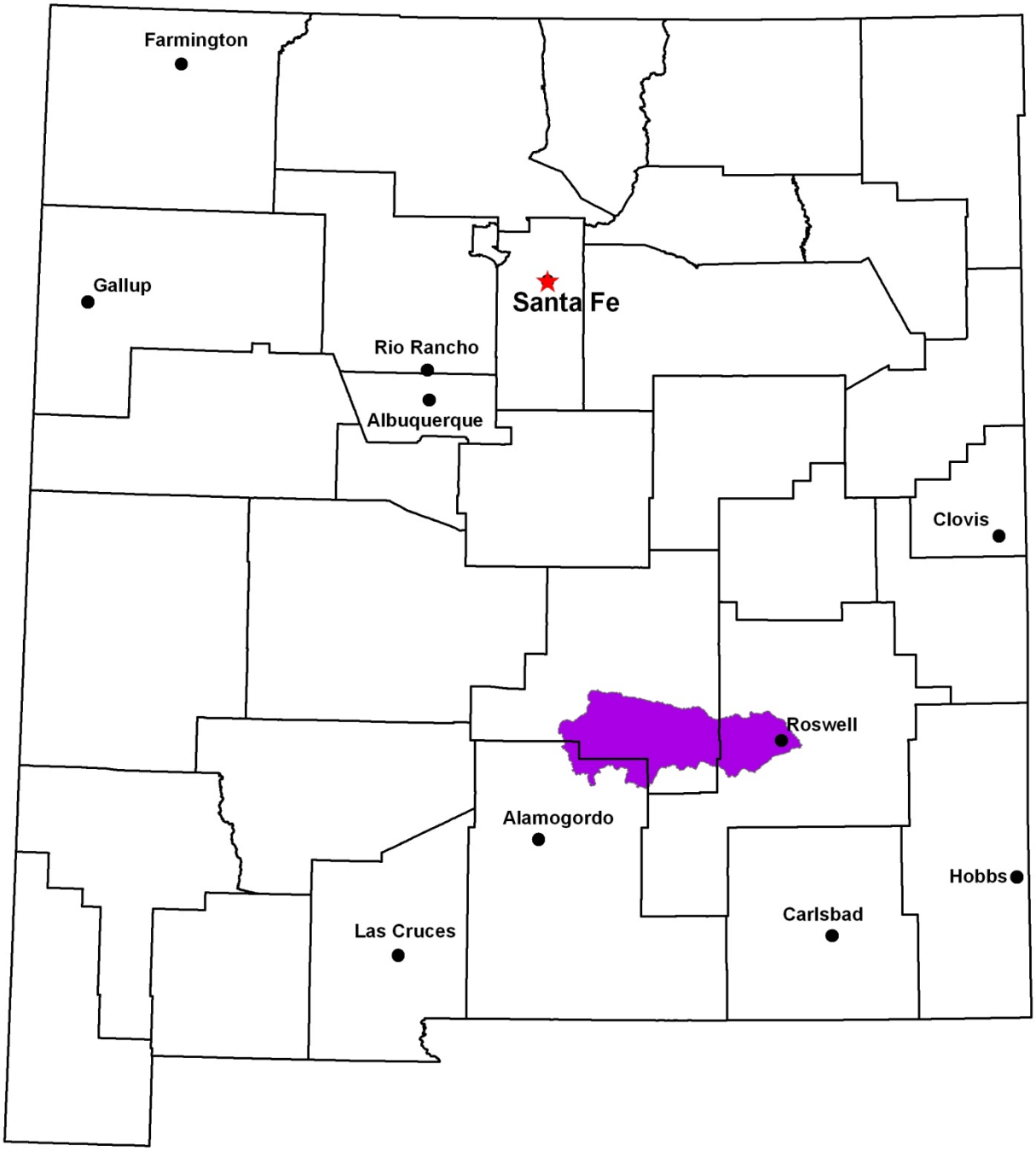


Rapid **W**atershed **A**ssessment
Rio Hondo Watershed

Table of Contents

List of Tables

List of Figures

Overview

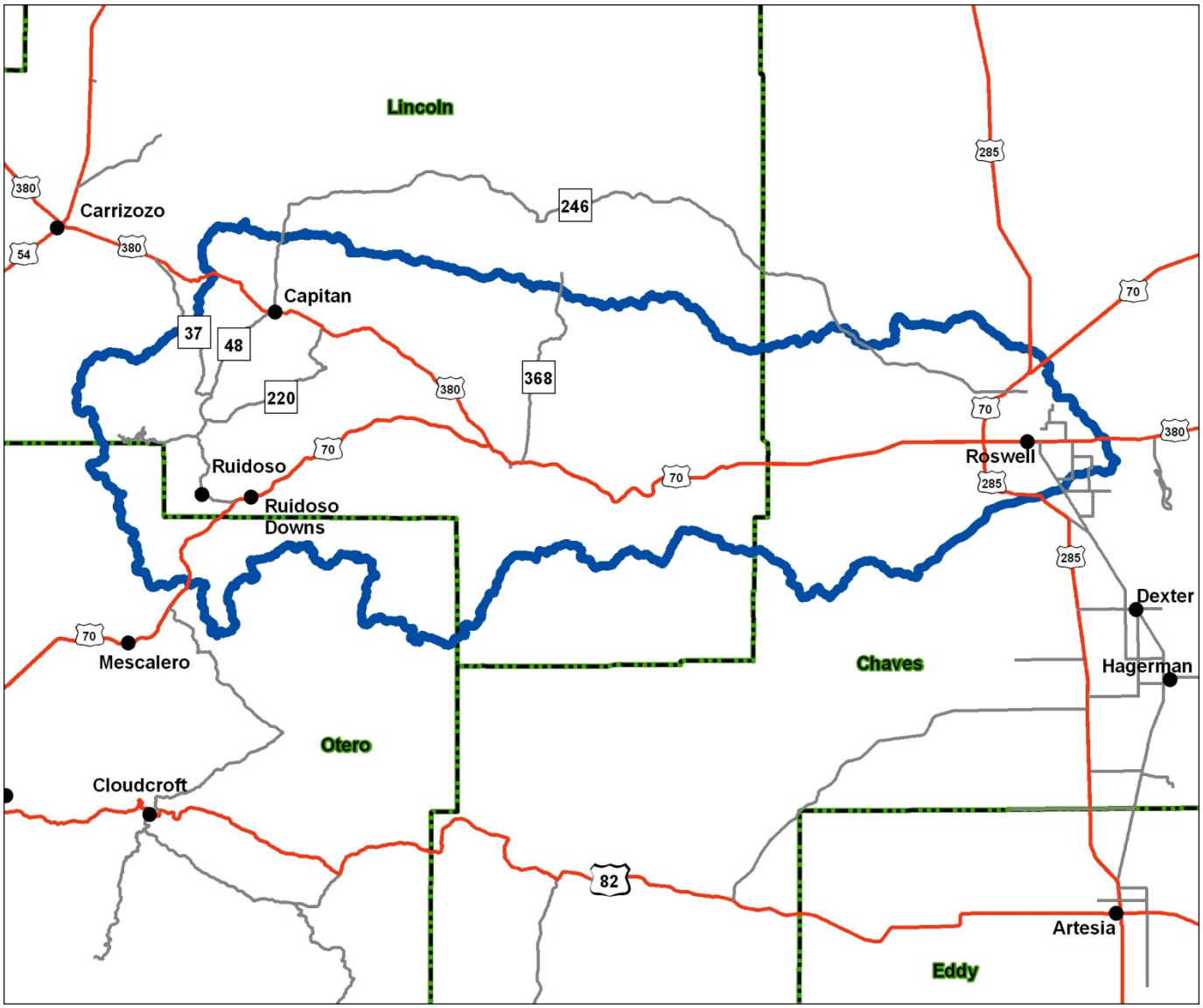


Figure 1. Rio Hondo Watershed Overview

Overview

The Rio Hondo Watershed is located east-central New Mexico. It covers 1,063,591 total acres (4,304 sq. km). Portions of the Rio Hondo watershed extend into Chavez, Lincoln, and Otero counties. Table 1 summarizes the distribution of the Rio Hondo watershed.

Table 1. Rio Hondo watershed acreage distribution.

	County Acres Total	Acres in HUC	% of HUC in County	% of County in HUC
Chavez	3,885,365	273,531	26	7
Lincoln	3,089,795	675,540	64	22
Otero	4,238,777	114,520	11	3
Sum (∑)		1,063,591	100	

Physical Setting

Geology:

The HUC has a northwestern boundary at Lake Mountain in the Vera Cruz Mountains. The southern boundary passes includes the Salado Creek Watershed and crosses U.S. Highway 380 near County Road C012; follows the Sierra Blanca crest through Gayford Peak, Nogal Peak, and Sierra Blanca Peak; follows the crest of the Sacramento Mountains passing through the intersection of Indian Service Route 11 and White Mountain Drive to Harley Mountain to Whitetail Mountain; Turkey Peak; between Monument Canyon and Twin Butte Canyon; just south of Divide Camp; divide between Rock arroyo and Thirteenmile Draw; then eastward through Roswell to the confluence of the Rio Hondo and the Pecos River. The northern boundary passes through East Carrizo Cone; Read Mesa; follows the spine of the Capitan Mountains to Sunset Peak; passes between Arabela and Bluewater to exclude the headwaters of Archuleta Creek; heads eastward from near Page Ranch; crosses State Highway 246 at the intersection with Larkspur Road; turns northward at Haystack Mountain; crosses State Highway 285 at County Road 13; crosses U.S. Highway 70 at Devonian Street; and then to the confluence.

