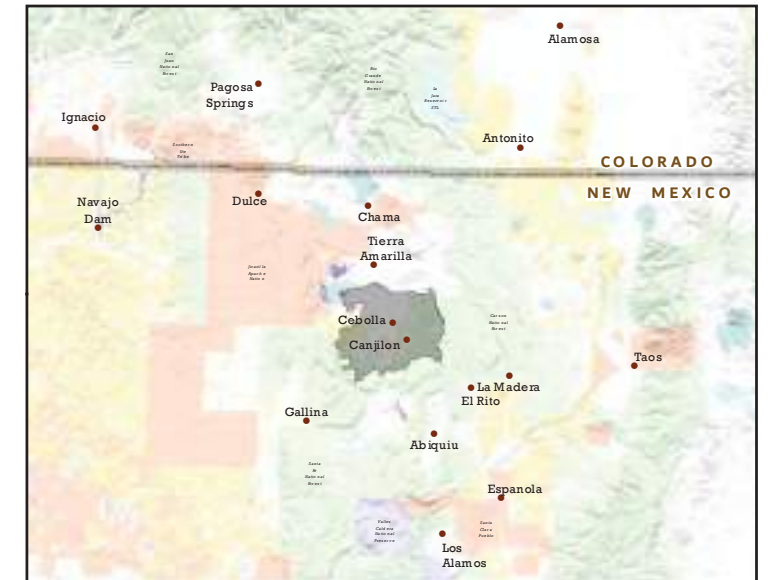
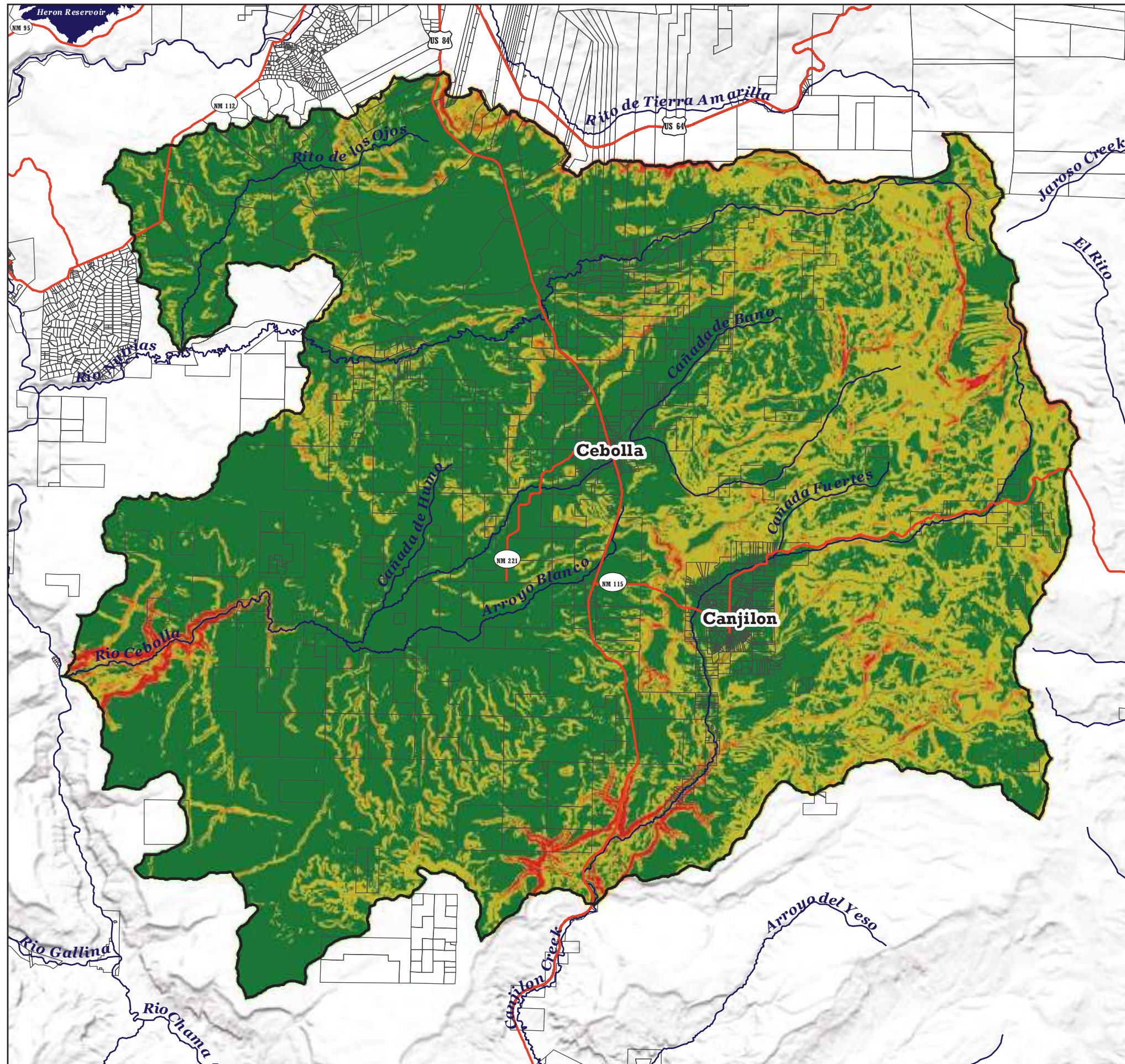
Threat of wildfire burn severity. Data published by New Mexico
Forest Action Plan (NMFAP), 2020.







USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation &
Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

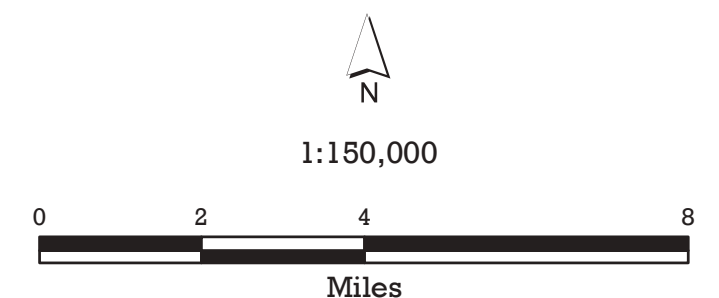
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Threat of postfire erosion

Nutrias-Cebolla-Canjilon



-  Focal Area boundary
-  Parcel boundaries
- Threat of postfire erosivity index
 -  Low
 -  Moderate
 -  High
 -  Very high



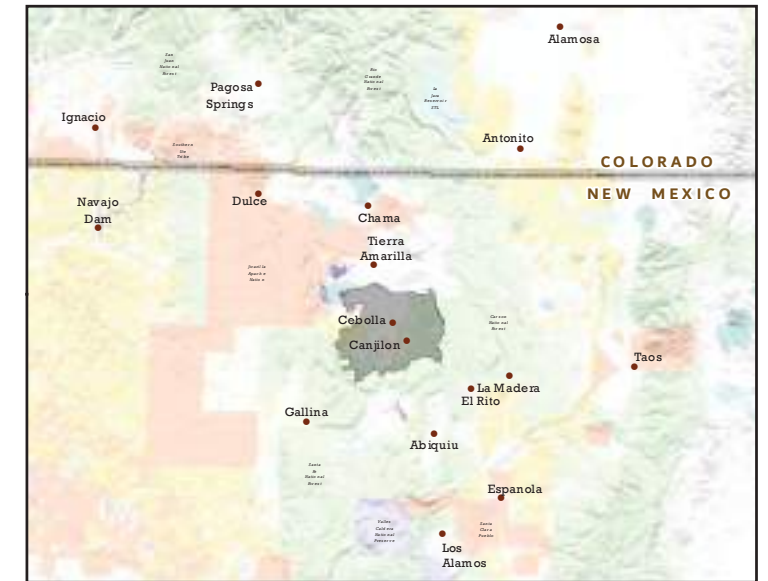
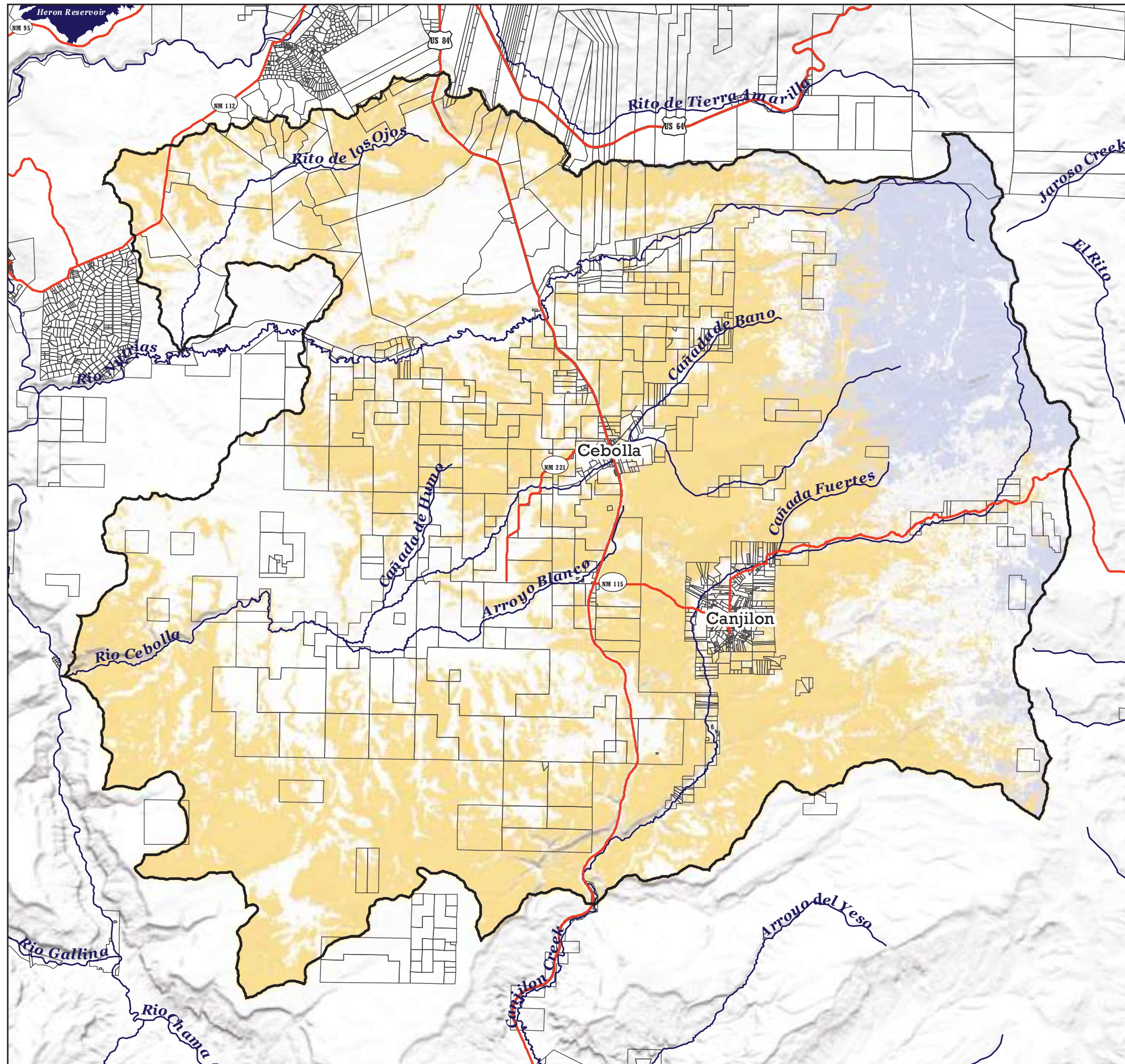
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 Threat of postfire erosivity index. Data published by New Mexico Forest Action Plan (NMFAP), 2020.





USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

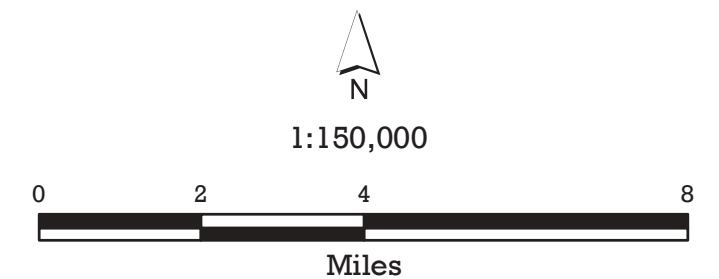
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Dry and mesic forest treatment opportunities on slopes under 40%

Nutrias-Cebolla-Canjilon



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



Geographic Coordinate System: North American Datum of 1983
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LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by Tierra Buena GIS, 2022.

U.S. Geological Survey, 2017, 1 Arc-second Digital Elevation Models (DEMs) - USGS National Map 3DEP Downloadable Data Collection: U.S. Geological Survey.

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Gallina Focal Area

Acres – 148,282

Background Information

- This focal area encompasses the Rio Gallina watershed including Rio Capulin.
- Most of the land within this area is managed by the Santa Fe National Forest. Private land is found throughout the area. BLM and State Trust lands are also encountered along the boundary around NM highway 112. A small portion of the Jicarilla Apache Nation Reservation is located on the northern portion of this area.
- A portion of the Rio Chama Wilderness is within this area.
- NIFC records identify nine fires greater than 50 acres have occurred that intersected this Focal Area since 2000. The median fire size for these fires is 710 acres. Recently several fires in this area have been managed or resource benefit.

Source Water Users

- Active surface water irrigation and acequias in the river valleys. This focal area is within the Regional Gallina/Capulin Acequia Association and La Asociacion de las Acequias Norteñas del Rio Arriba region.
- The village of Gallina has a water system with water provided from a groundwater well.

Water Quality

Rio Gallina (Perennial prt Rio Chama to HWY 96) 27.63 miles not assessed. Rio Gallina (HWY 96 to headwaters) 9.67 miles no known impairments. Clear Creek (Rio Gallina to headwaters) 3.57 miles no known impairments. Rio Capulin (Rio Gallina to headwaters) 12.6 miles impaired by e coli.

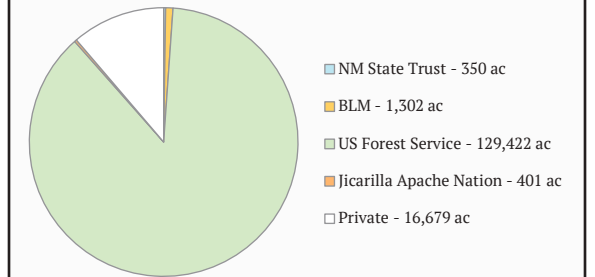
Threats and Opportunities

- Communities rated as moderate or higher risk from wildfire as identified by the 2017 Rio Arriba CWPP within the focus area include: portions of Llaves, Gallina, and a small piece of Ghost Ranch.
- Over 75% of this FA has been categorized as having a moderate or greater threat to experiencing severe wildfire.
- Over 60% of this FA has been categorized as having a moderate or greater threat from post fire erosion.
- The presence of State Trust Lands can facilitate cross-boundary treatments within the focal area where NMED funds can be utilized on the State lands and leveraged for additional Federal private land treatments.
- 2022 Santa Fe NF Land Management Plan delineates two geographic areas that intersect with this focal area: The Canadas and Nacimiento and the Northern Jemez Mountains. Both discuss the need for upland restoration and watershed improvements.

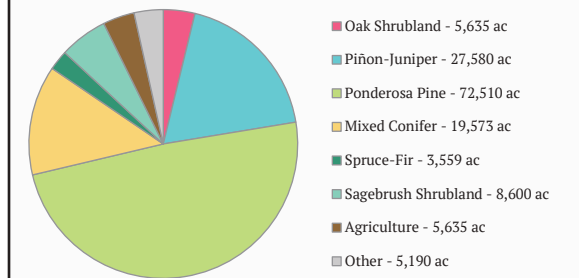
Known Watershed Plans and Projects

- Watershed protection treatments will also help advance goals listed as part of the 2-3-2 Cohesive Strategy Partnership, San Juan Chama Watershed Partnership, New Mexico Forest Action Plan, Rio Chama CFLRP, Rio Chama Regional Water Plan, Rio Grande Water Fund Cohesive Strategy, Rio Arriba County CWPP, Upper Chama Soil and Water Land Use Plan. Some larger ranches have Forest Management Plans.
- The Santa Fe NF is a participant in the Northern New Mexico Riparian, Aquatic and Wetland Restoration Project, whose purpose is to maintain or enhance watershed and range health by restoring riparian, wetland, and associated upland and aquatic habitats.
- The northeast portion of this focal area coincides with the SFNF - Golondirion Wildlife Management Prescribed Fire project. This project uses fire, prescribed and wildfire, along with some mechanical treatments to reduce the potential for crown fire, improve forest conditions, along with managing wildlife habitat for mule deer and Rocky Mountain elk. Watershed protection is facilitated by upland forest health.
- Much of the eastern portion of this focal area overlaps with the SFNF -Rio Chama Planned Ignitions and Wildfire Management Project area whose primary objectives are to improve forested ecosystems and decrease the risk from catastrophic fires. Watershed protection is facilitated by upland forest health.
- The SFNF Encino Vista Landscape Restoration Project overlaps southern portions of this focal area and has the purpose to restore overall forest health, lower fire risk, improve watershed health, and enhance wildlife habitat across the landscape. Several smaller and older projects are encompassed within the Encino Vista LRP.
- A portion of the western boundary, north/northwest of NM 112, overlaps with the SFNF – Moya Big Game Habitat Improvement project, which includes the purpose of reducing the potential for uncharacteristic wildfire along with habitat improvements. Reducing the threat of severe wildfire will facilitate watershed protection.
- The Rio Chama CFLRP has the Gobierno prescribed fire treatments planned for this area in FY25.
- National Wildlife Federation has created an operational portfolio of priority riparian conservation opportunities in the Upper Rio Grande. This Focal Area contains some of these areas which NWF lists among the greatest opportunities for conservation and restoration to help build resilience into riparian ecosystems of the Upper Rio Grande. The NWF also has completed a “Who is doing what where?” assessment which is available on their website.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources management.