The bedrock is predominantly Permian Period limestone, dolomite and sandstone. The limestone is porous and has many sinkholes. Caliche also forms on the ground surface. These slope eastward down into the Pecos River Valley. The valleys contain Quaternary Period alluvium deposits and older alluvial deposits of the piedmont and upland plains. The Capitan Mountains and Sacramento Mountains also contain Tertiary Period intrusive rocks.

Resource concerns are high sediment erosion. In addition the lowering of valleys by river incision is a continuing process. Rivers respond by aggrading during climates that promote large sediment yield and large, stable discharges; and incise during climates that produce flashy flows and reduce the sediment supply.

Groundwater quality and quantity is a concern. Depth to groundwater is a concern if the shallow unconfined aquifer does not produce enough water for the resource or increased population demands are ‘mining’ the water. Groundwater in the limestone is usually along fracture zones which are hard to intercept with water wells. Groundwater quality ranges from good to fair for livestock or crops.

Soils:

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.
The soils in the Rio Hondo Watershed are assigned to four groups (A, B, C, and D).

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

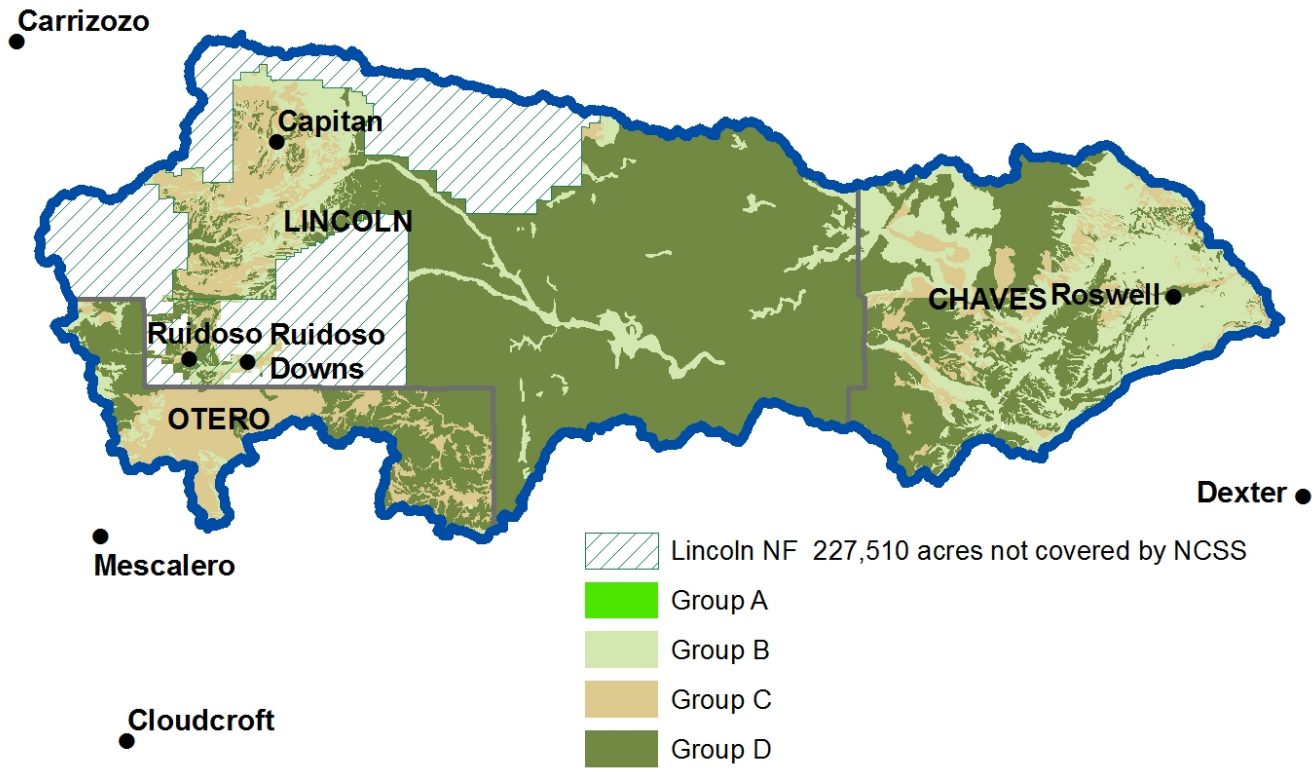


Figure 2. Hydrologic Soil Group

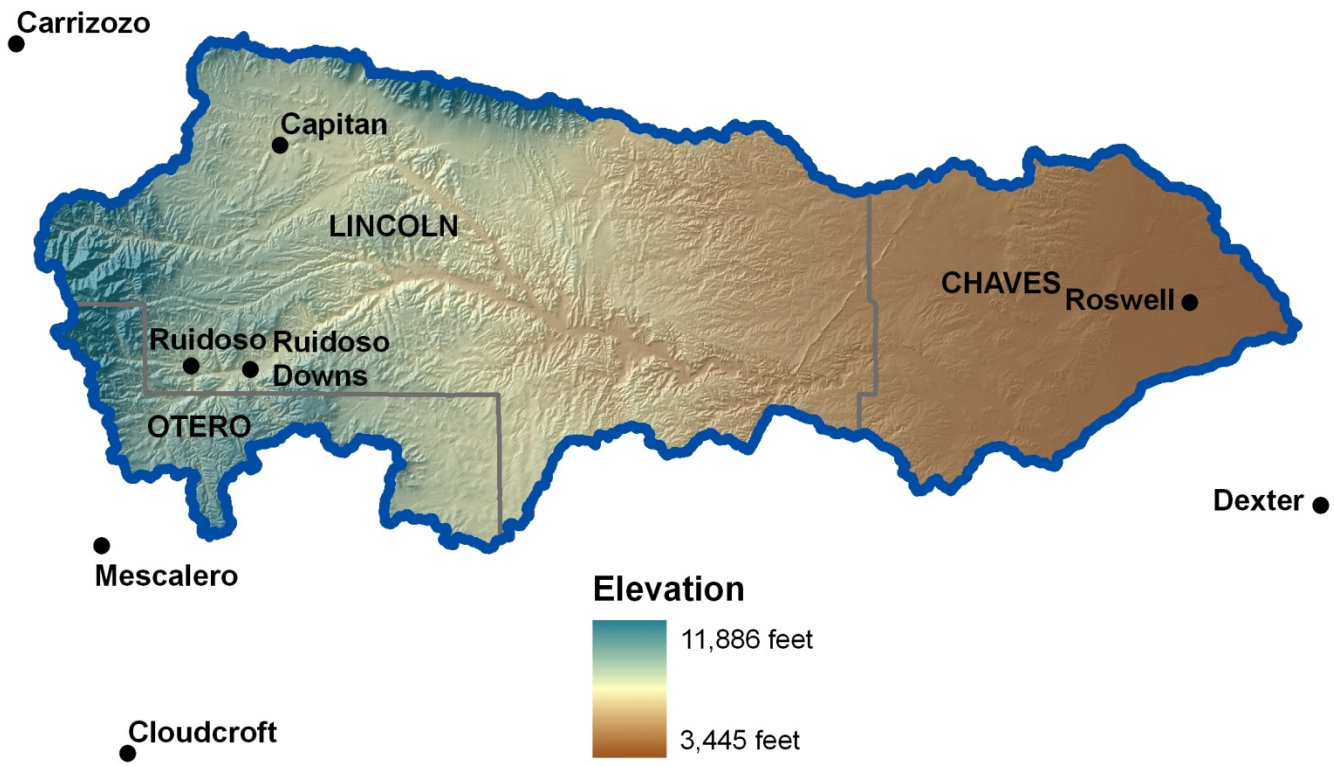


Figure 3. Rio Hondo Watershed Shaded Relief

Precipitation [1]