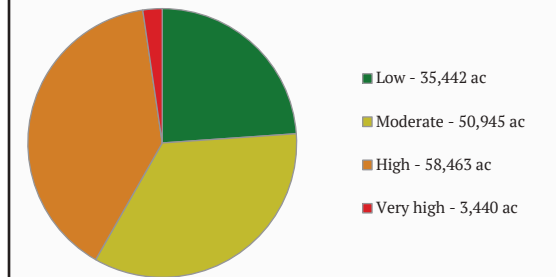
Land ownership



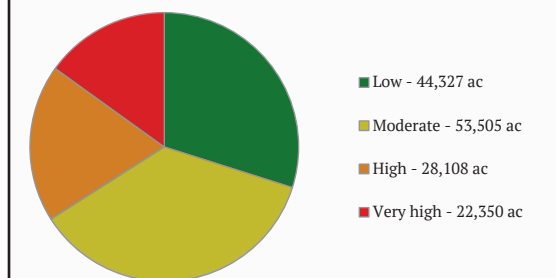
Major vegetation types



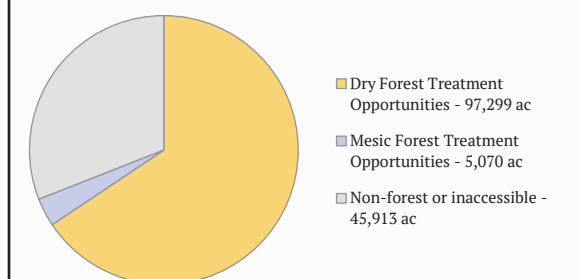
Threat of severe wildfire

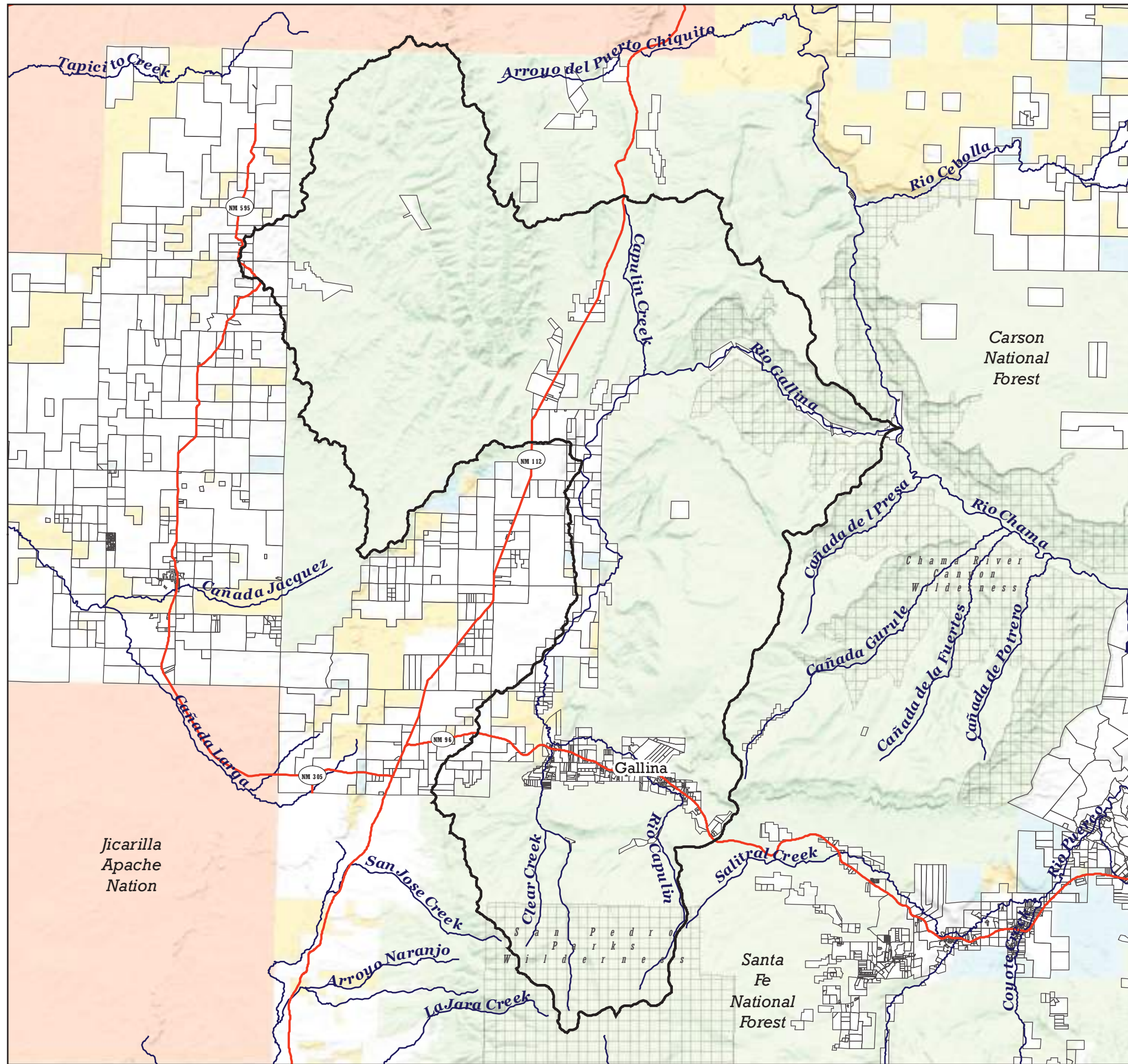


Threat of postfire erosion



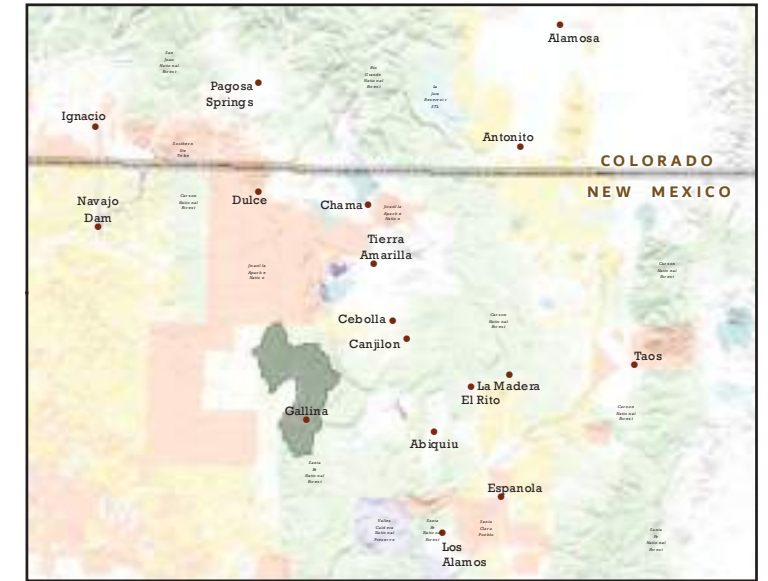
Forest treatment opportunities



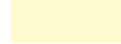
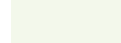


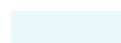
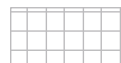


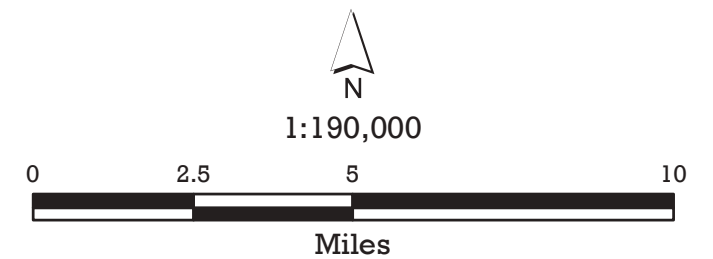


Land ownership

Gallina



-  Focal Area boundary
-  Parcel boundaries
-  BLM
-  US Forest Service
-  Jicarilla-Apache Nation
-  Private
-  State Trust Land
-  Wilderness

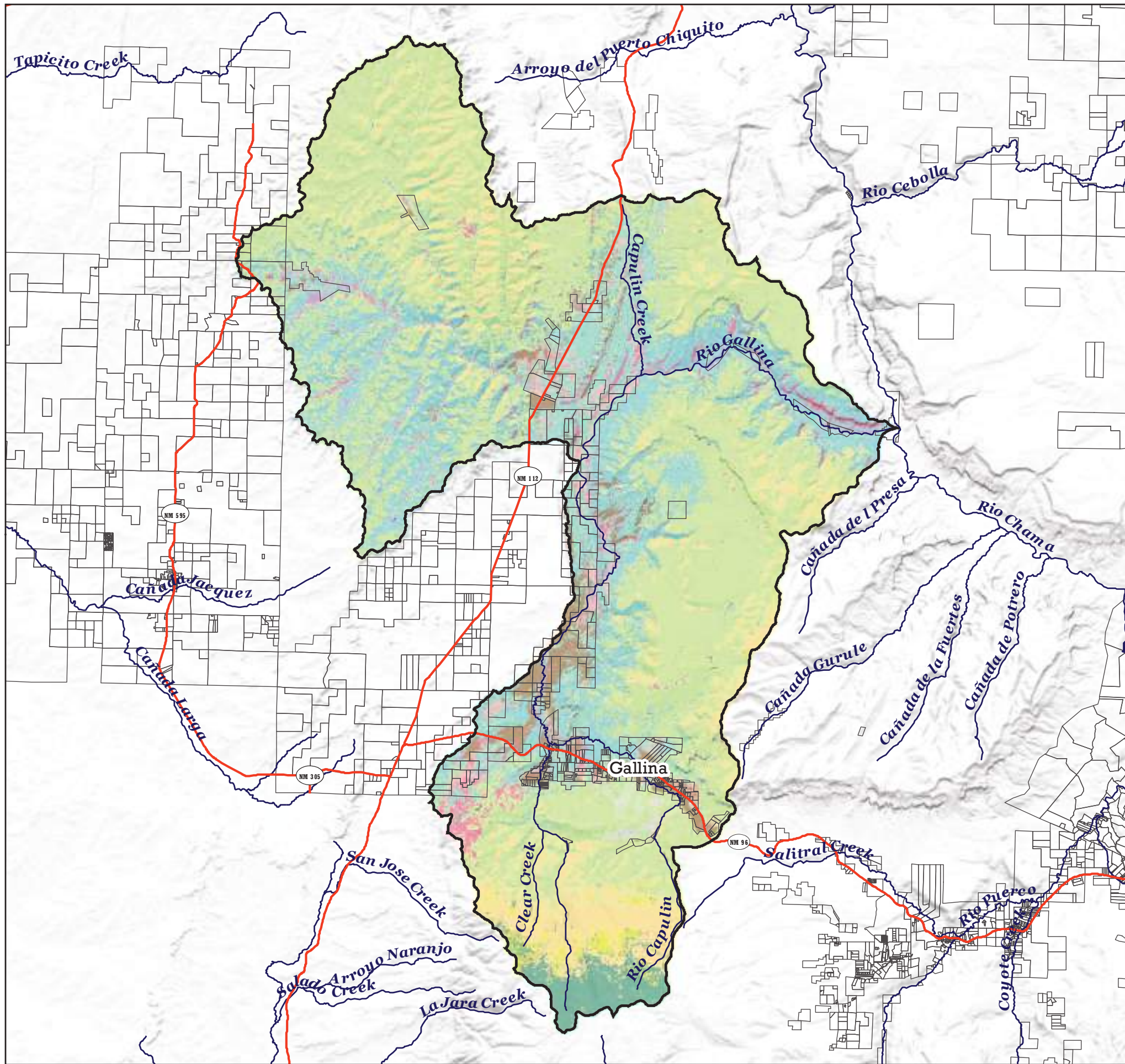


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U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

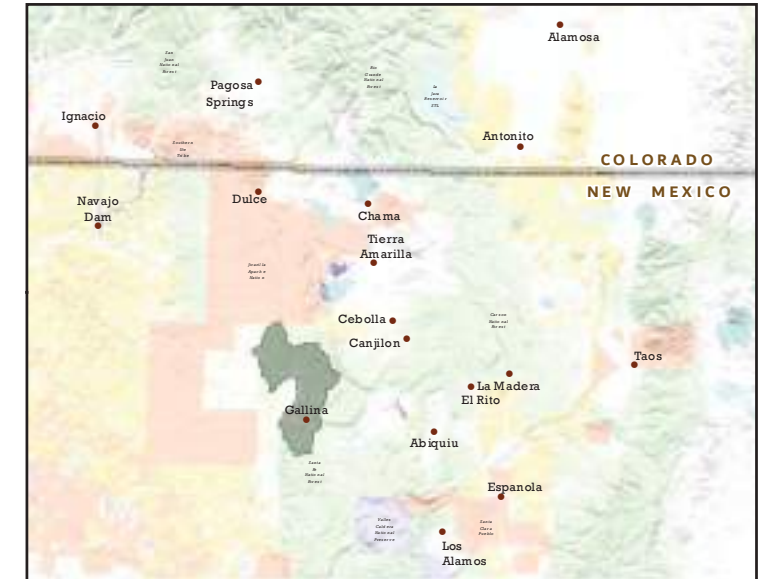
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Vegetation type

Gallina



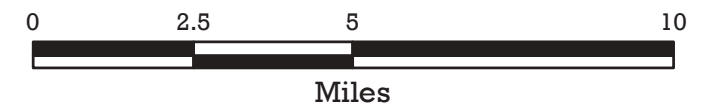
Focal Area boundary Parcel boundaries

Vegetation

- | | |
|-----------------------------|---|
| Agriculture | Piñon-Juniper Woodland or Savanna |
| Aspen Forest or Woodland | Ponderosa Pine Forest, Woodland, or Savanna |
| Barren or Sparse Vegetation | Recently Burned, Logged, or Otherwise Disturbed |
| Developed | Riparian Forest or Shrubland |
| Grassland | Sagebrush Shrubland |
| Mixed Conifer - Dry | Oak Shrubland |
| Mixed Conifer - Mesic | Spruce-Fir Forest |
| Open Water | Wetland |