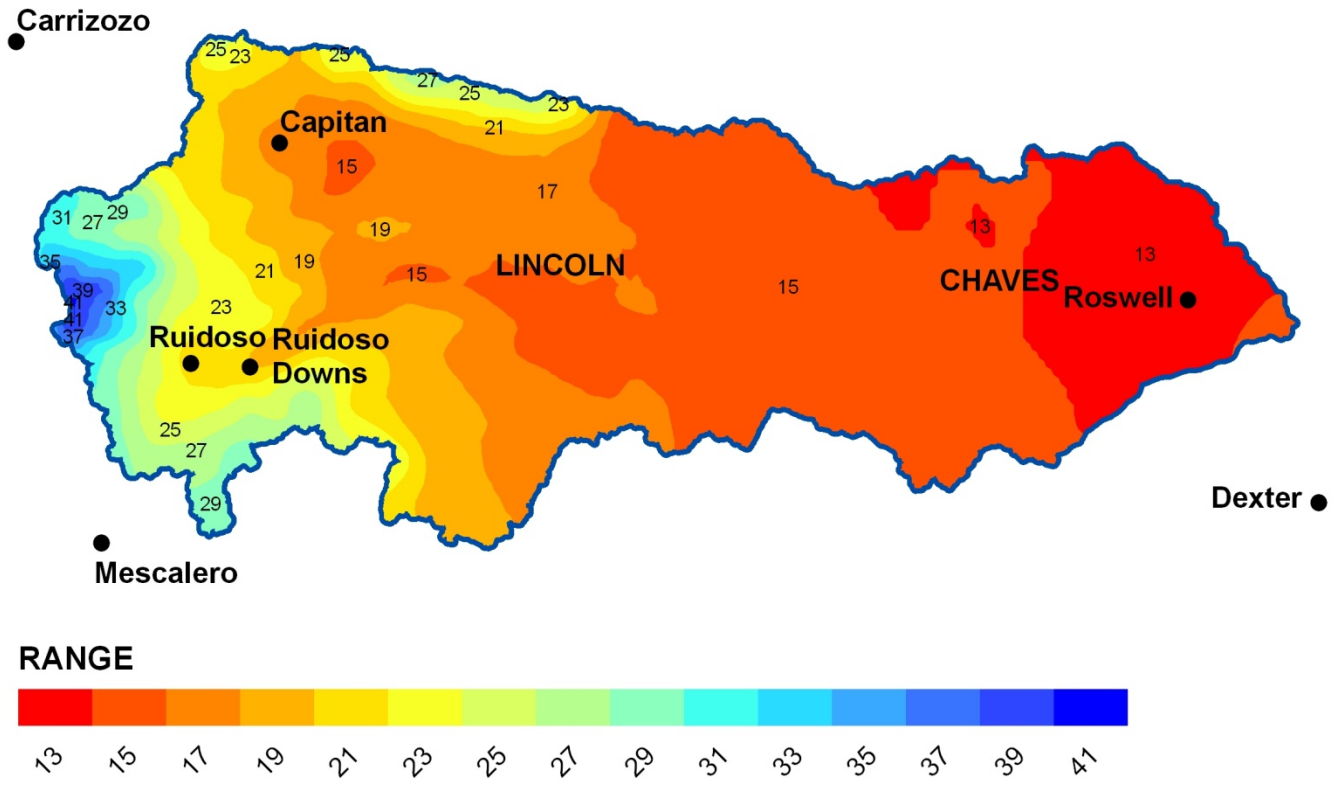


Figure 4. Rio Hondo Watershed Annual Precipitation.

Land Ownership [2]

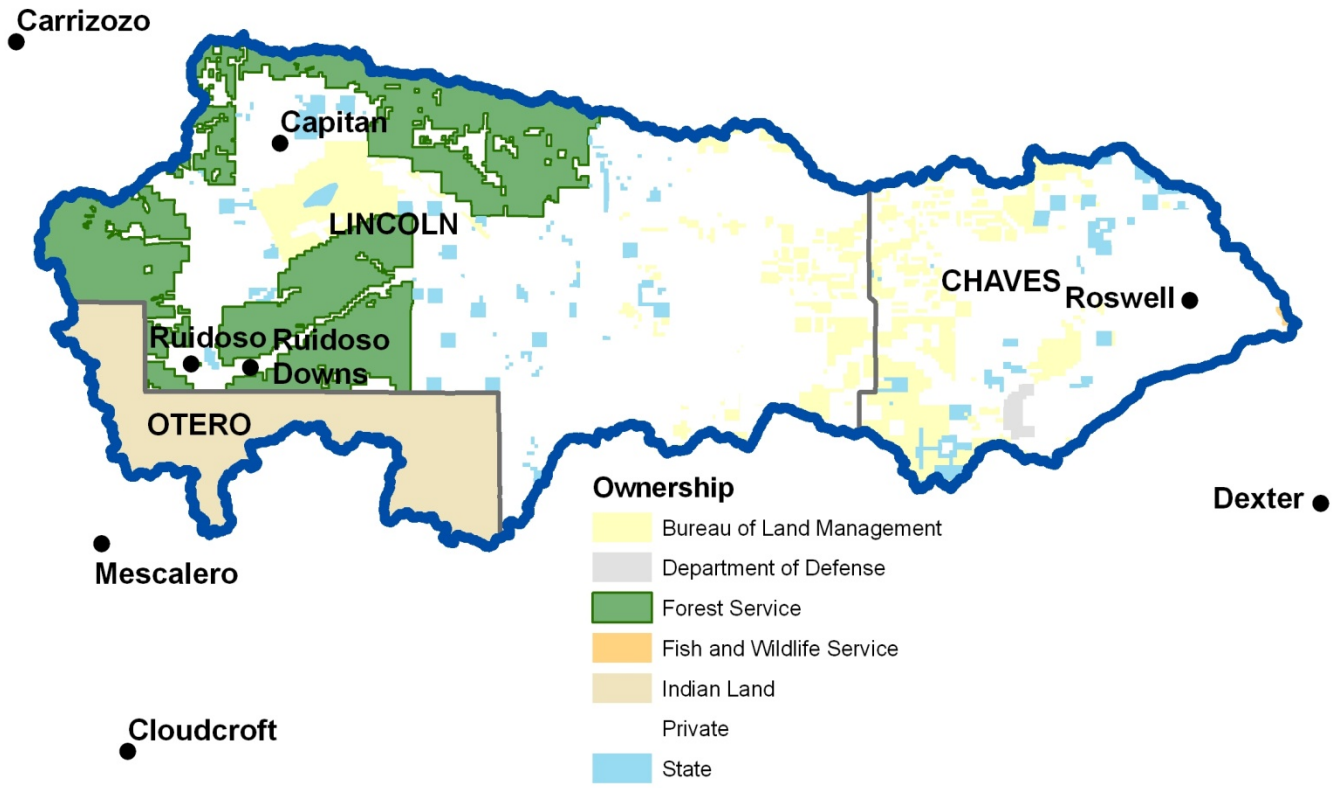


Figure 5. Rio Hondo Watershed Land Ownership.

Land Ownership

COUNTY	BLM	DOD	FS	FWS	Indian	Private	State
Chavez	53,320	3,171		628		200,189	16,222
Lincoln	54,053		185,785		464	413,025	22,213
Otero			23		114,487	10	
Watershed (∑)	107,373	3,171	185,808	628	114,951	613,224	38,435
% Watershed	10	<1	17	<1	11	58	4

Table 2. Land ownership in the Rio Hondo watershed.

Little Bear Fire [3]

The Little Bear fire took place from June 4, 2012 to July 2, 2012. It is the most destructive blaze in the state's history with more than 250 homes and businesses destroyed and 44,300 acres burned.

Safety and Health: Flash floods on and near burn scars can be life threatening. Monitor forecasts and prepare to take action or evacuate should flash flood warnings be issued. Thunderstorms can form, and subsequently produce lightning and heavy rainfall within 30 minutes.

Figure 6. Little Bear Fire, June 2012

Land Use / Land Cover [4, 5]

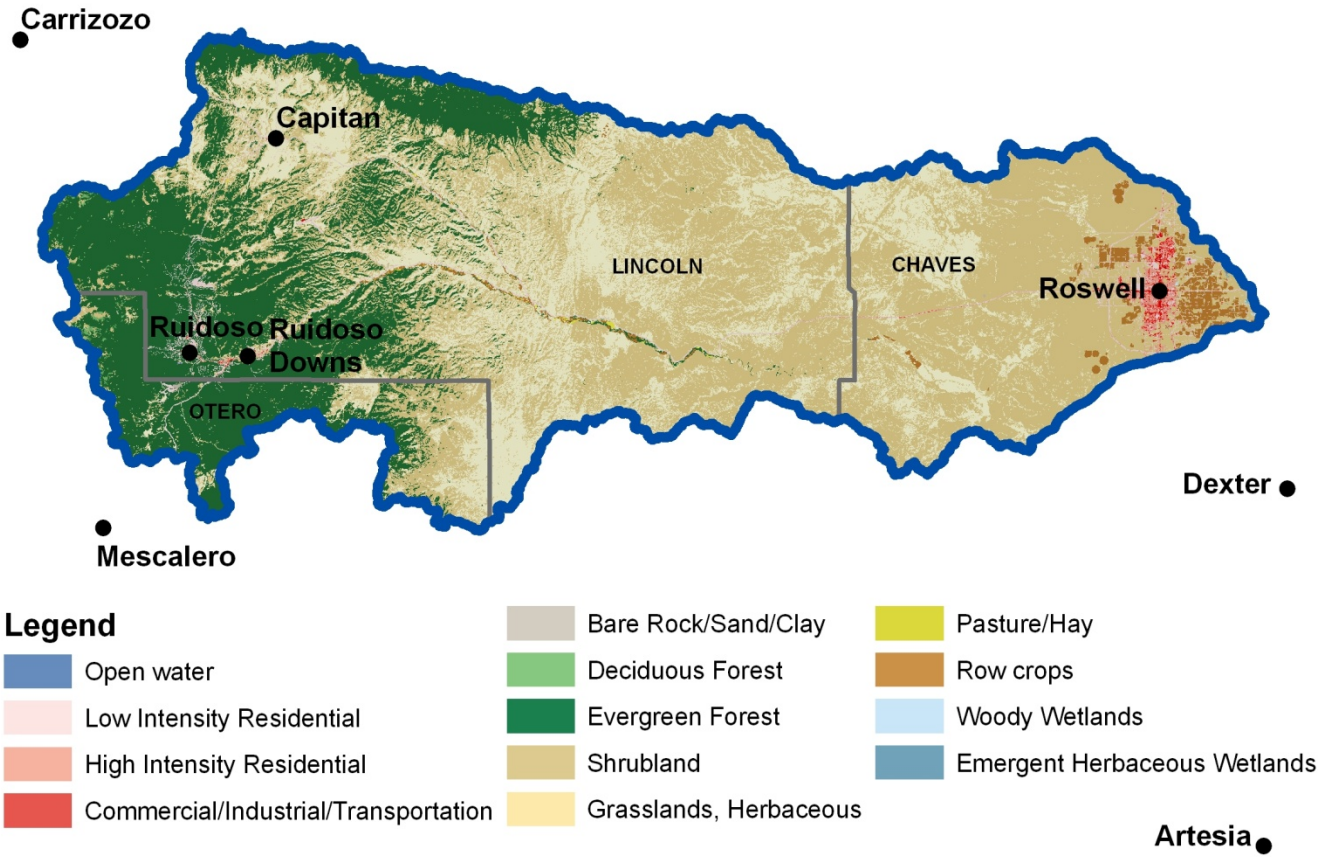


Figure 7. The National Land Cover Dataset over the Rio Hondo Watershed.