1:190,000



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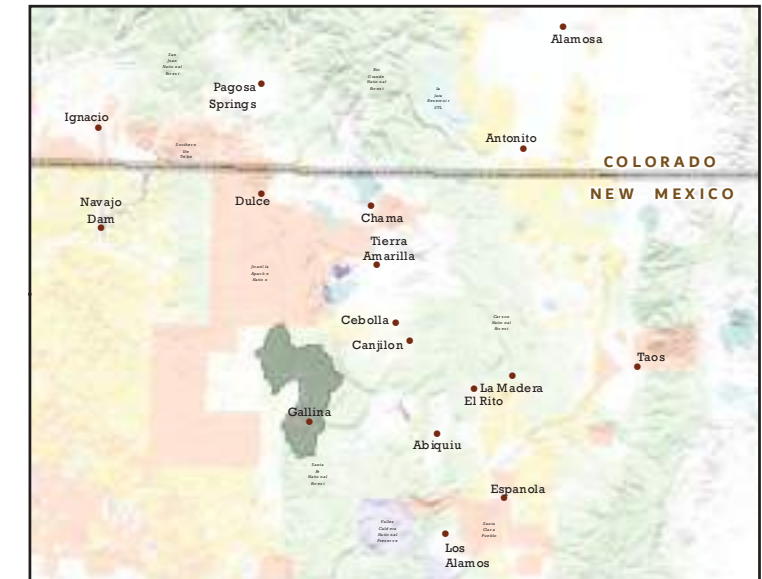
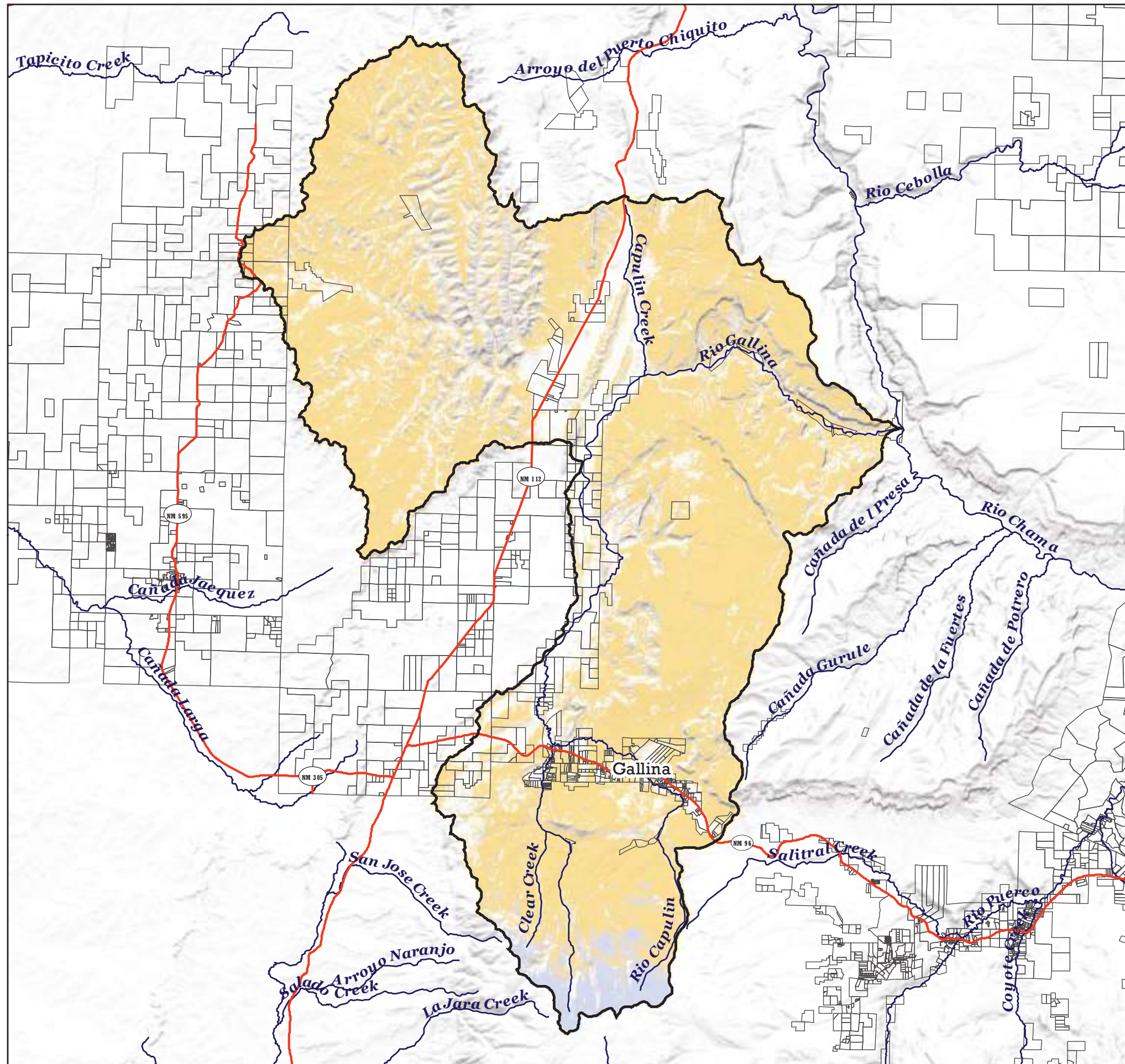
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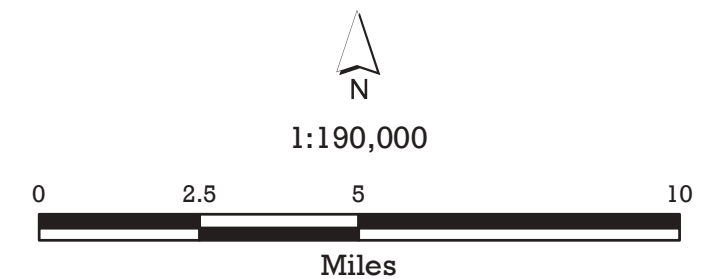
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Dry and mesic forest treatment opportunities on slopes under 40%

Gallina



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



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U.S. Geological Survey, 2017, 1 Arc-second Digital Elevation Models (DEMs) - USGS National Map 3DEP Downloadable Data Collection: U.S. Geological Survey.

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Middle Rio Chama Focal Area

Acres – 119,394

Background Information

- This focal area includes the Rio Chama between El Vado and Abiquiu Reservoirs. The Rio Chama Canyon is a wilderness area and is a section of designated Wild and Scenic River which is a popular destination for recreation including fishing, rafting and canoeing.
- Most of the land is managed by both Carson and Santa Fe National Forests with the Rio Chama acting as the boundary between the forests. BLM, Jicarilla Apache Nation Reservation, and State lands are all managed in the northern portion of the focal area, and private land is found throughout the FA.
- Much of this focal area is part of the Rio Chama Wild and Scenic River Area and/or the Chama River Wilderness Area.
- The Continental Divide National Scenic Trail traverses the middle of the focal area crossing the Rio Chama at Skull Bridge. The presence of this feature increases recreational use of the area as well requiring additional management considerations when conducting treatments.
- Christ in the Desert Monastery (est. 1964) is located near the center of this focal area along the Rio Chama.
- NIFC records identify eight fires greater than 50 acres have occurred that intersected this Focal Area since 2000. The median fire size for these fires is 710 acres. There have been a few managed fires in this area in recent years.

Source Water Users

- Recreational values of the Rio Chama are very important in this area.
- This focal area is within La Asociacion de las Acequias Norteñas del Rio Arriba region.
- Christ in the Desert Monastery manages an infiltration gallery for their water supply.

Water Quality

Rio Chama (El Vado Reservoir to Abiquiu Reservoir) 37.35 miles no known impairments.

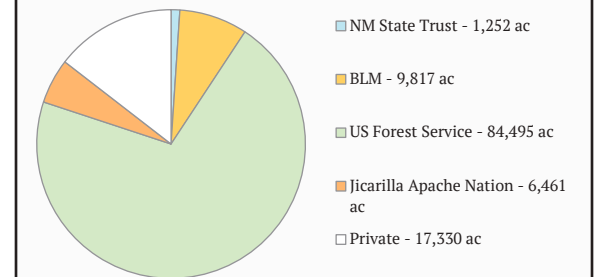
Threats and Opportunities

- Communities identified as having moderate to high risk of wildfire by the 2017 Rio Arriba CWPP within the focus area include: portions of Llaves, Ghost Ranch, and a small piece of Youngsville.
- Greater than 50% of this focal area is at moderate or greater risk of severe wildfire as well as postfire erosion. This erosion potential threatens sedimentation in Abiquiu Reservoir.
- NRCS funding has been utilized to treat some State Trust lands within this focal area.
- The presence of State Trust Lands can facilitate cross-boundary treatments within the focal area where NMED funds can be utilized on the State lands and leveraged for additional Federal private land treatments.

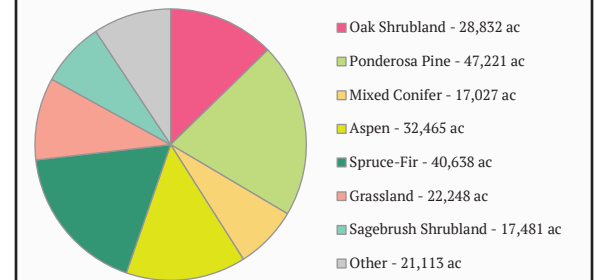
Known Watershed Plans and Projects

- Watershed protection treatments will also help advance goals listed as part of the 2-3-2 Cohesive Strategy Partnership, San Juan Chama Watershed Partnership, New Mexico Forest Action Plan, Rio Chama CFLRP, Rio Chama Regional Water Plan, Rio Grande Water Fund Cohesive Strategy, Rio Arriba County CWPP, Upper Chama Soil and Water Land Use Plan. Some larger ranches have Forest Management Plans.
- Rio Chama Flow Project is a research project to investigate restoring the natural hydrograph to this section of the Rio Chama to promote ecological function and improve conditions for the boaters.
- The Carson NF and Santa Fe NF are both participants with the Northern New Mexico Riparian, Aquatic and Wetland Restoration Project NEPA, whose purpose is to maintain or enhance watershed and range health by restoring riparian, wetland, and associated upland and aquatic habitats.
- The Southwest portion of this focal area overlaps with the SFNF -Rio Chama Planned Ignitions and Wildfire Management Project area whose primary objectives are to improve forested ecosystems and decrease the risk from catastrophic fires. Watershed protection is facilitated by upland forest health.
- The northwest portion of this focal area coincides with the SFNF - Golondirion Wildlife Management Prescribed Fire project. This project uses fire, prescribed and wildfire, along with some mechanical treatments to reduce the potential for crown fire, improve forest conditions, along with managing wildlife habitat for mule deer and Rocky Mountain elk. Watershed protection is facilitated by upland forest health. This project area includes BLM and State Trust lands. It also abuts the Jicarilla Apache Nation Reservation boundary.
- National Wildlife Federation has created an operational portfolio of priority riparian conservation opportunities in the Upper Rio Grande. This Focal Area contains some of these areas which NWF lists among the greatest opportunities for conservation and restoration to help build resilience into riparian ecosystems of the Upper Rio Grande. The NWF also has completed a “Who is doing what where?” assessment which is available on their website.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources management.

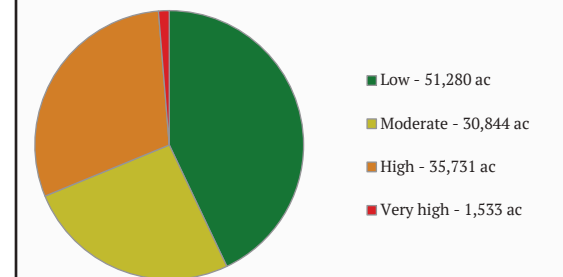
Land ownership



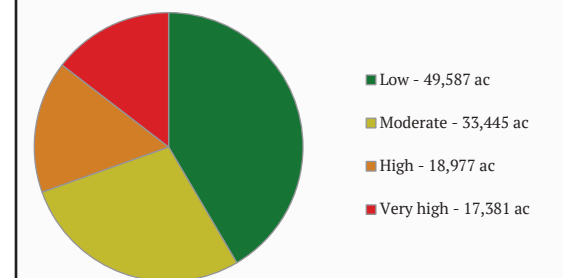
Major vegetation types



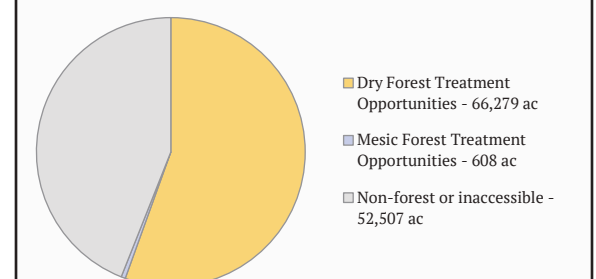
Threat of severe wildfire

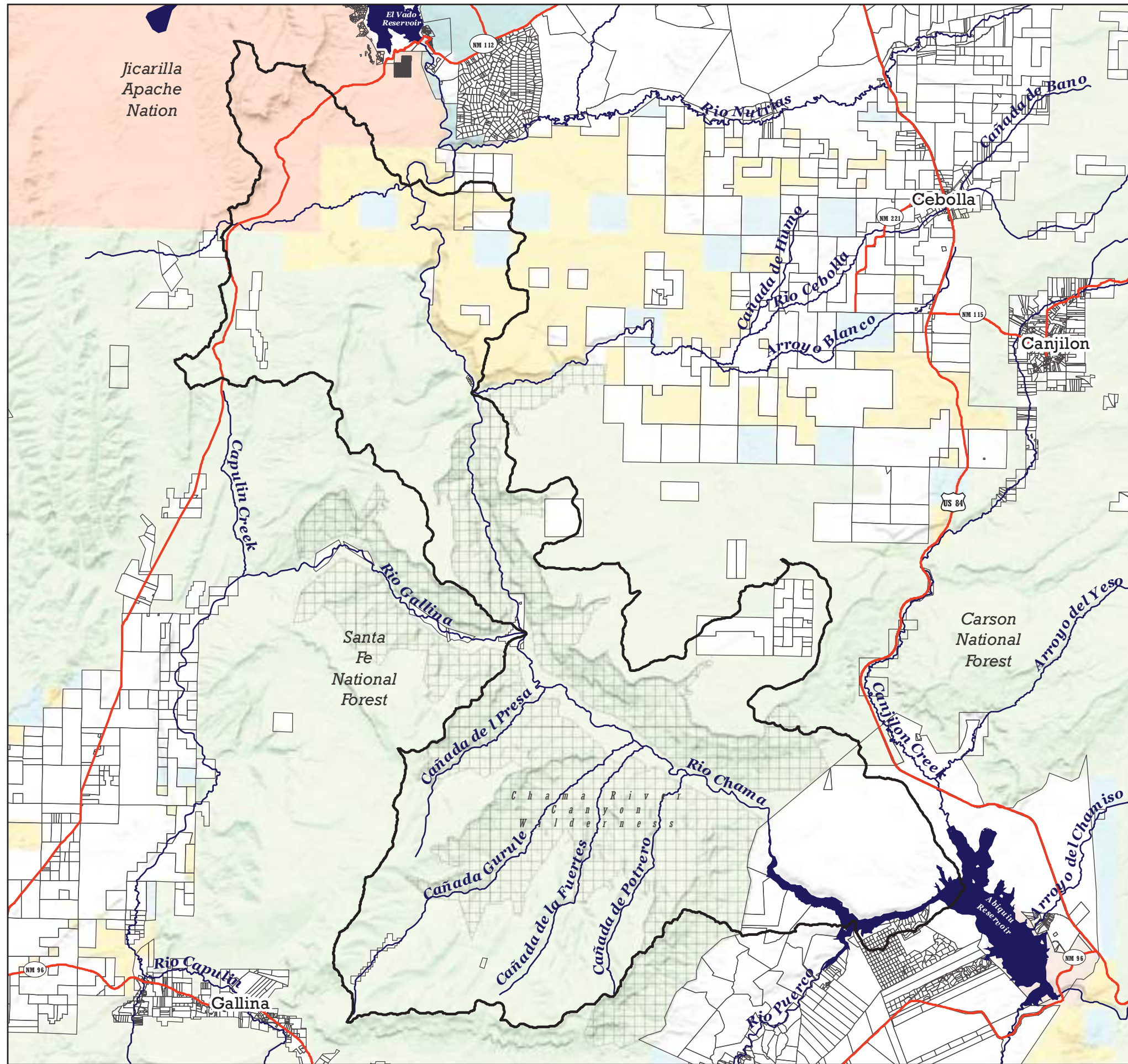


Threat of postfire erosion



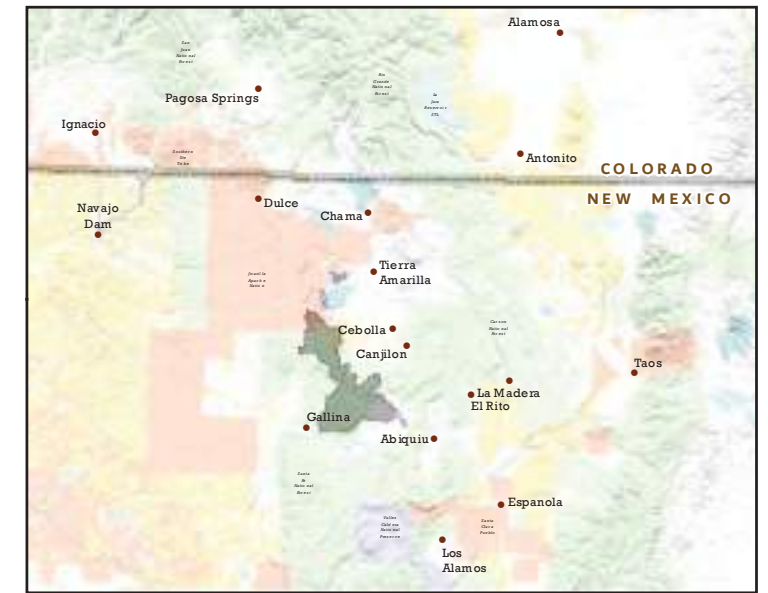
Forest treatment opportunities



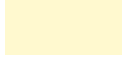

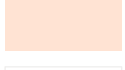

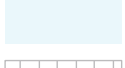
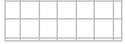


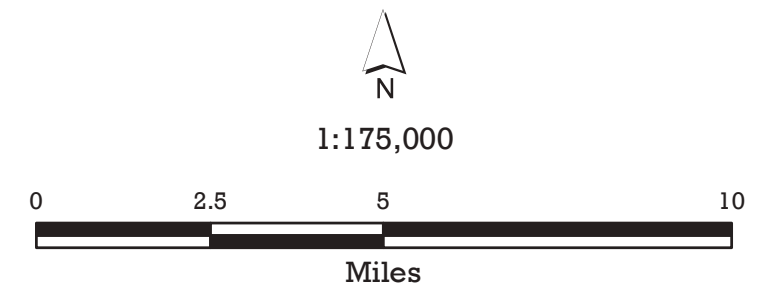


Land ownership

Middle Rio Chama



-  Focal Area boundary
-  Parcel boundaries
-  BLM
-  US Forest Service
-  Jicarilla-Apache Nation
-  Private
-  State Trust Land
-  Wilderness

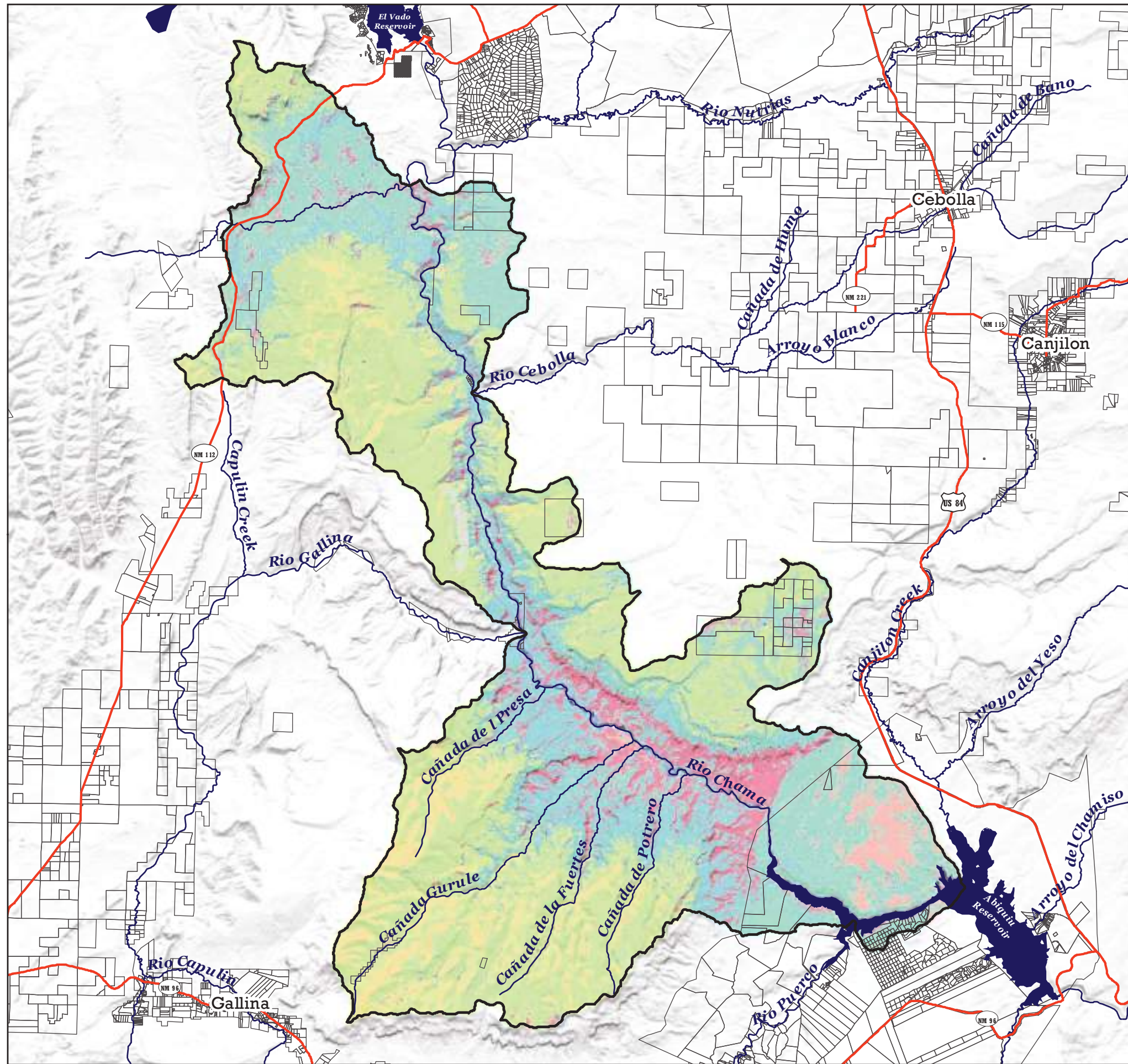


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U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

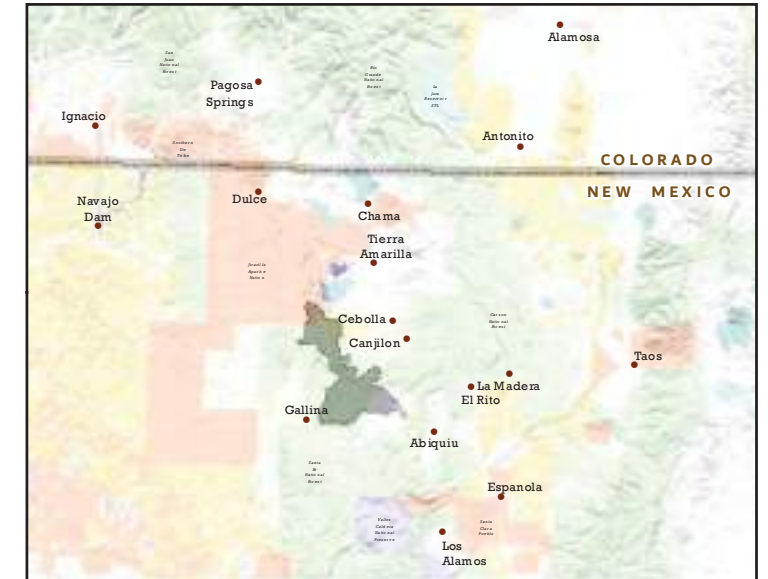
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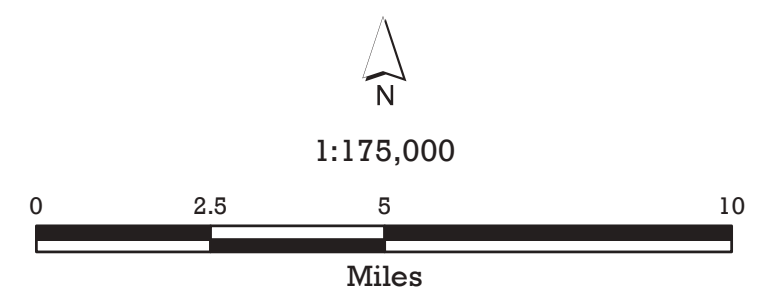


Vegetation type

Middle Rio Chama



- Focal Area boundary
 - Parcel boundaries
- | Vegetation | | | |
|------------|-----------------------------|--|---|
| | Agriculture | | Piñon-Juniper Woodland or Savanna |
| | Aspen Forest or Woodland | | Ponderosa Pine Forest, Woodland, or Savanna |
| | Barren or Sparse Vegetation | | Recently Burned, Logged, or Otherwise Disturbed |
| | Developed | | Riparian Forest or Shrubland |
| | Grassland | | Sagebrush Shrubland |
| | Mixed Conifer - Dry | | Oak Shrubland |
| | Mixed Conifer - Mesic | | Spruce-Fir Forest |
| | Open Water | | Wetland |



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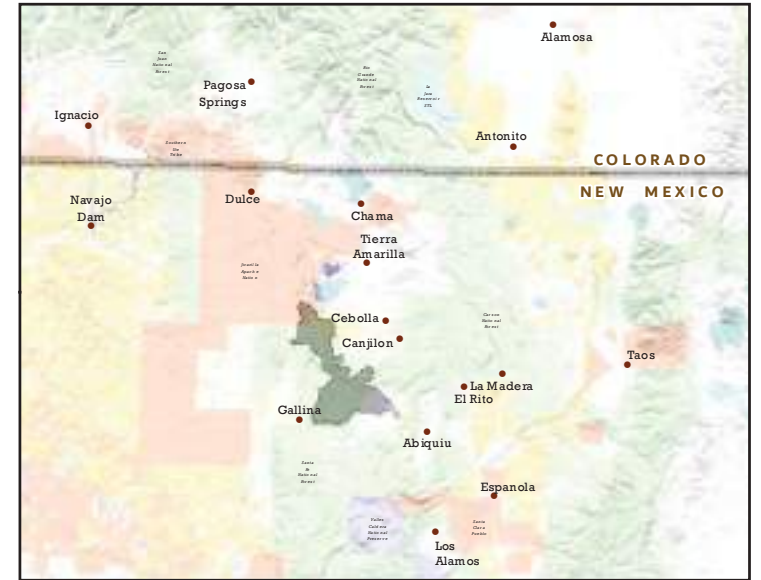
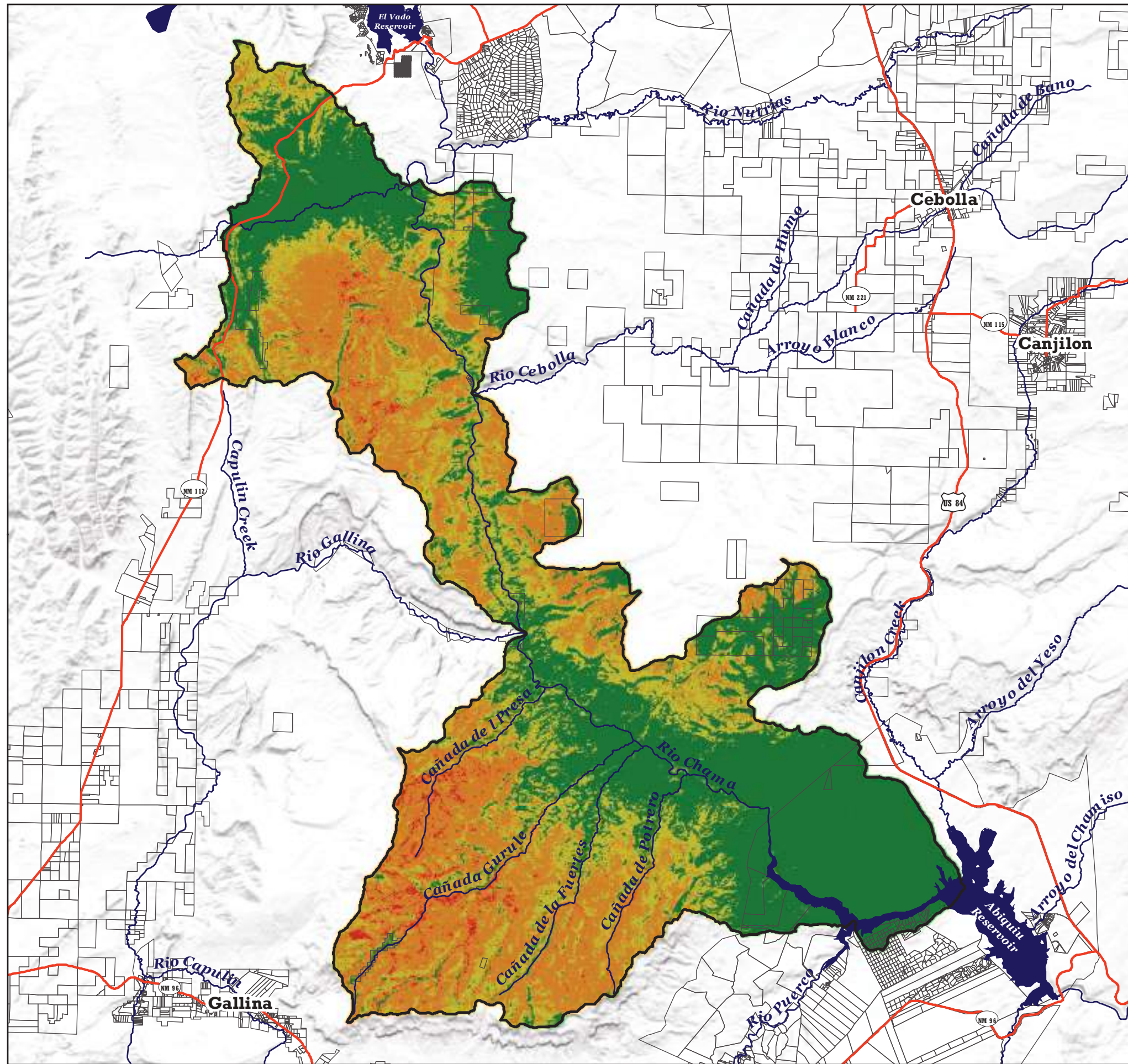
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Threat of severe wildfire

Middle Rio Chama



Focal Area boundary

Parcel boundaries

Threat of wildfire burn severity

Low

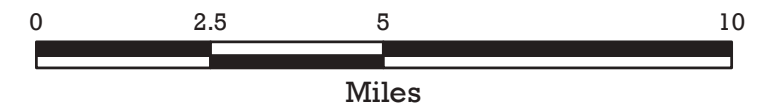
Moderate

High

Very high



1:175,000



Geographic Coordinate System: North American Datum of 1983
Projected Coordinate System: NAD83 UTM Zone 13 North

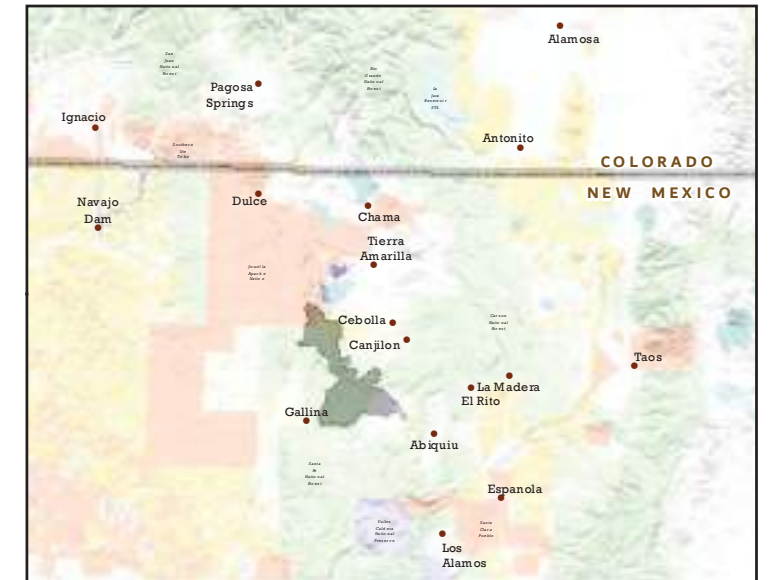
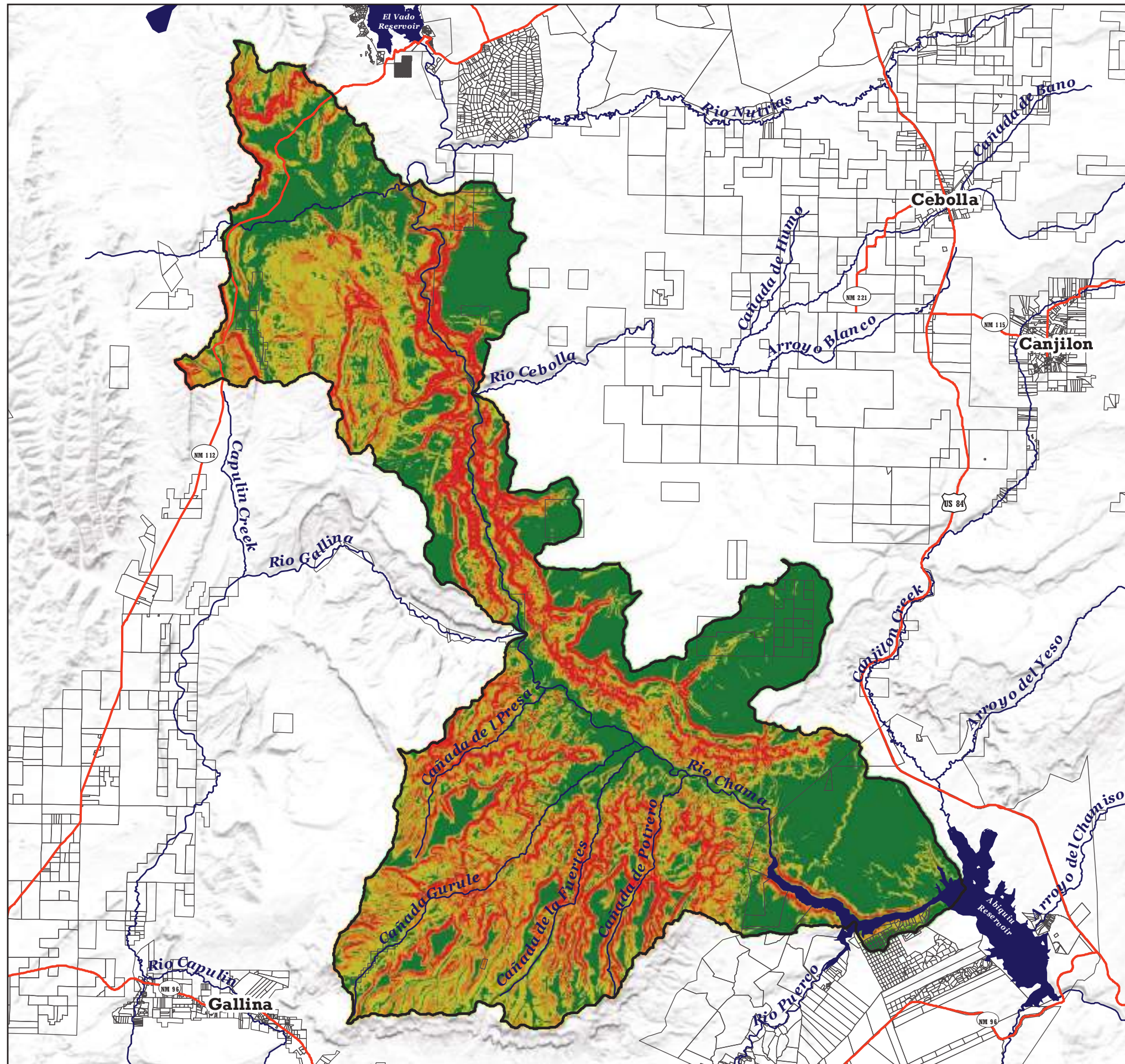
Threat of wildfire burn severity. Data published by New Mexico Forest Action Plan (NMFAP), 2020.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