Land Use / Land Cover

The U.S. Geological Survey (USGS) produced the National Land Cover Dataset (NLCD) as part of a cooperative project between the USGS and the U.S. Environmental Protection Agency (USEPA). The goal of this project was to produce a consistent land cover data layer for the conterminous United States. The Multiresolution Land Characterization (MRLC) Consortium collected the data used to compile the NLCD. The MRLC Consortium is a partnership of Federal agencies that produce or use land cover data; partners include the UNITED STATES GEOLOGICAL SURVEY (National Mapping, Biological Resources, and Water Resources Divisions), USEPA, the U.S. Forest Service, and the National Oceanic and Atmospheric Administration.

Land use / Land cover	Acres	% of Watershed
Shrubland	496,146	47%
Evergreen Forest	261,413	25%
Grasslands, Herbaceous	260,711	25%
Low Intensity Residential	17,229	2%
Row crops	15,173	1%
High Intensity Residential	7,214	1%
Deciduous Forest	2,125	< 1%
Commercial/Industrial/Transportation	1,966	< 1%
Pasture/Hay	520	< 1%
Woody Wetlands	251	< 1%

Table 3. Extent of NLCD classes in the Rio Hondo watershed.

Land Use / Land Cover

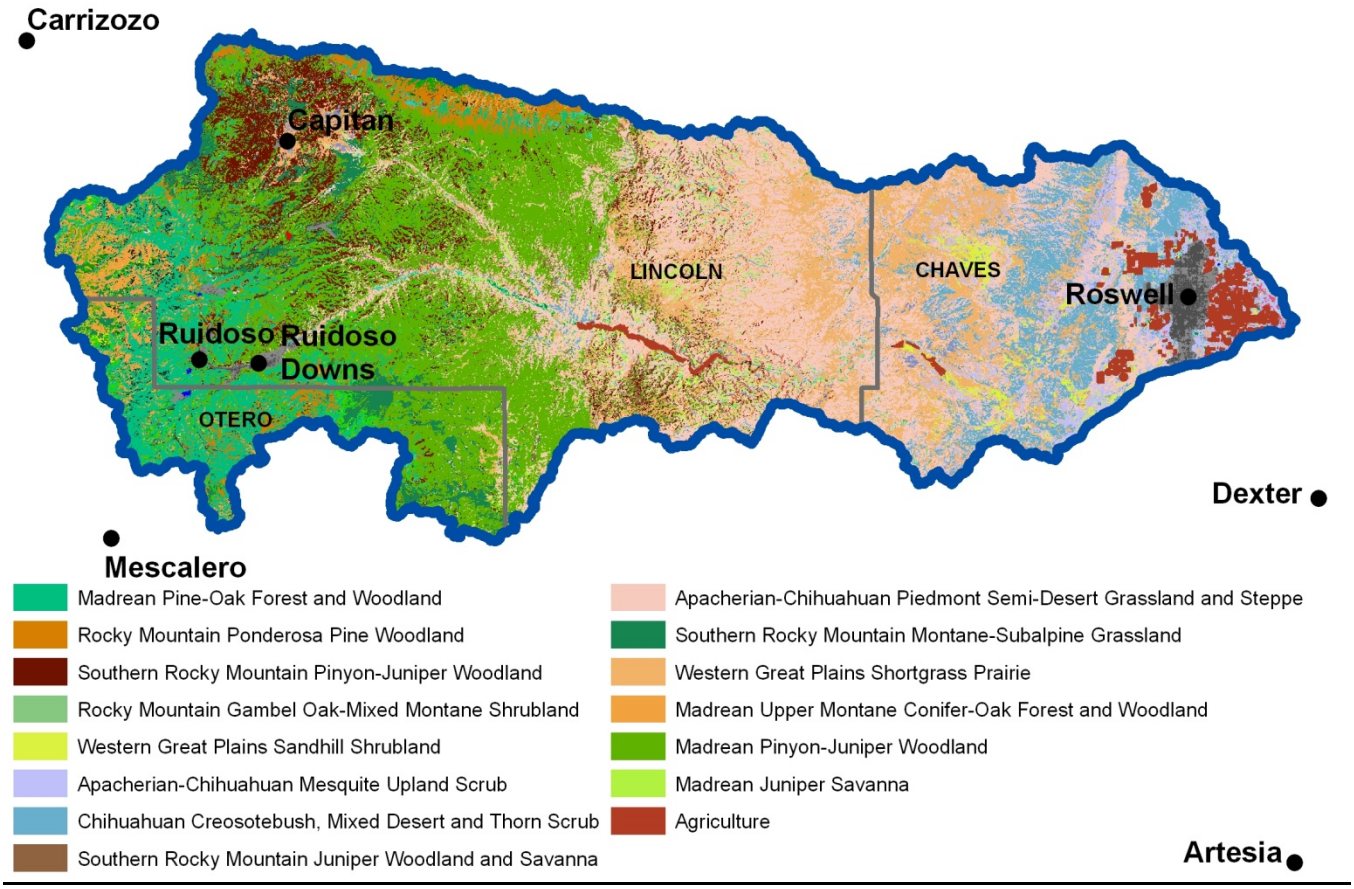


Figure 8. The SWREGAP over the Rio Hondo Watershed. The 15 dominant ecosystems are displayed in the legend.

Land Use / Land Cover

The landcover mapping effort for the Southwest Region Gap Analysis Project was a coordinated multi-institution endeavor. This dataset was created for regional terrestrial biodiversity assessment. Additional objectives were to establish a coordinated mapping approach to create detailed, seamless maps of land cover, all native terrestrial vertebrate species, land stewardship, and management status, and to analyze this information to identify those biotic elements that are underrepresented on lands managed for their long term conservation.

Ecosystem	Acres	% of Watershed
Madrean Pinyon-Juniper Woodland	231,160	22
Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe	219,633	21
Western Great Plains Shortgrass Prairie	135,684	13
Madrean Pine-Oak Forest and Woodland	84,844	8
Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub	63,645	6
Southern Rocky Mountain Pinyon-Juniper Woodland	57,071	5
Southern Rocky Mountain Montane-Subalpine Grassland	38,354	4
Apacherian-Chihuahuan Mesquite Upland Scrub	35,995	3
Rocky Mountain Ponderosa Pine Woodland	28,035	3
Madrean Upper Montane Conifer-Oak Forest and Woodland	23,780	2
Agriculture	21,742	2
Southern Rocky Mountain Juniper Woodland and Savanna	19,615	2
Madrean Juniper Savanna	16,201	2
Rocky Mountain Gambel Oak-Mixed Montane Shrubland	15,417	1
Western Great Plains Sandhill Shrubland	10,908	1

Table 4. SW Region Gap analysis ecosystem acreages.

Hydrology [6,7,8,9,10]

The National Hydrography Dataset (NHD) is a comprehensive set of data that encodes information about naturally occurring and constructed bodies of water, paths through which water flows, and related entities. The NHD identifies 3,890 miles (6,261 km) of water courses in the Rio Hondo River Watershed. The majority of these courses typically flow intermittently in summer months during periods associated with high intensity convective thunderstorms.