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Threat of postfire erosion

Middle Rio Chama



Focal Area boundary

Parcel boundaries

Threat of postfire erosivity index

Low

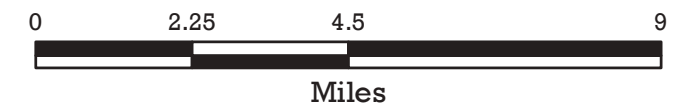
Moderate

High

Very high



1:175,000



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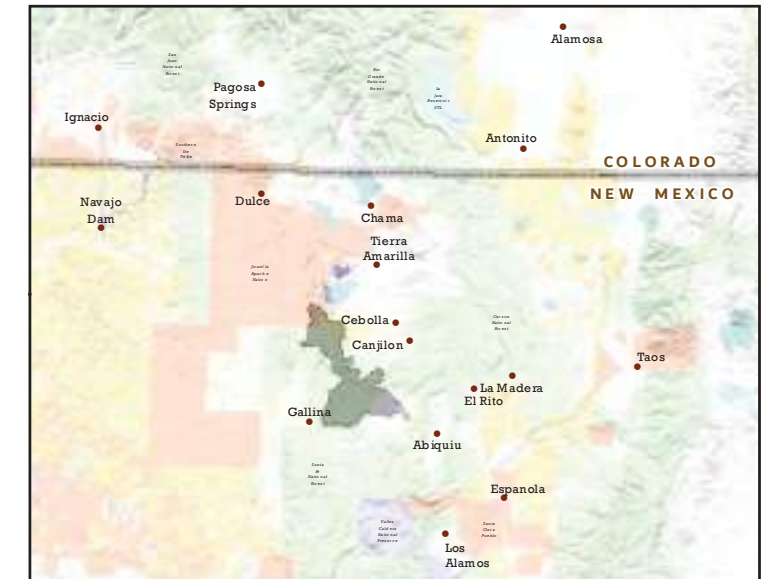
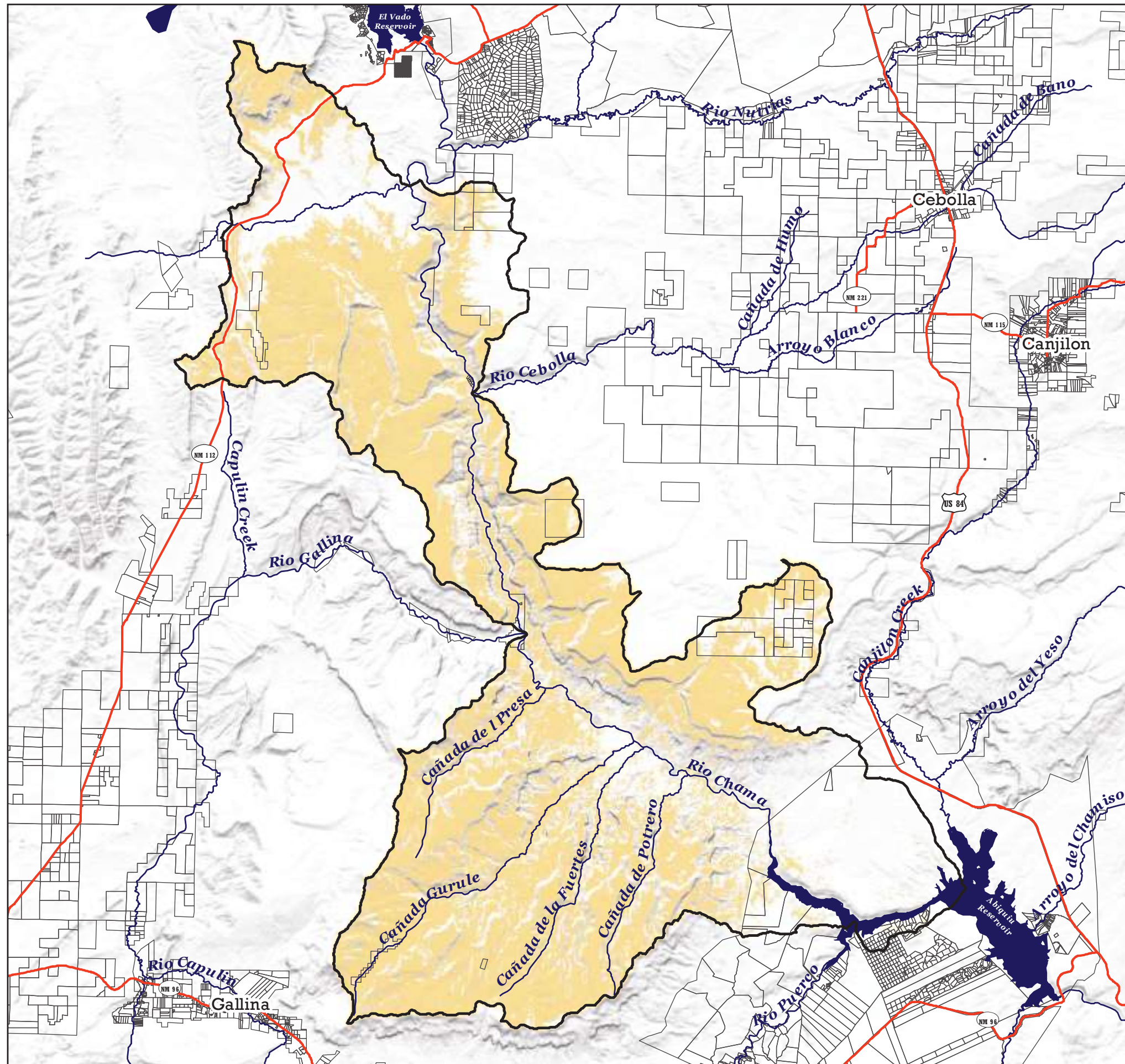
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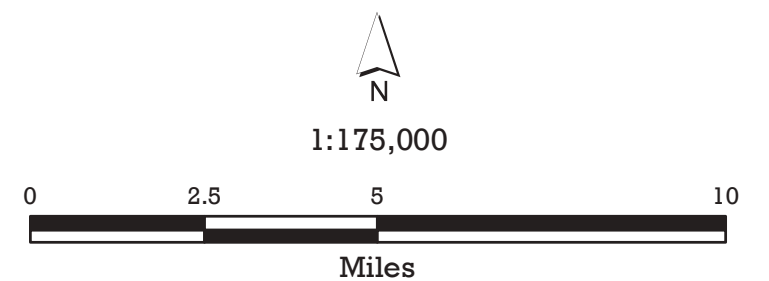
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Dry and mesic forest treatment opportunities on slopes under 40%

Middle Rio Chama



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

LANDFIRE Existing Vegetation Type layer. U.S. Department of Interior, Geological Survey, and U.S. Department of Agriculture, 2016. Reclassified by Tierra Buena GIS, 2022.

U.S. Geological Survey, 2017, 1 Arc-second Digital Elevation Models (DEMs) - USGS National Map 3DEP Downloadable Data Collection: U.S. Geological Survey.

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Puerco - Cañones Focal Area

Acres – 188,120

Background Information

- This focal area includes the Rio Puerco, including major tributaries of Salitral Creek, Coyote Creek, and Rito de las Sillas, as well as Canones Creek that drains directly into Abiquiu Reservoir.
- The Santa Fe National Forest has management responsibility for most of this focal area, with private ownership the next greatest portion. State Trust, BLM, and Department of Defense, (Corps of Engineers) also have jurisdiction within this focal area. Primary land uses on Santa Fe National Forest include grazing and recreation.
- NIFC records identify nine fires greater than 50 acres have occurred that intersected this Focal Area since 2000. The median size of these fires is 835 acres.

Source Water Users

- Active surface water irrigation and acequias in all river valleys. This focal area is within the Regional Gallina/Capulin Acequia Association.
- This focal area is southwest of the Abiquiu Reservoir and the watersheds drain directly into the reservoir which serves as flood control, sediment control, and water storage along the Rio Chama.
- The villages of Coyote, Cañones and Youngsville all have mutual domestics with water supplied by groundwater wells.

Water quality

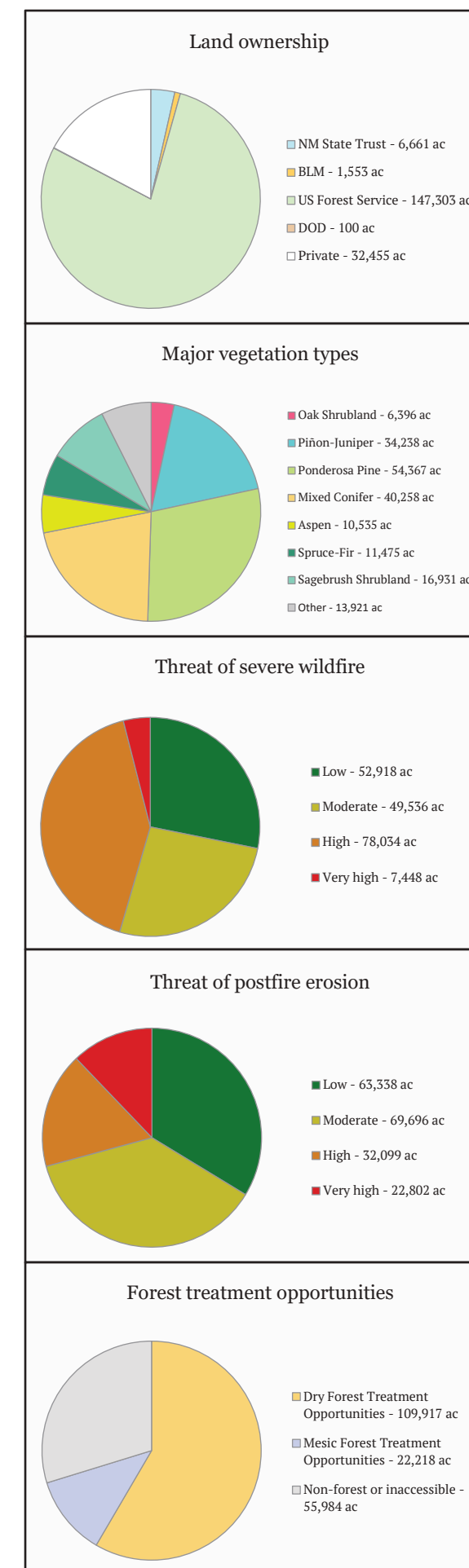
There have been some recent assessments of water quality within this focal area. Rio Puerco de Chama (Abiquiu Reservoir to HWY 96) 13.55 miles impaired by nutrients, temperature and e coli. Rio Puerco de Chama (HWY 96 to headwaters) 12.47 miles no known impairments. Coyote Creek (Rio Puerco de Chama to headwaters) 15.68 miles impaired by sedimentation/siltation. Poleo Creek (Rio Puerco de Chama to headwaters) 8.01 miles impaired by sedimentation/siltation. Rito Encino (Rio Puerco de Chama to headwaters) 10.30 miles impaired by sedimentation/siltation and e coli. Polvadera Creek (Cañones Creek to headwaters) 14.27 miles no known impairments. Cañones Creek (Abiquiu Rsvr to Chihuahueños Ck) 8.35 miles impaired by temperature and e coli. Cañones Creek (Chihuahueños Creek to headwaters) 11.54 miles no known impairments. Chihuahueños Creek (Cañones Creek to headwaters) 9.53 miles impaired by temperature and sedimentation/siltation.

Threats and Opportunities

- Communities identified by the 2017 Rio Arriba CWPP and identified as moderate or high risk from wildfire, within the focus area include: Gallina, Mesa de Poleo, Youngsville, and Cañones.
- A large portion of this focal area is at moderate or greater risk of severe wildfire as well as postfire erosion. This erosion potential threatens the water conveyance in the acequias, as well as sedimentation in Abiquiu Reservoir.
- Due in part to the high prioritization of the watershed, specifically the Cañones Creek HU which is ranked #20 out of 500 most vulnerable watersheds in the NM-FAP, it is the focus of several vegetation management projects. As an example, the Cordovas thinning and prescribed fire project was implemented, which was unique because it used State funds for treatment on Federal lands.
- The presence of State Trust Lands can facilitate cross-boundary treatments within the focal area where NMED funds can be utilized on the State lands and leveraged for additional Federal private land treatments.

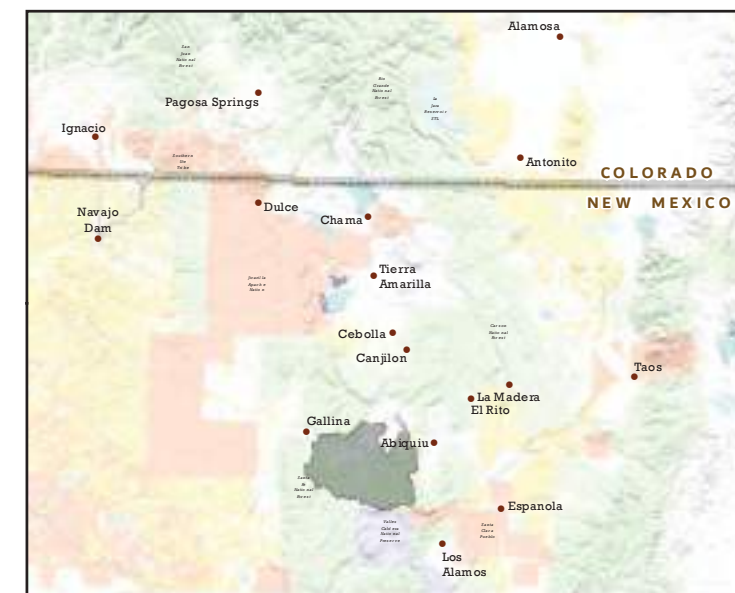
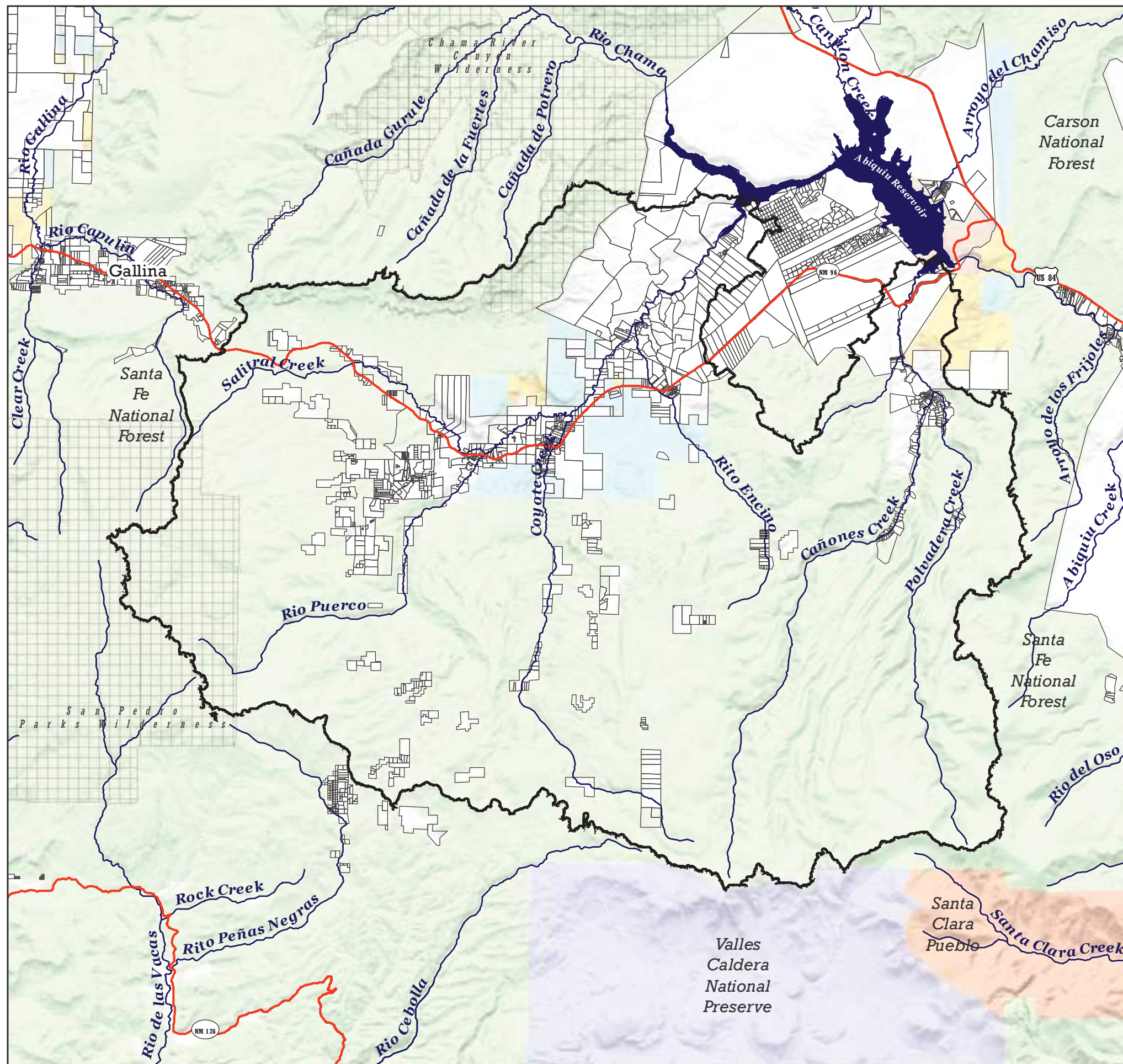
Known Watershed Plans and Projects



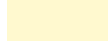

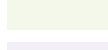




- Watershed protection treatments will also help advance goals listed as part of the 2-3-2 Cohesive Strategy Partnership, San Juan Chama Watershed Partnership, New Mexico Forest Action Plan, Rio Chama CFLRP, Rio Chama Regional Water Plan, Rio Grande Water Fund Cohesive Strategy, Rio Arriba County CWPP, Upper Chama Soil and Water Land Use Plan. Some larger ranches have Forest Management Plans.
- The Polvadera Creek water quality improvement project, a partnership between NMED, SFNF and the Polvadera Grazing Association included closing the stream corridor to all-terrain vehicles, riparian restoration, grazing management, beaver reintroduction and riparian fencing. This project was highly successful and resulted in a delisting for water quality impairments.
- The SFNF Encino Vista Landscape Restoration Project overlaps most of this focal area and has the purpose to restore overall forest health, lower fire risk, improve watershed health, and enhance wildlife habitat across the landscape. Several smaller and older projects are encompassed within the Encino Vista LRP.
- The northern portion of this focal area also overlaps with the Rio Chama Planned Ignitions and Wildfire Management Project area whose primary objectives are to improve forested ecosystems and decrease the risk from catastrophic fires. Watershed protection is facilitated by upland forest health.
- The Santa Fe NF are both participants with the Northern New Mexico Riparian, Aquatic and Wetland Restoration Project NEPA, whose purpose is to maintain or enhance watershed and range health by restoring riparian, wetland, and associated upland and aquatic habitats.
- National Wildlife Federation has created an operational portfolio of priority riparian conservation opportunities in the Upper Rio Grande. This Focal Area contains some of these areas which NWF lists among the greatest opportunities for conservation and restoration to help build resilience into riparian ecosystems of the Upper Rio Grande. The NWF also has completed a “Who is doing what where?” assessment which is available on their website.
- The Chihuahueros Creek Headwaters Restoration Project on the Santa Fe NF will begin implementation with Trout Unlimited with treatments anticipated between 2023-2026. This is a multi-phase treatment that will promote the long-term sustainability of the Rio Grande Cutthroat Trout (RGCT) by improving watershed health and instream habitat. This project will help improve the function of the creek’s headwaters to the benefit of multiple Forest uses, downstream river conditions, and the long-term resilience of the creek’s RGCT.
- The New Mexico Shared Stewardship Portal provides a shared space for stakeholders to track planned, current, and completed projects that involve natural resources management.

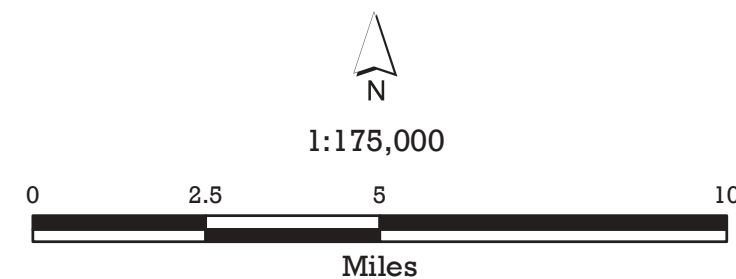


Land ownership

Puerco-Cañones



-  Focal Area boundary
-  Parcel boundaries
-  BLM
-  DOD
-  US Forest Service
-  National Park Service
-  Private
-  State Trust Land
-  Wilderness



Geographic Coordinate System: North American Datum of 1983
 Projected Coordinate System: NAD83 UTM Zone 13 North

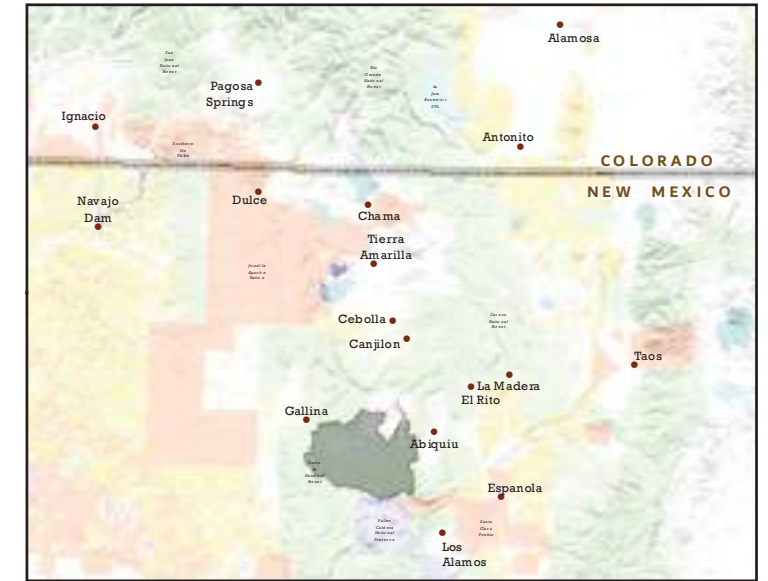
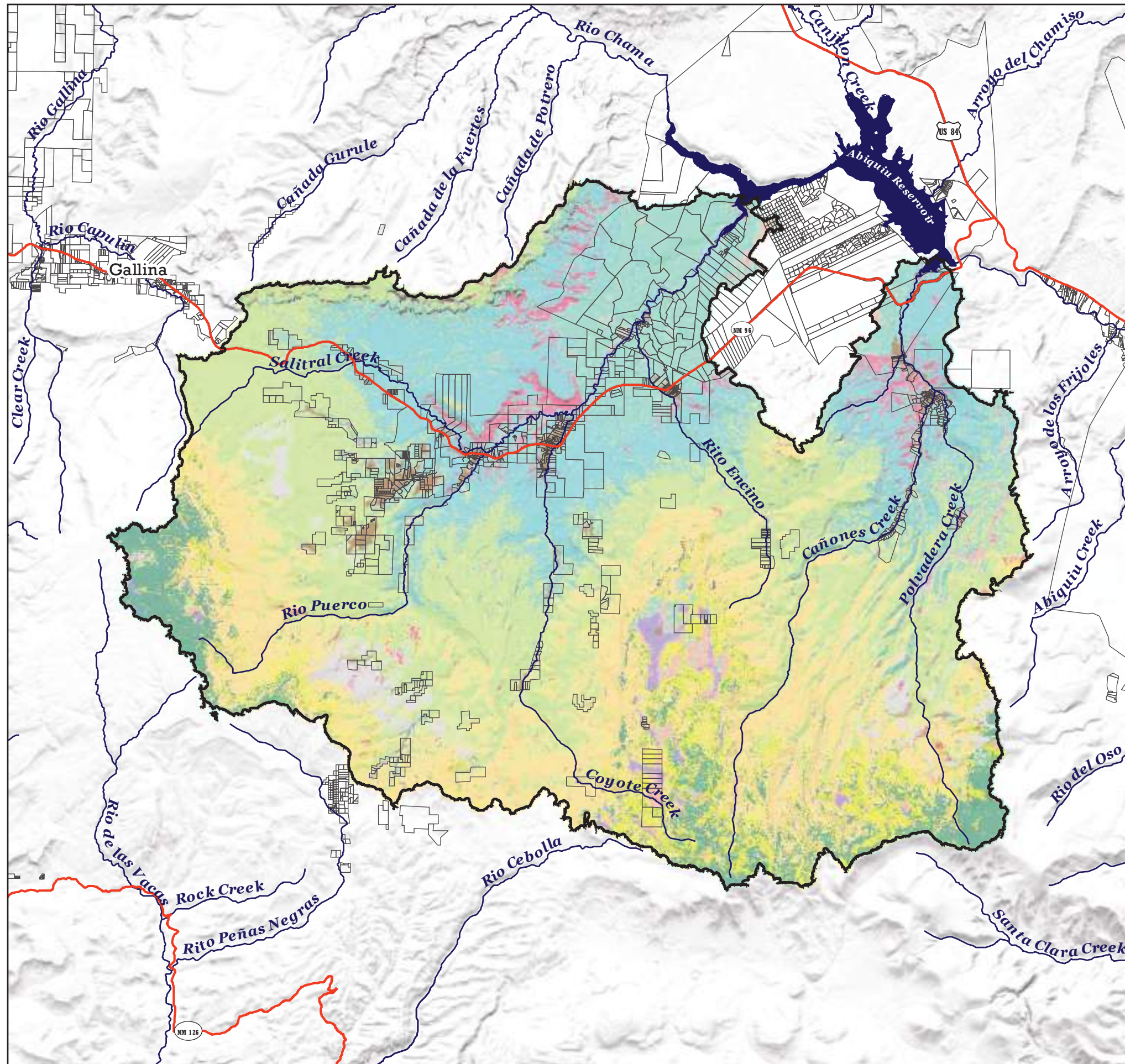
U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data Refreshed March, 2021.

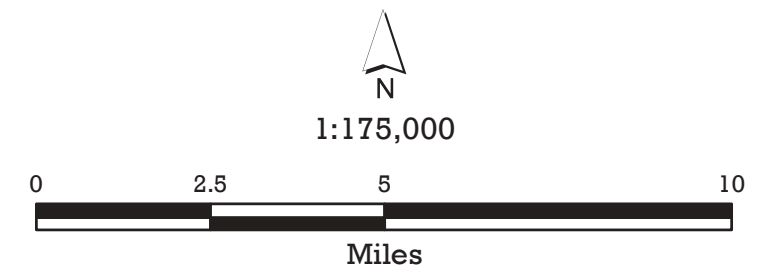
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Vegetation type

Puerco-Cañones



- Legend**
- Focal Area boundary
 - Parcel boundaries
- Vegetation**
- Agriculture
 - Aspen Forest or Woodland
 - Barren or Sparse Vegetation
 - Desert Scrub
 - Developed
 - Grassland
 - Mixed Conifer - Dry
 - Mixed Conifer - Mesic
 - Open Water
 - Piñon-Juniper Woodland or Savanna
 - Ponderosa Pine Forest, Woodland, or Savanna
 - Recently Burned, Logged, or Otherwise Disturbed
 - Riparian Forest or Shrubland
 - Sagebrush Shrubland
 - Oak Shrubland
 - Spruce-Fir Forest
 - Wetland



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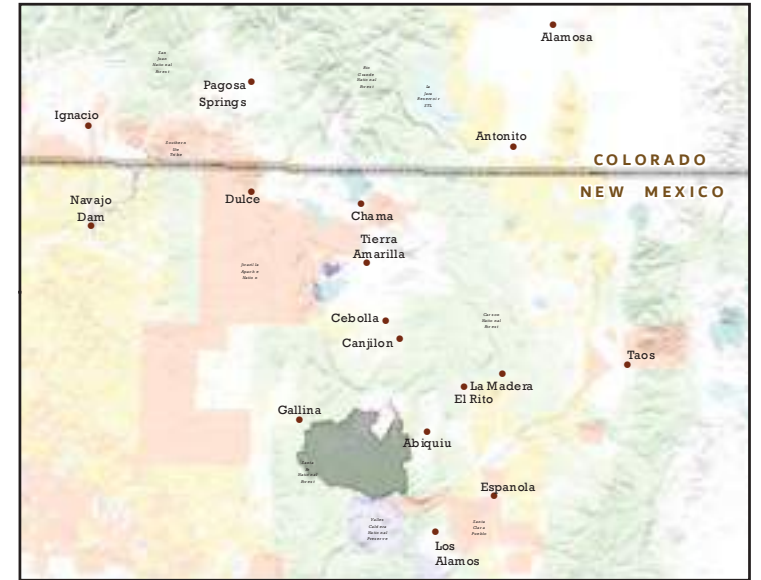
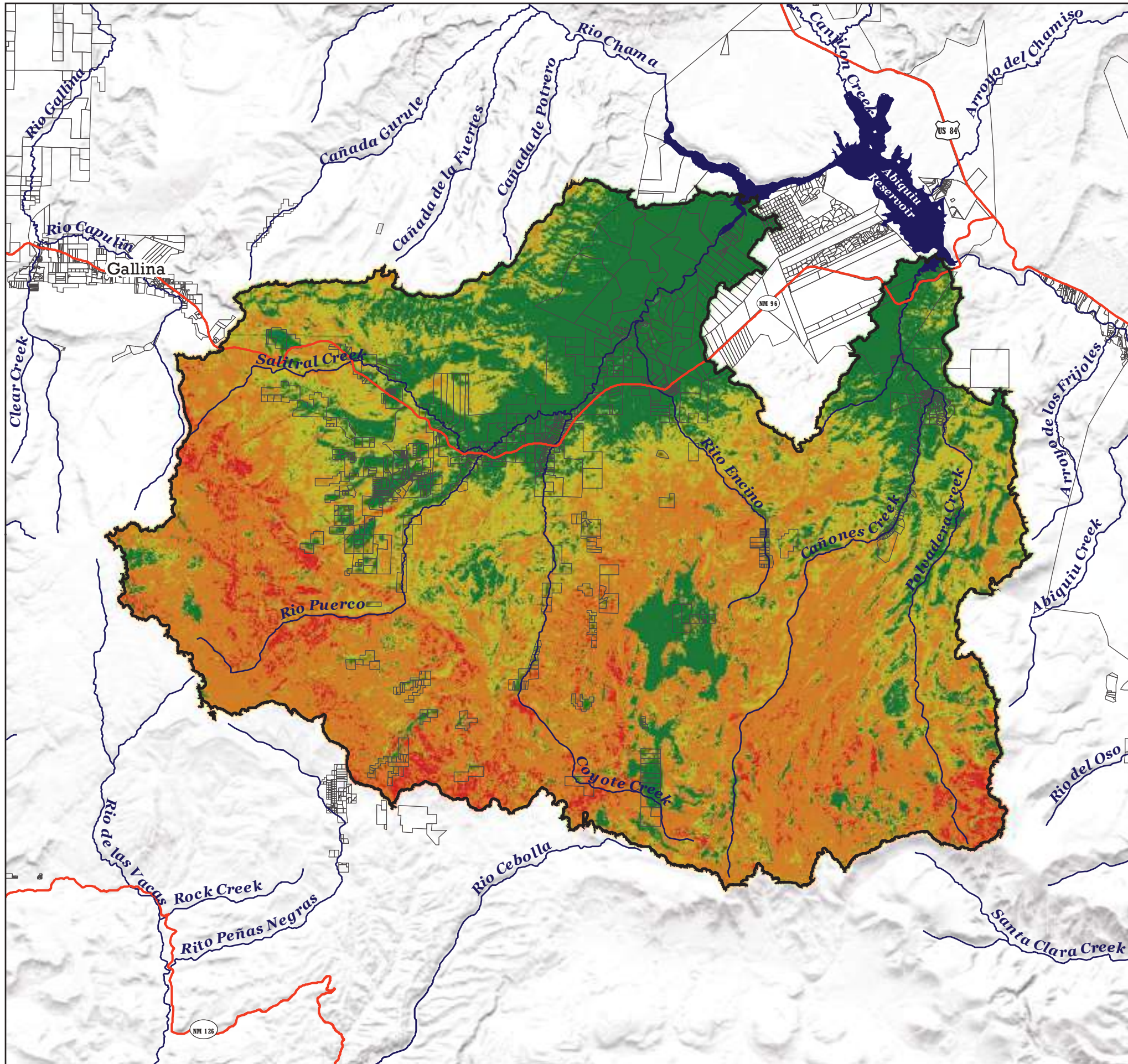
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Threat of severe wildfire

Puerco-Cañones



-  Focal Area boundary
-  Parcel boundaries
- Threat of wildfire burn severity**
-  Low
-  Moderate
-  High
-  Very high