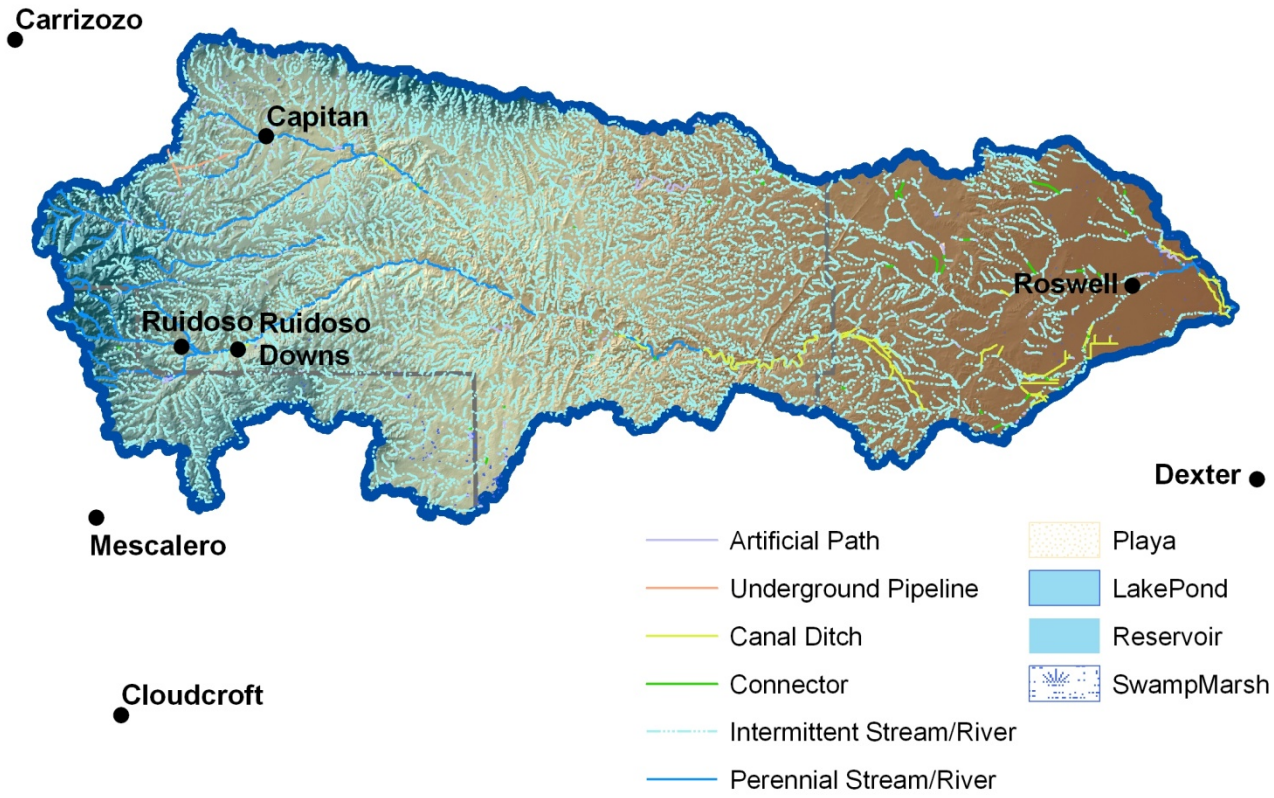


Figure 9. National Hydrologic Dataset (NHD) of the Rio Hondo.

Water Course Type	Miles
Artificial path	38
Connector	16
Canal / Ditch	76
Intermittent Stream / River	3,566
Perennial Stream / River	186
Underground Pipeline	8
Sum (∑)	3,890

Table 5. NHD Water Course Type and Extents

There are 21 dams and water gauging stations in the watershed. USGS Site 08393610 is at the eastern end of the watershed on the Rio Hondo near Roswell, NM. During the period 1997 – 2011, this site has had mean annual discharge of 8.24 cubic feet per second ranging from 3.96 (2004) to 16.8 (2008) cubic feet per second.

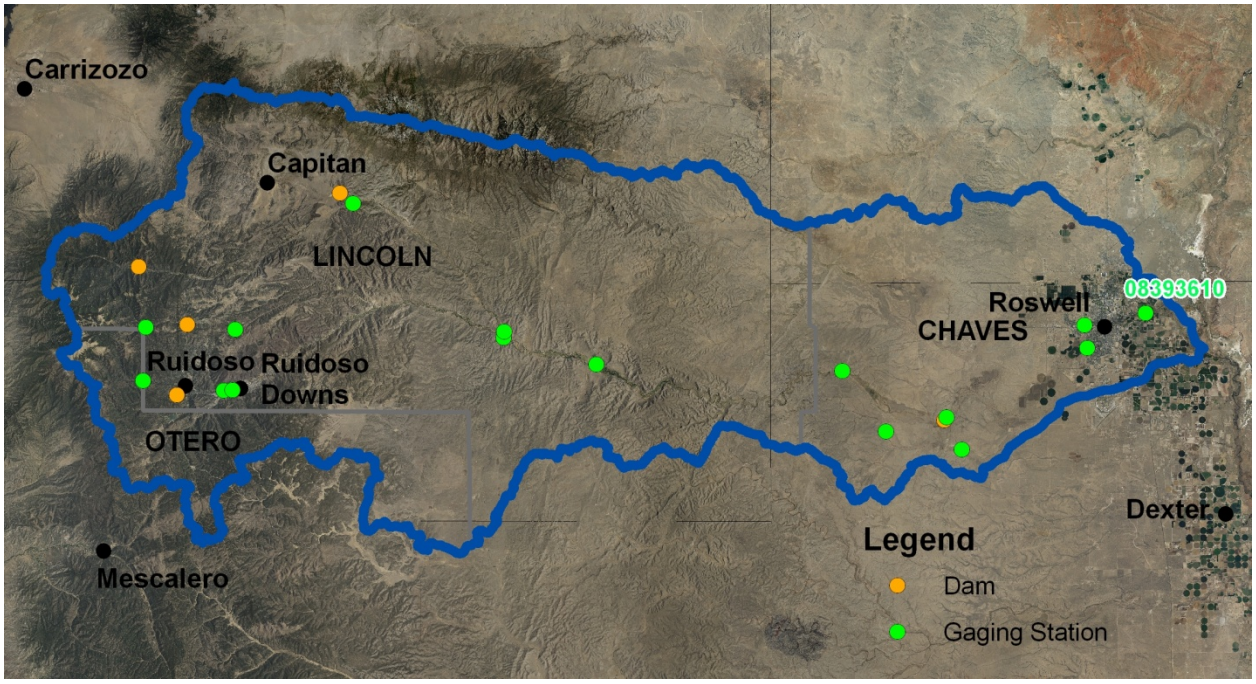


Figure 10. Gauging Stations in the Rio Hondo Watershed

Hydrology

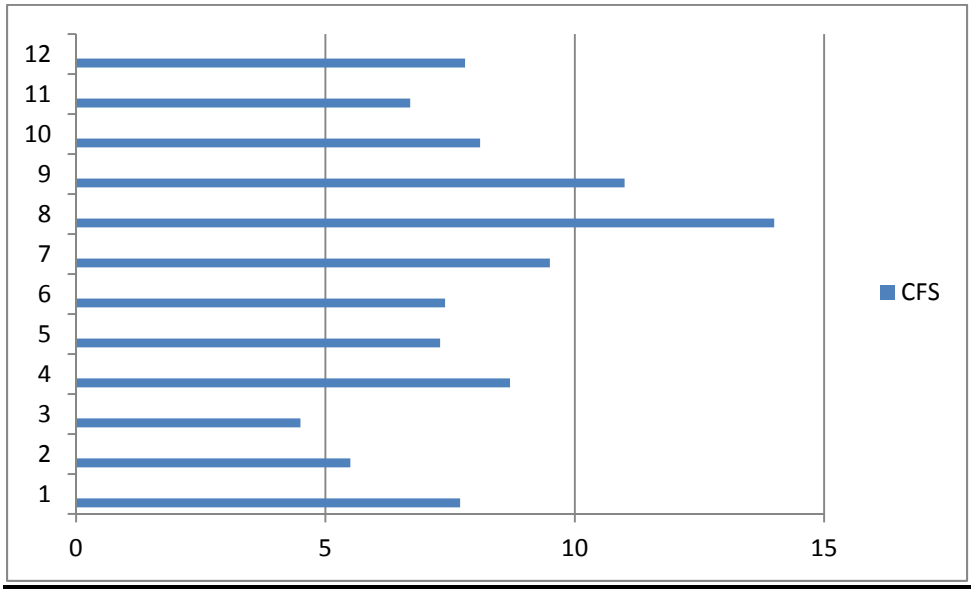


Figure 11. Monthly Average of Mean Daily Flow on the Rio Hondo near Roswell, NM. Period of observation: 1997-2011.

The New Mexico Water Quality Control Commission (NMWQCC) is the issuing agency of water quality standards for interstate and intrastate waters in New Mexico. The NMWQCC has defined the Rio Hondo watershed as part of the Rio Grande River Basin.

The Rio Hondo watershed has no lakes designated as impaired, and the following reach listed as 303 (d) Impaired Surface Waters:

1. Alto Lake
2. Carrizo creek (Rio Ruidoso to Mescalero Apache bnd)
3. Rio Bonito (NM 48 near Angus to headwaters)

The listed uses for this reach have been designated in Table 6.

Use	Alto Lake	Carrizo Creek	Rio Bonito
high quality coldwater aquatic life		X	NS
marginal coldwater aquatic life			
Irrigation/irrigation storage		X	X
domestic water supply		X	X
livestock watering	X	X	X
wildlife habitat	X	X	X
marginal warmwater aquatic life	NS		
Primary contact	NA		
secondary contact		NS	NS
Fish culture		X	X
Limited Aquatic Life			
Industrial Water Supply		X	X
Municipal Water Supply		X	X

Table 6. Listed Uses. NS = Not Supporting, NA = not assessed, x = Fully Supporting

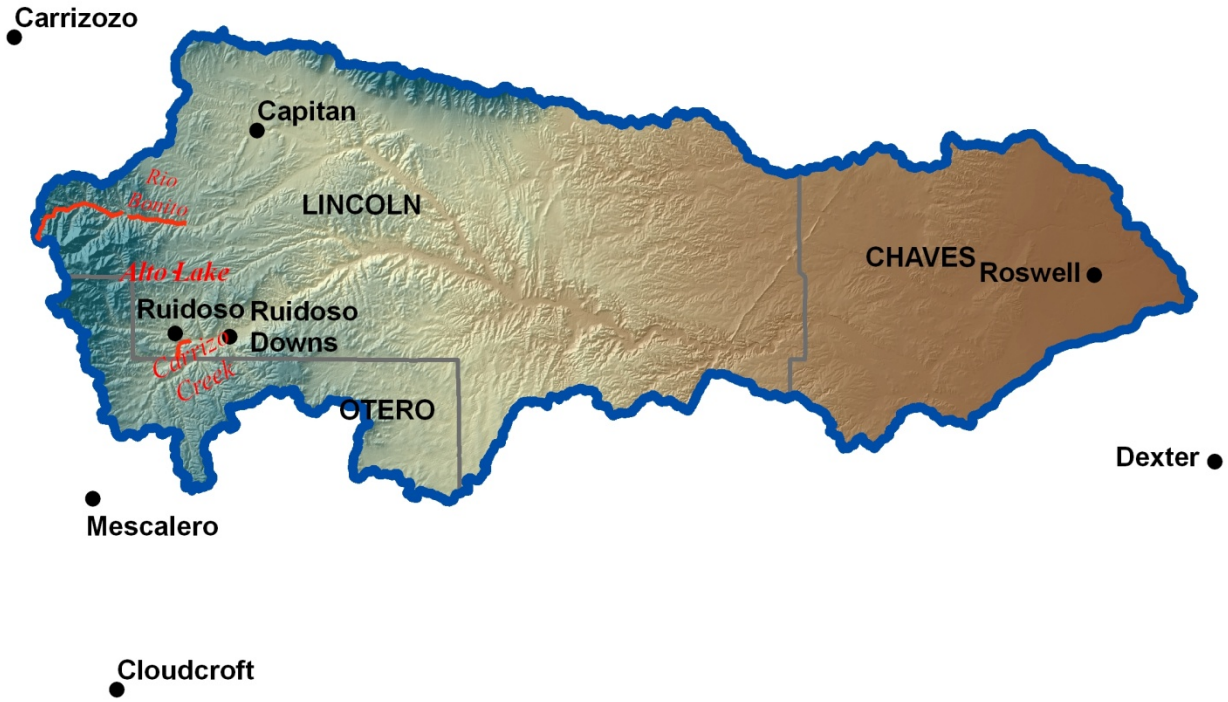


Figure 12. 303 (d) Impaired Waters

Hydrology

Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes, are required to develop lists of impaired waters. These are waters for which technology-based regulations and other required controls are not stringent enough to meet the water quality standards set by states. The law requires that states establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs), for these waters. A TMDL is a calculation of the maximum amount of a pollutant a water body can receive and still safely meet water quality standards.

The river and stream reaches total 16 miles (26 km). Alto Lake is 11 acres.

Probable Causes of Impairment	Alto Lake	Carrizo Creek	Rio Bonito
Aluminum			
Benthic-Macroinvertebrate Bioassessments			X
Copper	X		
Dissolved Oxygen			
Total Fecal and Coliform		X	X
Gross Alpha - Adjusted			
Low flow alterations			X
Nutrient/Eutrophication			
PCB's			
Sedimentation/Siltation			
Specific Conductance			
Temperature			
Turbidity		X	
Zinc			
Ammonia (Un-ionized)			
Nitrogen, Nitrate			
Arsenic			

Table 7. Possible Causes of Impairment

Hydrology - Declared Groundwater Basins

A declared groundwater basin is an area of the state proclaimed by the State Engineer to be underlain by a groundwater source having reasonably ascertainable boundaries. By such proclamation the State Engineer assumes jurisdiction over the appropriation and use of groundwater from the source. The Rio Hondo watershed is within two Underground Water Basins: the Hondo and the Roswell Artesian.

Groundwater Basin	Acres in Basin	Watershed Acres	% of Declared Basin
Hondo	678,072	592,664	87
Roswell Artesian	6,920,505	470,926	6

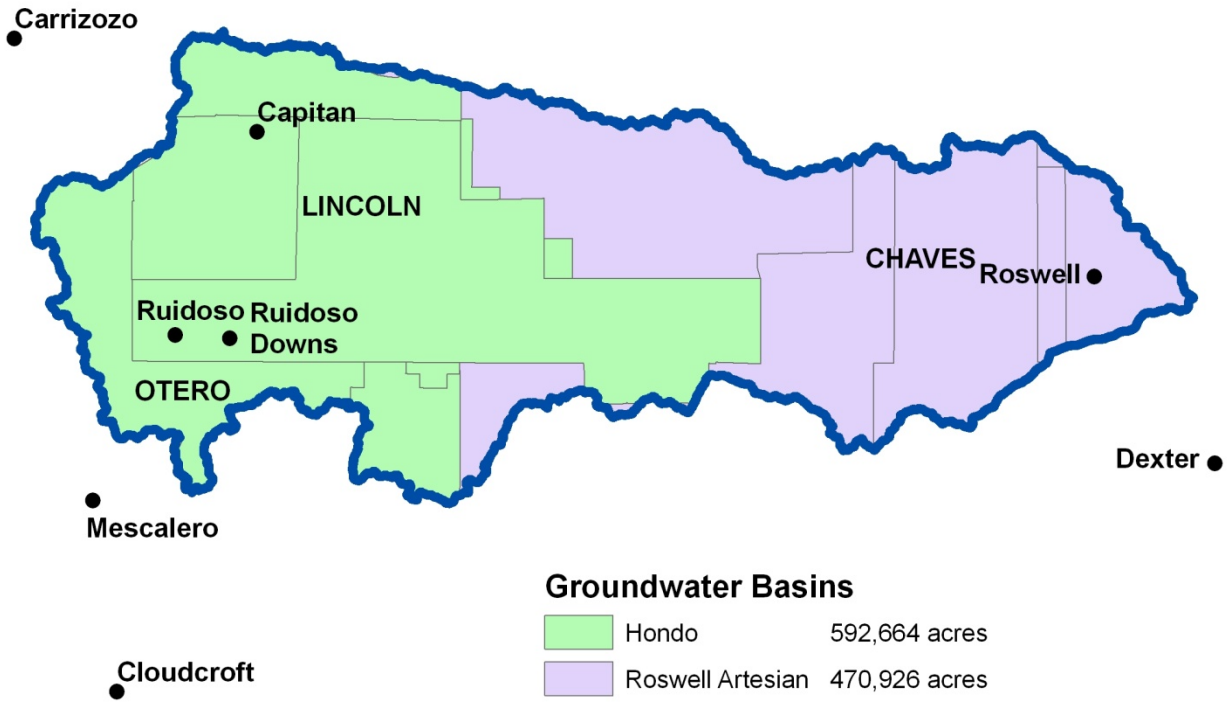


Figure 13. Groundwater Basins

Threatened and Endangered Species [11]

Endangered species are those that are at risk of extinction throughout all or a significant portion of its native range. A threatened species is one that is likely to become endangered in the foreseeable future. The New Mexico Natural Heritage program tracks the status of threatened and endangered species which are listed on both federal and state lists. Table 6 lists those species which are currently listed and tracked in the Rio Hondo River Watershed.

Common Name	Scientific Name	Tax.Class	Family	Fed Status	State Status
Koster's Springsnail	*Juturnia kosteri*				E
Pecos Assiminea	*Assiminea pecos*				E
Roswell Springsnail	*Pyrgulopsis roswellensis*				E
Gray Redhorse	*Scartomyzon congestus*	Actinopterygii	Catostomidae		E
Mexican Tetra	*Astyanax mexicanus*	Actinopterygii	Characidae		T
Chihuahua Chub	*Gila nigrescens*	Actinopterygii	Cyprinidae	T	E
Pecos Bluntnose Shiner	*Notropis simus pecosensis*	Actinopterygii	Cyprinidae	T	E
Rio Grande Silvery Minnow	*Hybognathus amarus*	Actinopterygii	Cyprinidae	E	E
Pecos Pupfish	*Cyprinodon pecosensis*	Actinopterygii	Cyprinodontidae		T
Greenthroat Darter	*Etheostoma lepidum*	Actinopterygii	Percidae		T
Pecos Gambusia	*Gambusia nobilis*	Actinopterygii	Poeciliidae	E	E
Sacramento Mountain Salamander	*Aneides hardii*	Amphibia	Plethodontidae		T
Mexican Spotted Owl	*Strix occidentalis lucida*	Aves	Strigidae	T	
Broad-billed Hummingbird	*Cynanthus latirostris*	Aves	Trochilidae		T
Pecos Sunflower	*Helianthus paradoxus*	Dicotyledoneae	Asteraceae	T	E
Kuenzler's Hedgehog Cactus	*Echinocereus fendleri var. kuenzleri*	Dicotyledoneae	Cactaceae	E	E
Goodding's Onion	*Allium gooddingii*	Monocotyledoneae	Liliaceae		E

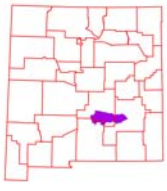
Table 6. Threatened and Endangered Plant and Animal Species.

Invasive Species [12]

Invasive species are those which have been introduced into a region or ecosystem and have the ability to out-compete native species for resources (i.e. water, nutrients, sunlight, etc.) The Southwest Exotic Plant Mapping Program (SWEMP) is a collaborative effort between the United States Geological Survey and federal, tribal, state, county and non-government organization partners in the southwest which maintains ongoing efforts to compile and distribute regional data on the occurrence of non-native invasive plants in the southwestern United States. Within the Rio Hondo watershed, the SWEMP has identified 7 species of invasive plants (Table 7). Each of these species is defined as non-native by the USDA PLANTS database.

Scientific Name	Common Name
Zygophyllaceae **(Caltrop Family)**	**African Rue**
Scrophylariaceae **(Figwort Family)**	**Dalmatian Toadflax**
Brassicaceae (**Mustard Family)**	**Hoary Cress (Whitetop)**
Euphorbiaceae **(Spurge Family)**	**Leafy Spurge**
Asteraceae **(Sunflower Family)**	**Musk Thistle**
Asteraceae **(Sunflower Family)**	**Russian Knapweed**
Asteraceae **(Sunflower Family)**	**Spotted Knapweed**

Table 7. Invasive Species Recognized by the SWEMP.