1:175,000



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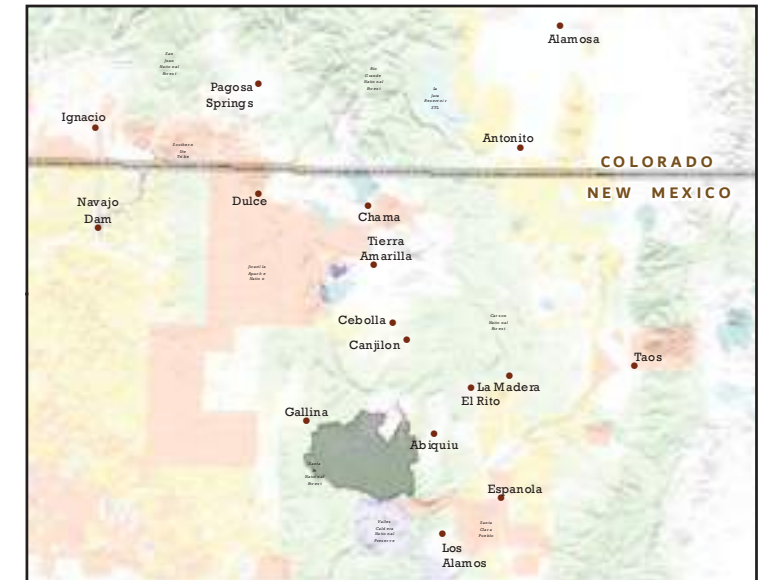
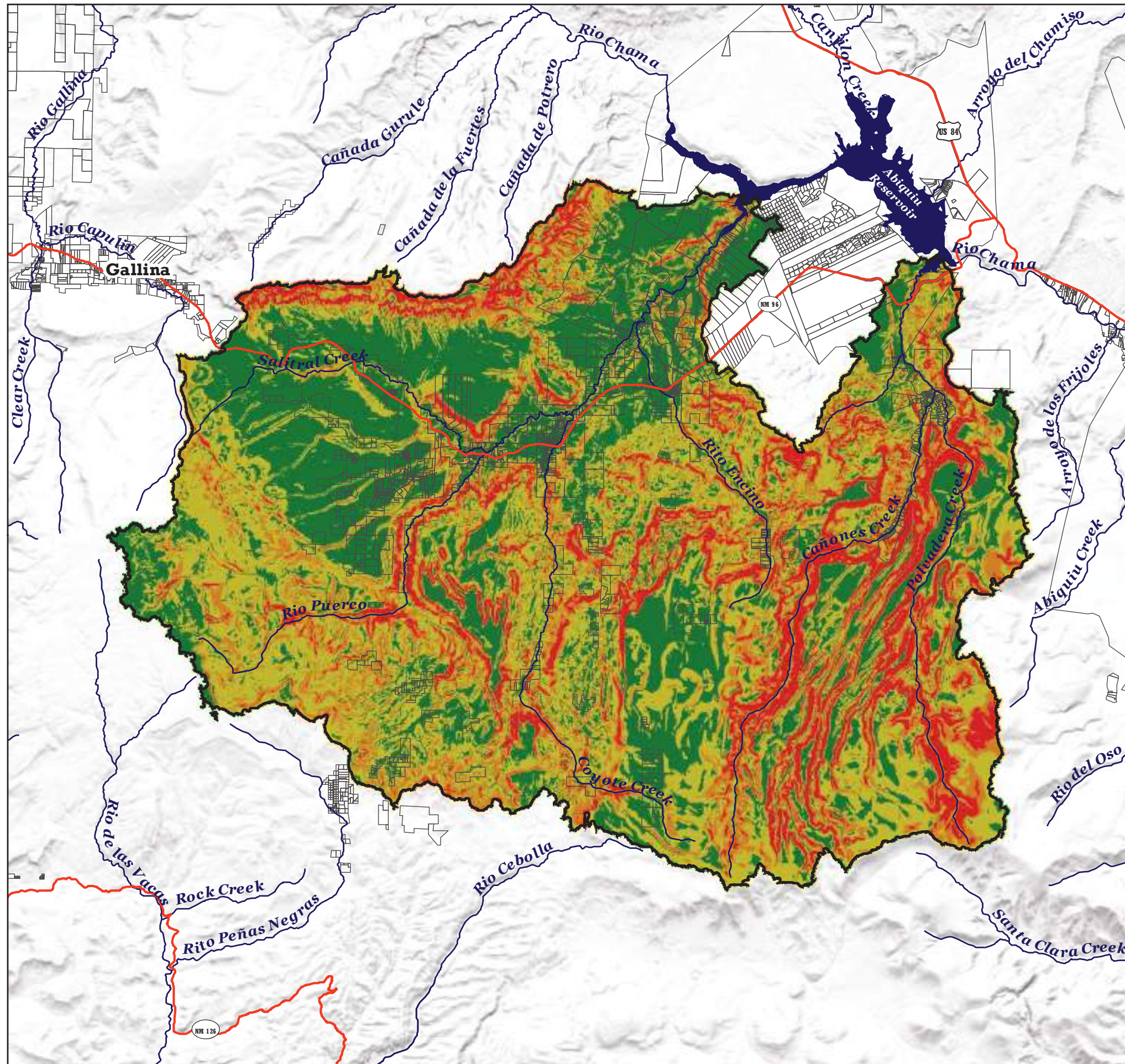
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Threat of postfire erosion

Puerco-Cañones



Focal Area boundary

Parcel boundaries

Threat of postfire erosivity index

Low

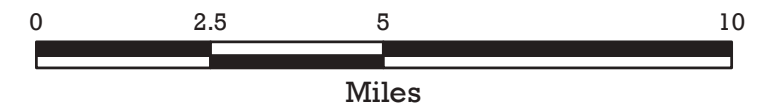
Moderate

High

Very high



1:175,000



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Chama - Tierra Amarilla & Vicinity Wildland Urban Interface Focal Area

Acres – 33,613

Background information

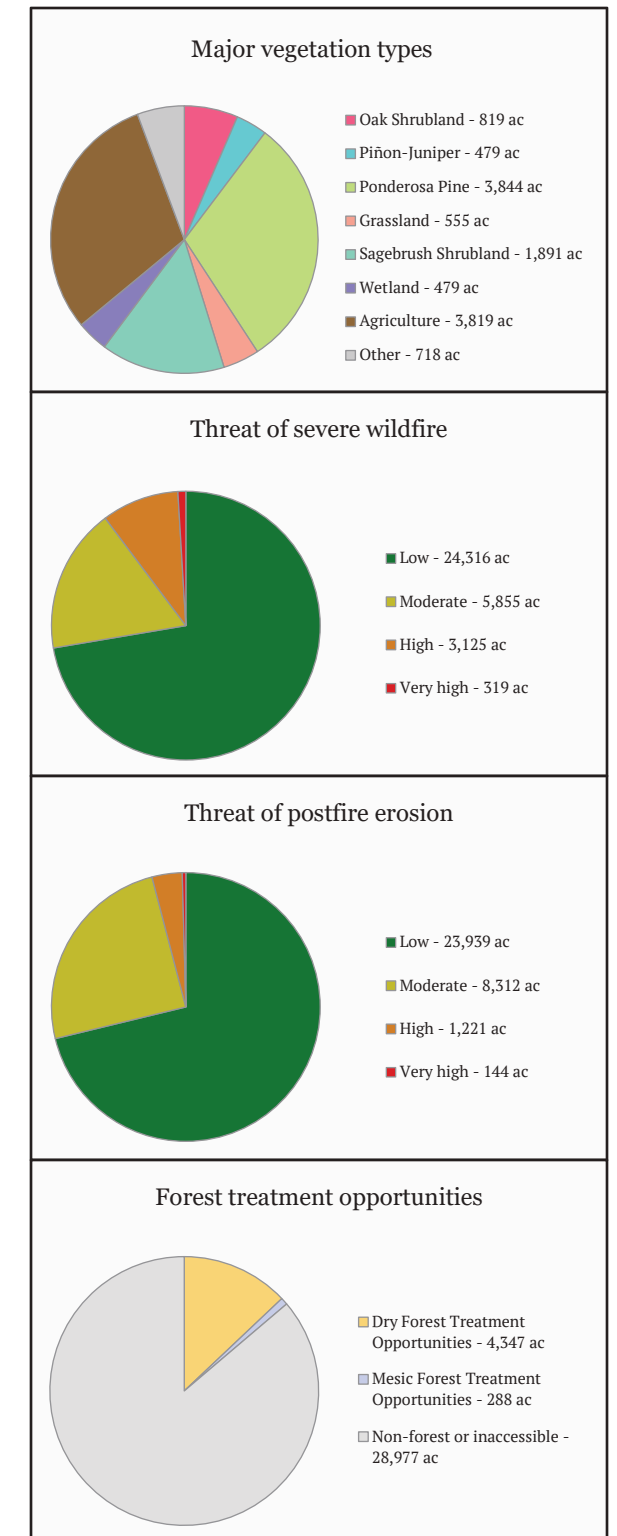
- This Focal Area is a separate layer to address concerns where there is a density of human dwellings. This Focal Area includes parts of the Upper Chama and Brazos and Tierra Amarilla Focal Areas.
- The Wildland Urban Interface, often abbreviated WUI, was adopted several decades ago to describe areas where homes and other structures are built in ecosystems prone to fire. The term is considered outdated by some, because it implies an edge between wildlands and urban areas. In today's changing climates, urban areas in fire ecosystems are at risk to fires throughout their large communities. Since there are no large urban areas within this focal area atlas, the WUI term continues to be appropriate.
- Most of the land other than infrastructure such as highway, roads, and powerline ROWs are private lands.

Threats and Opportunities

- The community of Brazos Canyon is a high wildfire risk community and is subject to one way in one way out transportation corridor. Fire professionals expect that a severe fire in this vicinity would funnel up the canyon and create a chimney effect that could be an extreme threat to public safety. The potential evacuation of this canyon is limited to utilizing State Highway 512. Alternate roads are impractical due to road conditions causing excessive travel times, heavy fuels along the roads, and locked gates. Using fire behavior models for various fire conditions, the fire almost always moved faster than estimated emergency travel on any alternate routes. However, if State Highway 512 is compromised, there are few locations for residents to shelter in place (possibly gravel pits, more open fields near Chavez Canyon).
- Although the geography of being adjacent to a large canyon greatly increases fire risk that cannot be mitigated, homeowners can mitigate the risk posed by fuels by practicing defensible space and hazardous fuels reduction. Several state-sponsored and county-sponsored projects have been offered to homeowners to help reduce the density of trees on their property. These funding projects often require engagement by homeowners to support organizations such as the Upper Chama Soil and Water Conservation District in grant-writing and/or project management.
- Powerlines posed one of the highest risks of ignition in WUI settings. Partnering with NORA is an excellent strategy for reducing the threat of powerline ignited fires.
- More and more wildfires are occurring in pinyon-juniper woodlands, and as forests and woodlands dry, the potential for wildfire increases in many area communities.

Known Plans and Projects

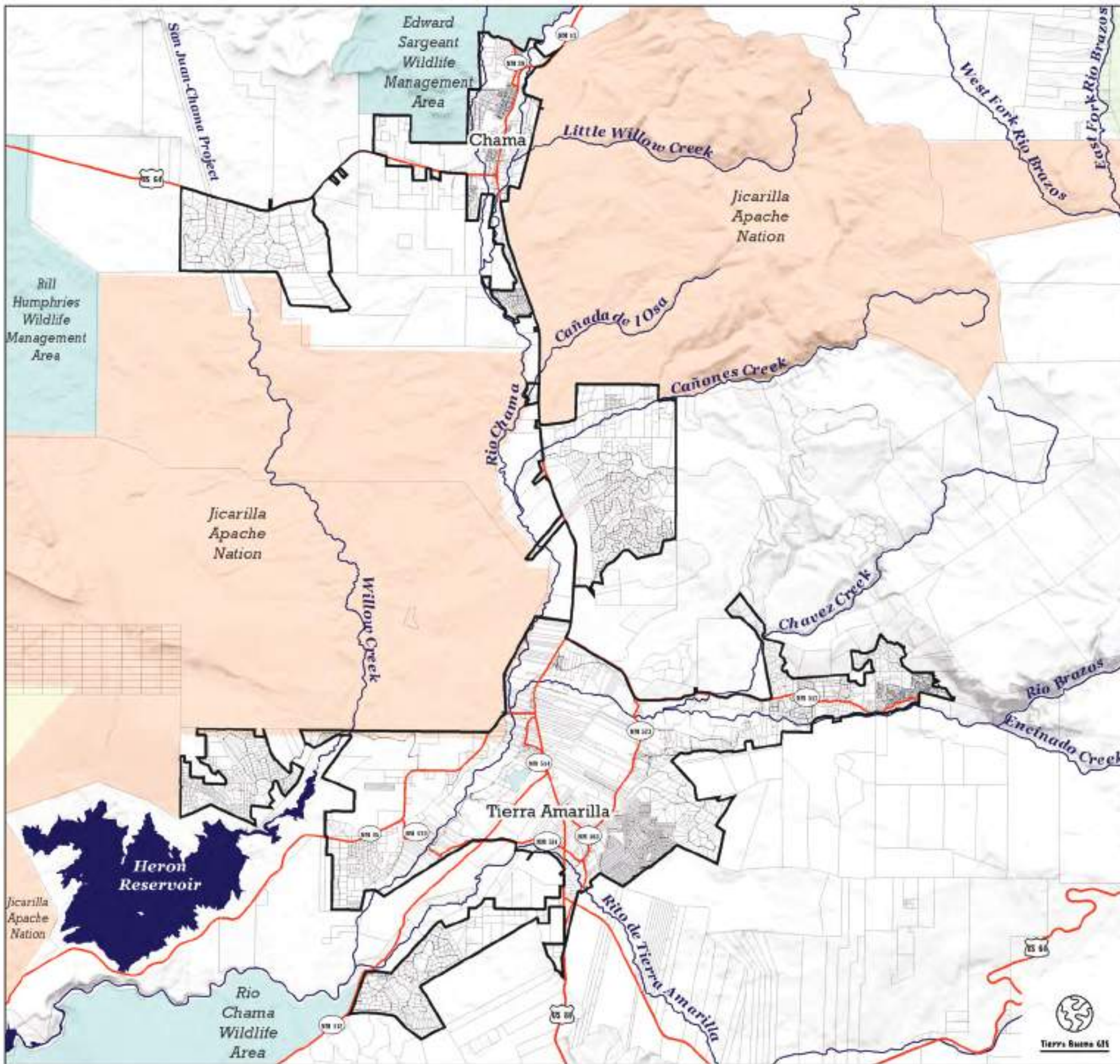
- One of the most important documents to guide mitigation efforts in the WUI is the Community Wildfire Protection Plan. At this point the only applicable CWPP in the area is the Rio Arriba County CWPP, last updated in 2017. CWPPs should be updated every 5 years, however most grant programs requiring a current CWPP will accept a plan if it was approved within the last 10 years.
- County wide CWPPs are often complemented by more localized plans. In the mid-2000s a community CWPP was developed for the Brazos Canyon area, however this plan is no longer current. This Focal Area was identified with an eye toward establishing a local community CWPP for this area should interest and funding arise.
- Several projects have provided funding to help landowners remove hazardous fuels, mostly in the Brazos areas. Project funds generally come from grants applied for by local government bodies such as the county or soil and water conservation district. One of important roles for local fire departments or fire-wise boards is supporting these governments in applying for grant funding.
- Brazos Canyon Fire Department has successfully attained the status of a Fire Wise Community. This status requires annual activity and reporting. Some insurance companies provide discounts for homes within a Fire Wise Community. Contact the Chama District, New Mexico Forestry Division for information on becoming a Fire Wise Community.
- There have been evacuation plans for the Brazos Canyon in the past, but no such plan exists now. Evacuation would be managed by the Rio Arriba Sheriff and State Police.