Common Resource Areas[13]

A Common Resource Area (CRA) is defined as a geographical area where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) designation. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a Common Resource Area.

Each Common Resource Area will have multiple Conservation System Guides associated with it. A Conservation System Guide associates, for a given CRA and land use, different components of Resource Management Systems and their individual effect on conserving soil and water resources.

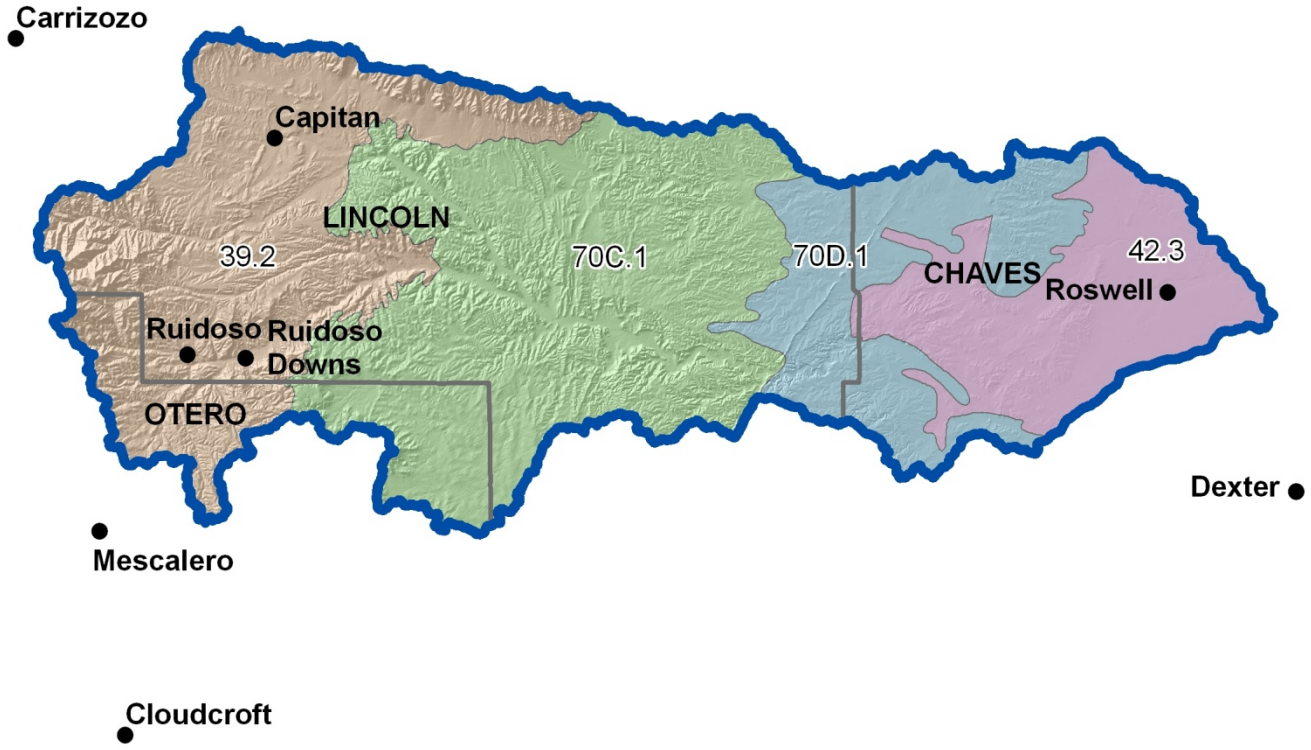


Figure 14. Common Resource Areas of the Rio Hondo Watershed

39.2– Central New Mexico Mountains

This unit occurs within the Colorado Plateau Physiographic Province and is characterized by volcanic fields and gently dipping sedimentary rocks eroded into plateaus, valleys and deep canyons. Elevations range from 7000 to 12000 feet. Precipitation ranges 17 to 25 inches per year. The soil temperature regime ranges from mesic to frigid. Vegetation includes corkbark, Douglas and white fir, Englemann spruce, pinyon and southwestern white pine, and aspen. Grasslands include tufted hairgrass, sedges, and Arizona and Thurber fescue.

42.3– Chihuahuan Desert Grassland

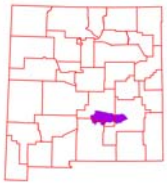
This unit occurs within the Basin and Range Physiographic Province and is characterized by valley plains and alluvial fans broken by the Pecos River. Drainage divides are low and inconspicuous forming one great plain. Elevations range from 2800 to 5000 feet. Precipitation ranges from 8 to 13 inches per year. The soil temperature regime is thermic. The soil moisture regime is aridic. Vegetation includes tobosa, alkali sacaton, black grama, burrograss, creosote bush, tarbush, soaptree yucca, catclaw, fourwing saltbush, winterfat, mesquite and desert willow.

70C.1 - Central New Mexico Highlands

Tablelands and mesas separated by broad plains and small terraces characterize this area. Elevation is 5,000 to 7,200 feet and precipitation is 12 to 17 inches. The soil moisture regime is aridic to ustic and the soil temperature regime is mesic. Pinyon-juniper savannah and pinyon juniper woodlands at higher elevations, and broad mid- to short-grass prairies and basins at lower elevations dominate the area. Current land use is livestock grazing. The soils formed in Quaternary alluvium, eolian sands, and sedimentary rocks of Permian age. (Old CP-3)

70D.1 - Southern New Mexico Foothills

This unit is characterized by nearly level to steep limestone hills with steep, narrow drainageways. Elevation ranges from 4,000 to 7,000 feet and average annual precipitation is 13 to 18 inches. Native vegetation is sparse and consists of pinyon, juniper, algerita, agave, yucca and cacti. Grasses include blue and black grama, little bluestem, and muhly species. Shrubs include catclaw, ocotillo, sotol and fourwing saltbush. Much of the area is federally owned. Federal and private lands are used for grazing, wildlife habitat, and military training.

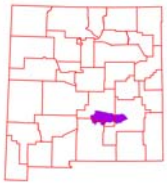


Conservation [14]

The USDA-Natural Resources Conservation Service (NRCS) focuses on the development and delivery of high quality products and services that enable people to be good stewards of our Nation's soil, water, and related natural related resources on non-Federal lands. The Natural Resources Conservation Service's conservation programs aid agricultural producers in their efforts to reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. Public benefits include enhanced natural resources that help sustain agricultural productivity and environmental quality while supporting continued economic development, recreation, and scenic beauty.

Conservation Practice	2007		2008		2009		2010		2011		TOTAL	
	#	Acres	#	Acres	#	Acres	#	Acres	#	Acres	#	Acres
Brush Management	8	817	33	1252	18	1073	45	2655	9	1017	113	6814
Conservation Cover							3	49			3	49
Conservation Crop Rotation	3	458	4	253	9	562	8	738	7	2263	31	4274
Cover Crop							1	1	1	4	2	5
Forage and Biomass Planting							2	12	1	10	3	22
Forage Harvest Managment							1	143	2	16	3	159
Forest Stand Improvement	2	382	1	115	1	232					4	729
Integrated Pest Management	3	458	4	253	10	617	7	715	9	2283	33	4326
Irrigation Land Leveling									4	2048	4	2048
Irrigation System, Microirrigation	3	57									3	57
Irrigation System, Sprinkler	3	184	4	301	5	312	2	91	6	2529	20	3417
Irrigation System, Surface and Subsurface					1	55					1	55
Irrigation Water Mgmt	3	458	3	173	10	617	12	776	9	2283	37	4307
Nutrient Management	3	458	8	953	11	928	6	390	9	2268	37	4997
Prescribed Grazing	5	45927	58	44347	59	32853	72	47524	11	30981	205	201632
Residue Mgmt, Seasonal	4	477	4	253	10	617	6	567	8	2347	32	4261
Upland Wildlife Habitat Management	4	40487	54	41614	59	32916	71	48654	11	33428	199	197099
Windbreak/ Shelterbelt Establishment									1	500	1	500
SUM (∑)	41	90163	173	89514	193	70782	236	102315	88	81977	731	434751

Table 8. 5 year Trends in Applied Conservation Practices. Reported in Acres.



Conservation Practice	2007		2008		2009		2010		2011		TOTAL	
	#	Feet	#	Feet	#	Feet	#	Feet	#	Feet	#	Feet
Comprehensive Nutrient Mgmt Plan	1		1		1				1		4	
Conservation Completion Incentive First Year			1								1	
Diversion							1	400			1	
Fence					1	1029	2	8783	4	36240	7	46052
Grade Stabilization Structure	1						3				4	
Irrigation Pipeline									4	7795	4	7795
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic			1	5886	4	4393	3	5257			8	15536
Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic	2	4445	8	9763			5	4025	2	2000	17	20233
Monitoring Well							1				1	
Pipeline	3	11766	2	14453			22	65513	3	9225	30	100957
Pond							6		2		8	
Pumping Plant					3		2				5	
Spring Development	1						2				3	
Structure for Water Control	1		8		2		8		6		25	
TA Planning	1										1	
Waste Storage Facility					4				1		5	
Waste Transfer	1		7		2				11		21	
Water Well					2		5				7	
Watering Facility	5		1		7		45		6		64	
SUM (∑)	16		29		26		105		40		216	190573

Table 9. 5 Year Trends in Location Specific Applied Conservation Practices. Reported in Feet if Linear (i.e. Fence)

Soil Resource Inventory [15]

The Rio Hondo Watershed has a number of certified National Cooperative Soil Survey (NCSS) inventories. The National Forests in New Mexico are not covered, but have soils information available through their Terrestrial Ecosystem Unit Inventories. These will be integrated with the National Cooperative Soil Survey (NCSS) inventories in the next few years.

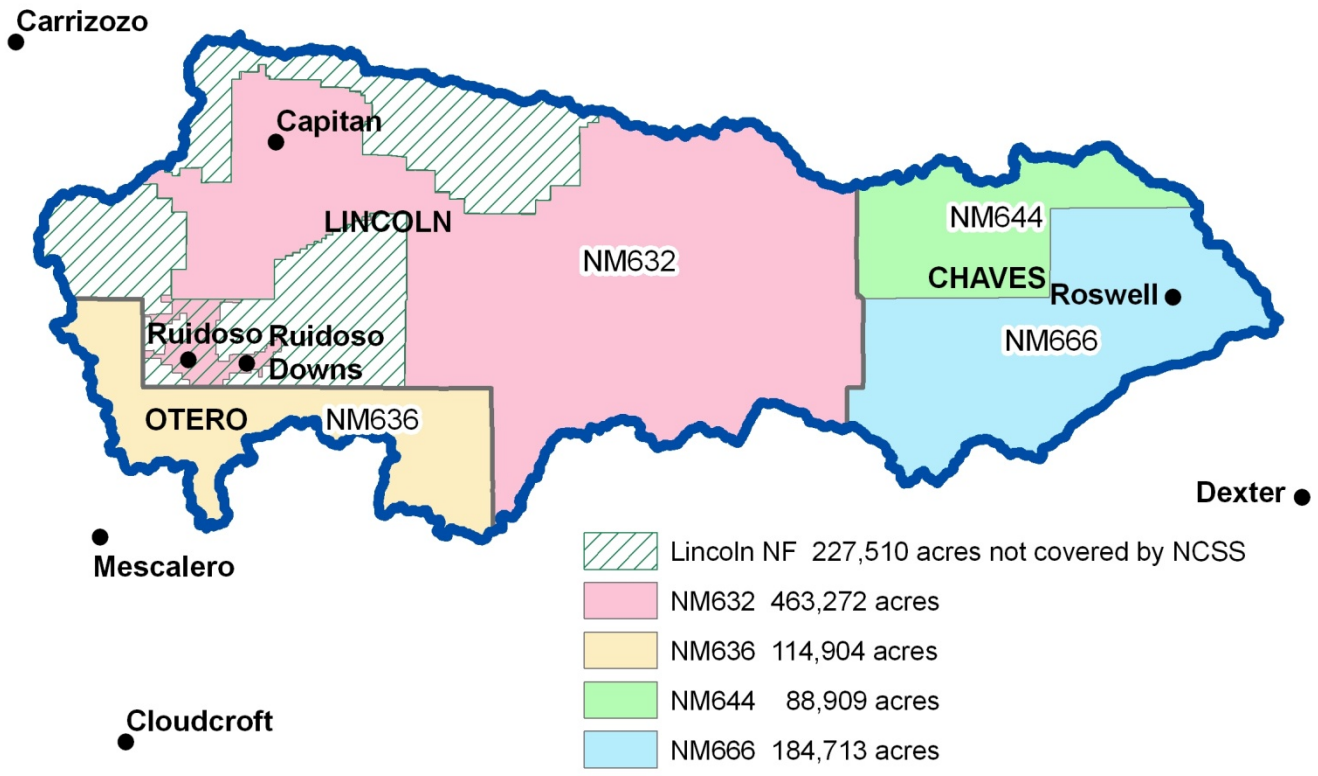


Figure 15. National Cooperative Soil Survey coverage of Rio Hondo

Soil Resource Inventory

In order to evaluate the susceptibility of erosion within the Rio Hondo watershed, a model was developed using Soil Survey Geographic Database (SSURGO) information. The soil properties saturated hydraulic conductivity, soil loss tolerance, and wind erodibility group were used in conjunction with slope to assess soil mapunit potential for erosion. Saturated hydraulic conductivity and slope are reported in SSURGO databases as interval/ratio data whereas wind erodibility and soil loss tolerance are ordinal data. Data transformations for the model are listed -

SSURGO Value	Nominal Description	Model Rank
Saturated Hydraulic Conductivity		
µm / s		
705.0 - 100.0	Very High	0
100.0 - 10.0	High	1
10.0 - 1.0	Moderately High	2
1.0 - 0.1	Moderately Low	3
0.1 - 0.01	Low	4
Slope %		
0 - 5		0
6 - 10		1
11 - 15		2
16 - 25		3
> 25		4
Soil Loss Tolerance		
5	High Tolerance For loss	0
4	↓	1
3	↓	2
2	↓	3
1	Low Tolerance For Loss	4
Wind Erodibility Group		
1	Very High	4
2	Very High	4
3	High	3
4	High	3
4L	High	3
5	Moderate	2
6	Moderate	2
7	Moderate	1
8	Slight	0

Table 10. Criteria Used for Soil Erosion Susceptibility Model.

Soil Resource Inventory

For each soil map unit (discrete delineation), the soil properties (named above) of the dominant soil type was used as the condition to be evaluated in the susceptibility to erosion model. Miscellaneous areas such as gravel pits, water, riverwash, etc. were excluded from evaluation. Possible range of values for each map unit are 0 – 16. Increasing values represent a higher susceptibility to soil erosion.

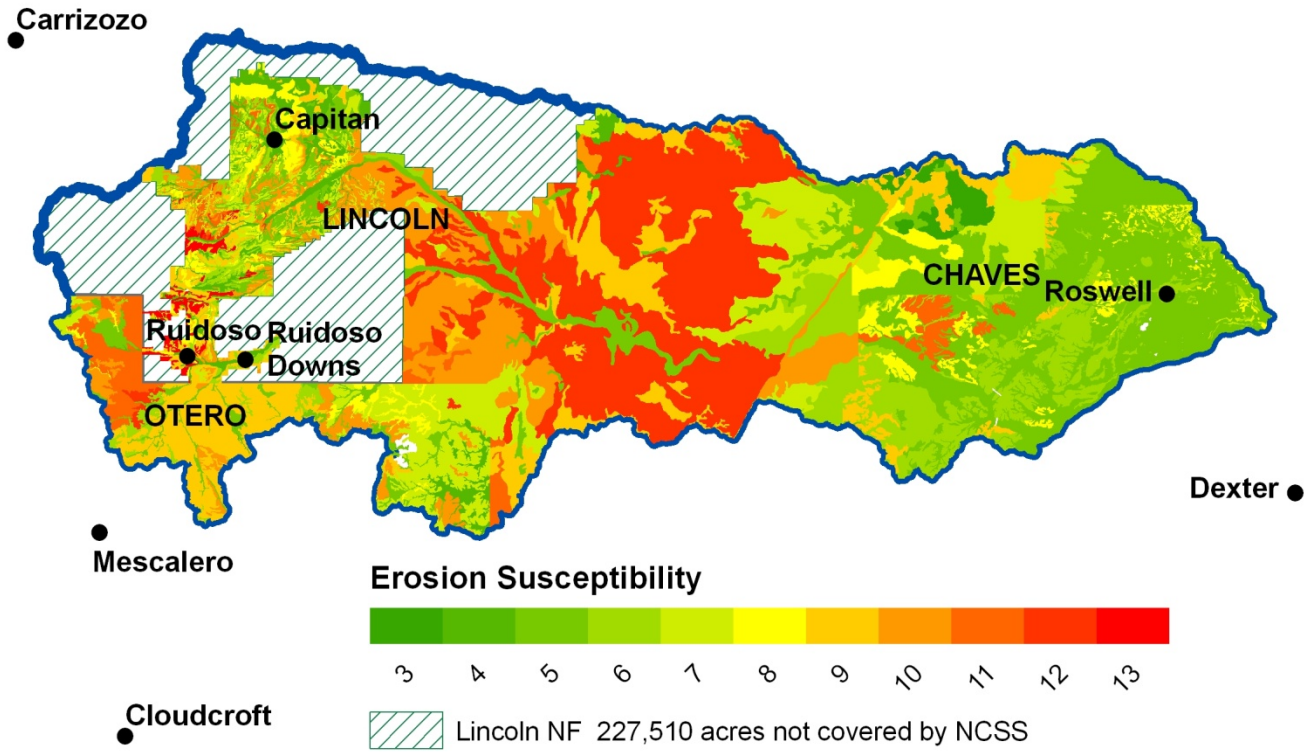


Figure 16. Erosion Potential of the Rio Hondo Watershed

Soil Resource Inventory

Rank	Acres
3	9,207
4	25,931
5	191,880
6	87,458
7	104,419
8	37,118
9	105,308
10	89,742
11	28,957
12	164,950
13	5,552
Sum(∑)	850,523

Table 11. Soil Erosion Potential Model Results. A greater rank indicates greater potential for erosion.

Socioeconomic Data [16]

COUNTY	Total population: Total	Total population: Hispanic or Latino	Total population: White alone	Total population: Black or African American alone	Total population: American Indian and Alaska Native alone	Total population: Asian alone	Total population: Native Hawaiian and Other Pacific Islander alone	Total population: Some other race alone	Total population: Two or more races	Families: Median family income (estimate)
Chavez	65,645	34,139	46,518	1,323	814	414	52	14,399	2,125	$34,325
Lincoln	20,497	6,110	17,439	96	489	75	10	1,880	508	NA
Otero	63,797	22,026	46,352	2,251	4,271	749	153	7,352	2,669	NA

Table 12. Socioeconomic Data of the Counties in the Watershed (2010).

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