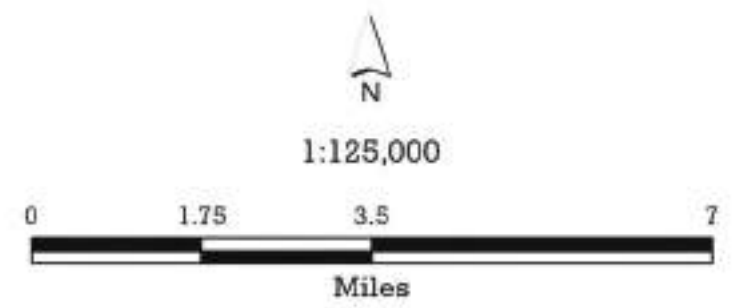
Land ownership

Chama-TA & Vicinity

Wildland Urban Interface



-  Focal Area boundary
-  Parcel boundaries
-  Jicarilla-Apache Nation
-  Private
-  State Game & Fish

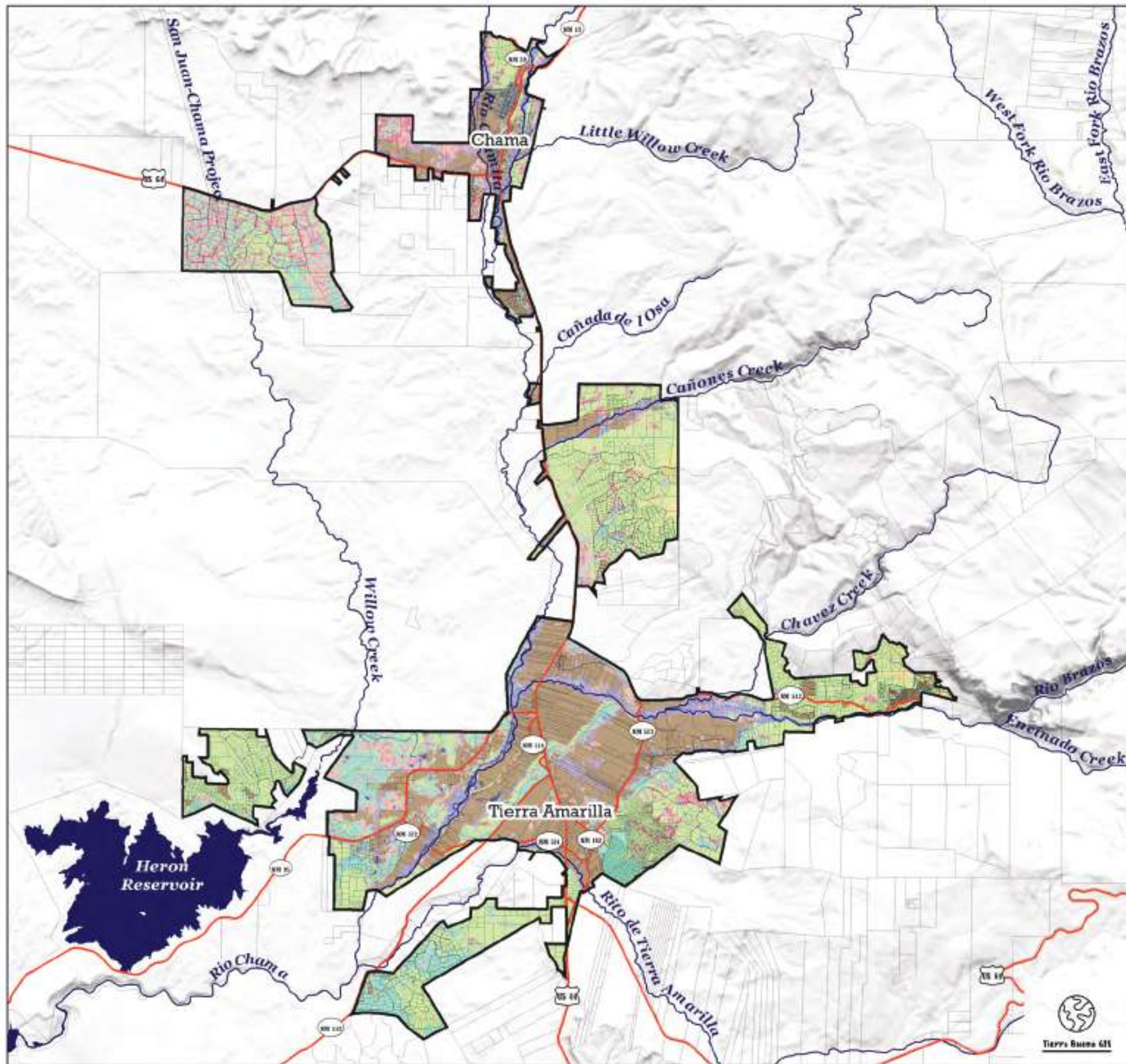


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U.S. Department of Interior, Bureau of Land Management (BLM). BLM New Mexico Surface Ownership, 2022.

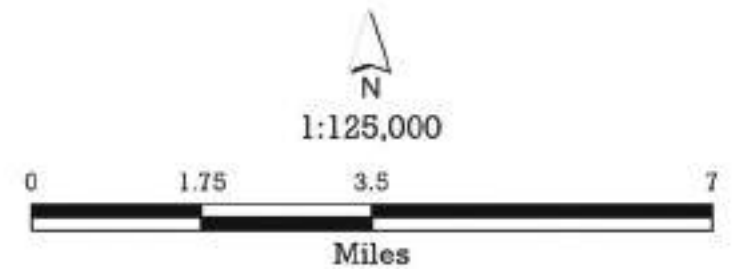
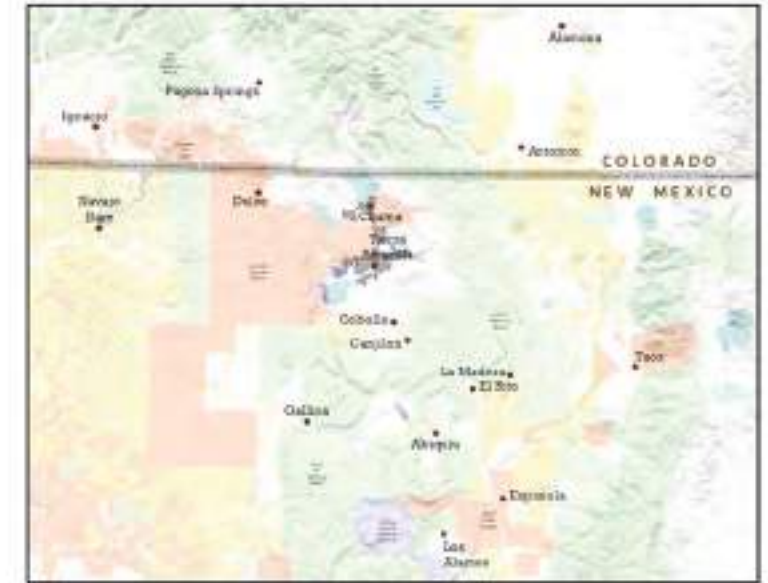
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Vegetation type

Chama-TA & Vicinity Wildland Urban Interface

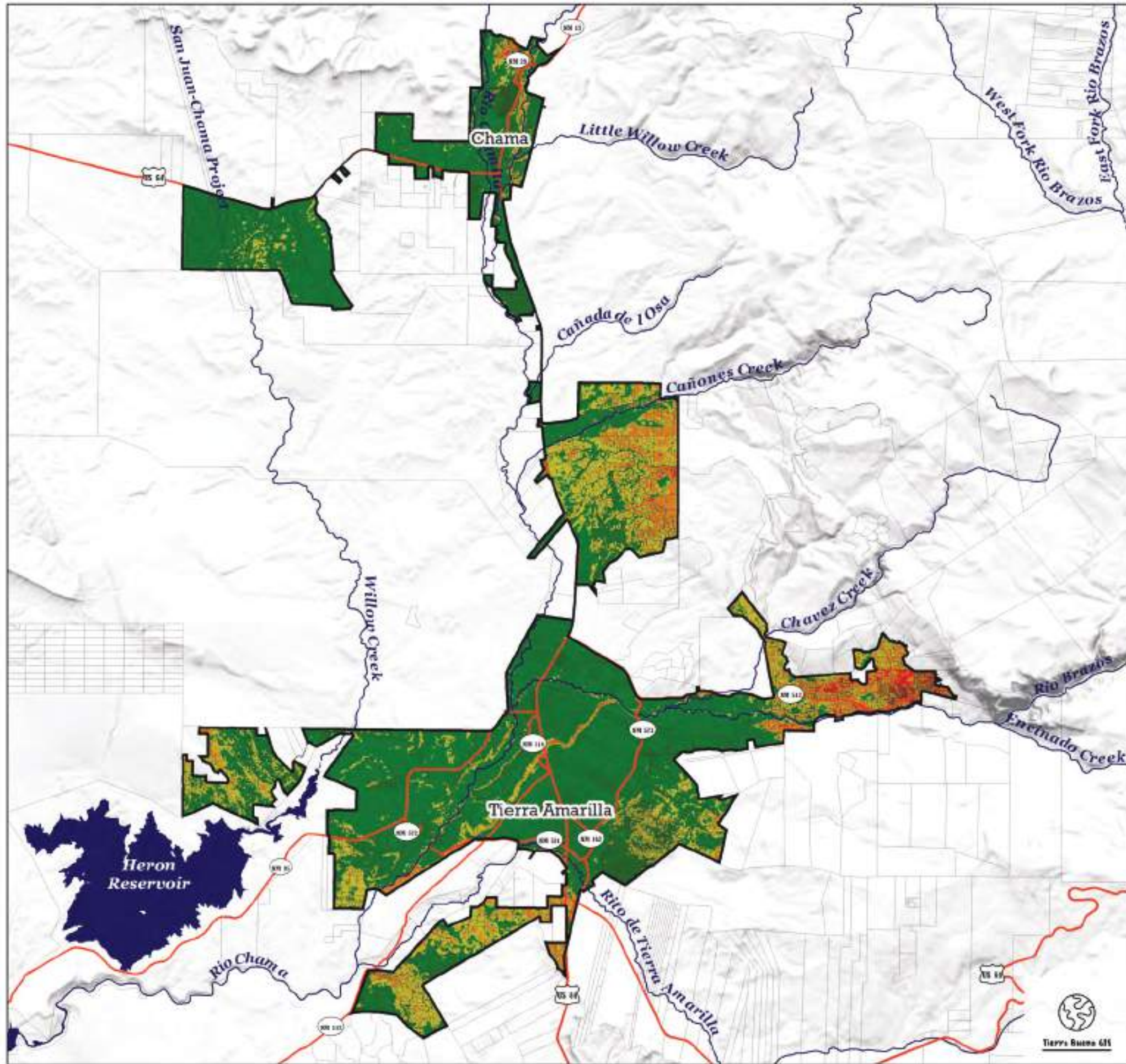


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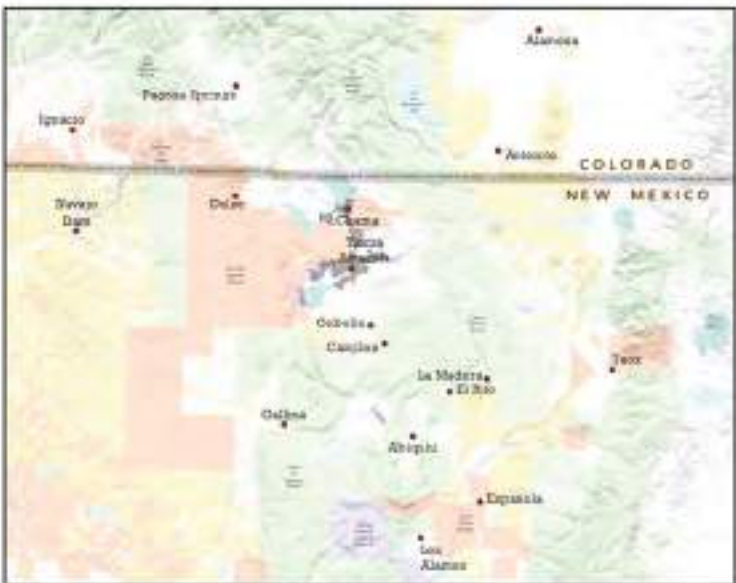
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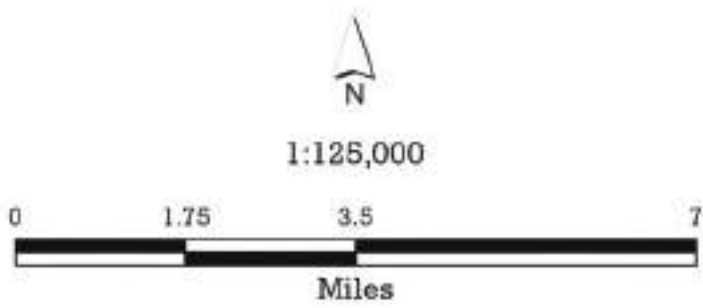


Threat of severe wildfire

Chama-TA & Vicinity Wildland Urban Interface



-  Focal Area boundary
-  Parcel boundaries
- Threat of wildfire burn severity**
-  Low
-  Moderate
-  High
-  Very high



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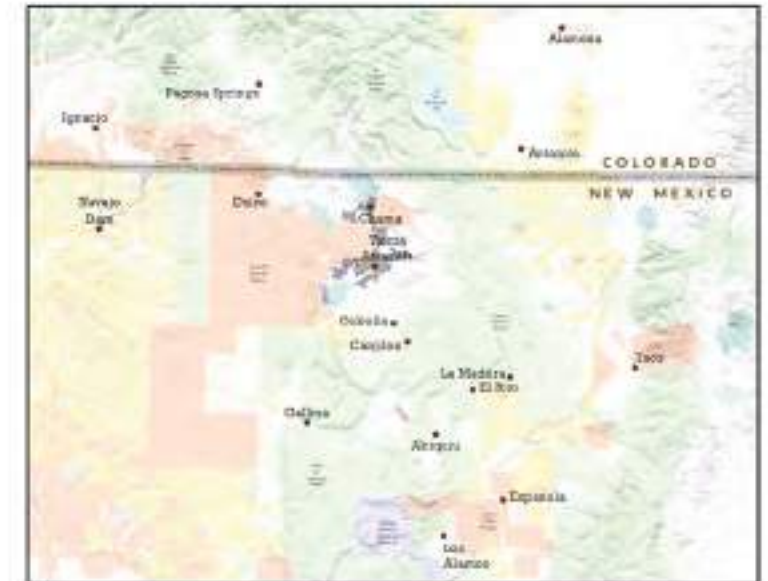
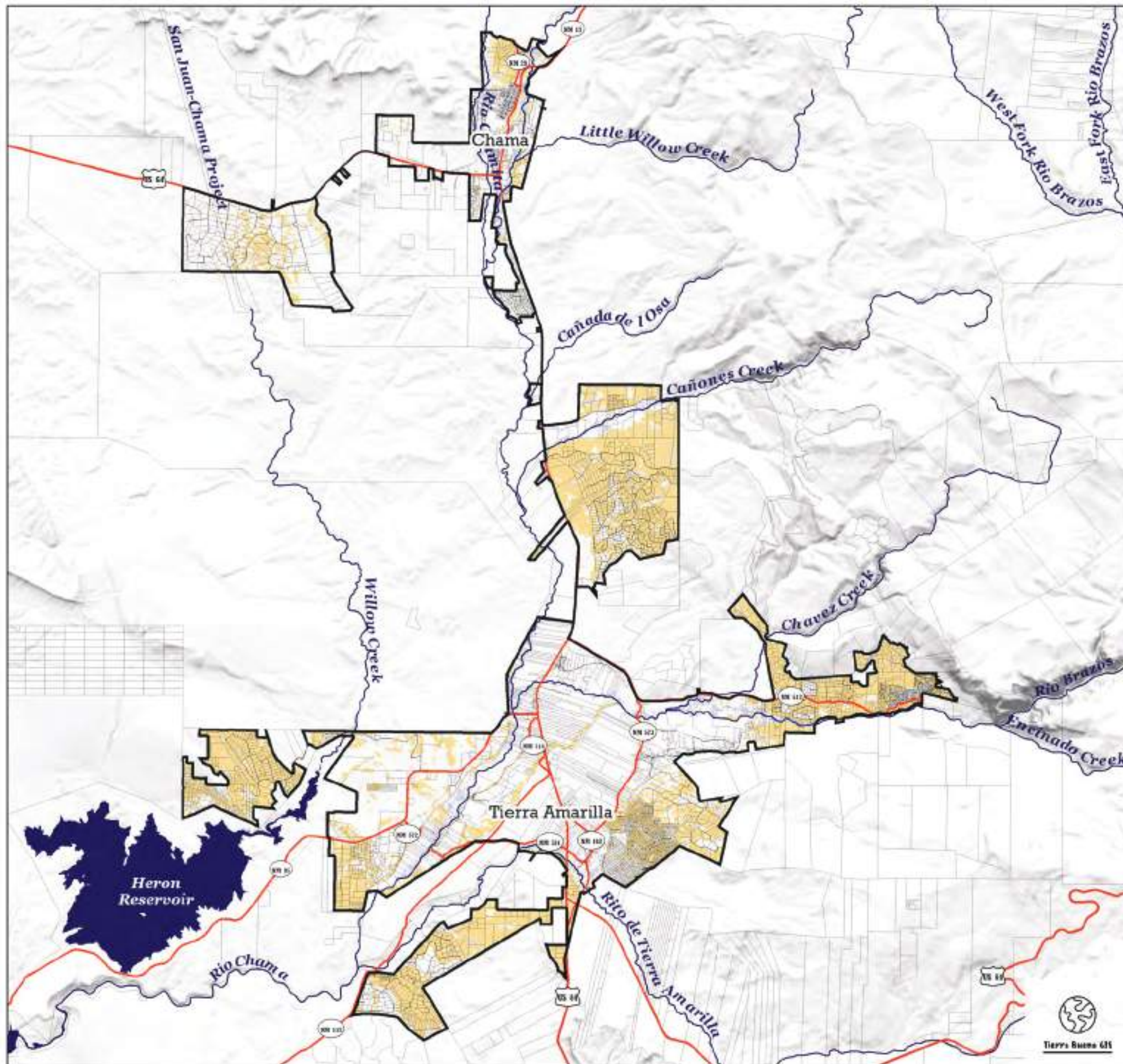
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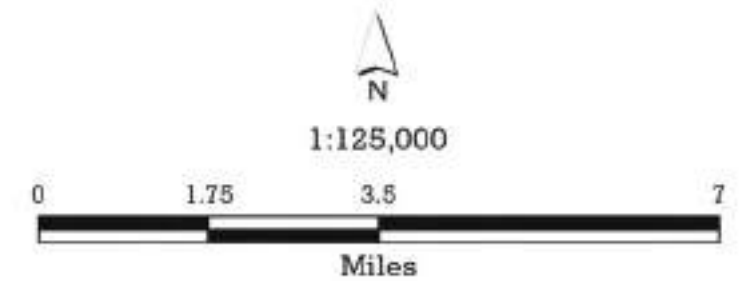


Dry and mesic forest treatment opportunities on slopes under 40%

Chama-TA & Vicinity Wildland Urban Interface



-  Focal Area boundary
-  Parcel boundaries
-  Dry forest treatment opportunities
-  Mesic forest treatment opportunities



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Photo credit: In Light of Nature Photography