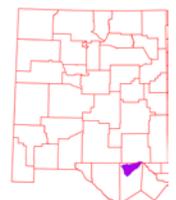


Rapid Watershed Assessment Delaware Watershed



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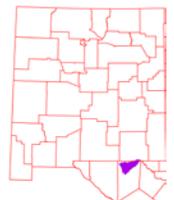


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Overview

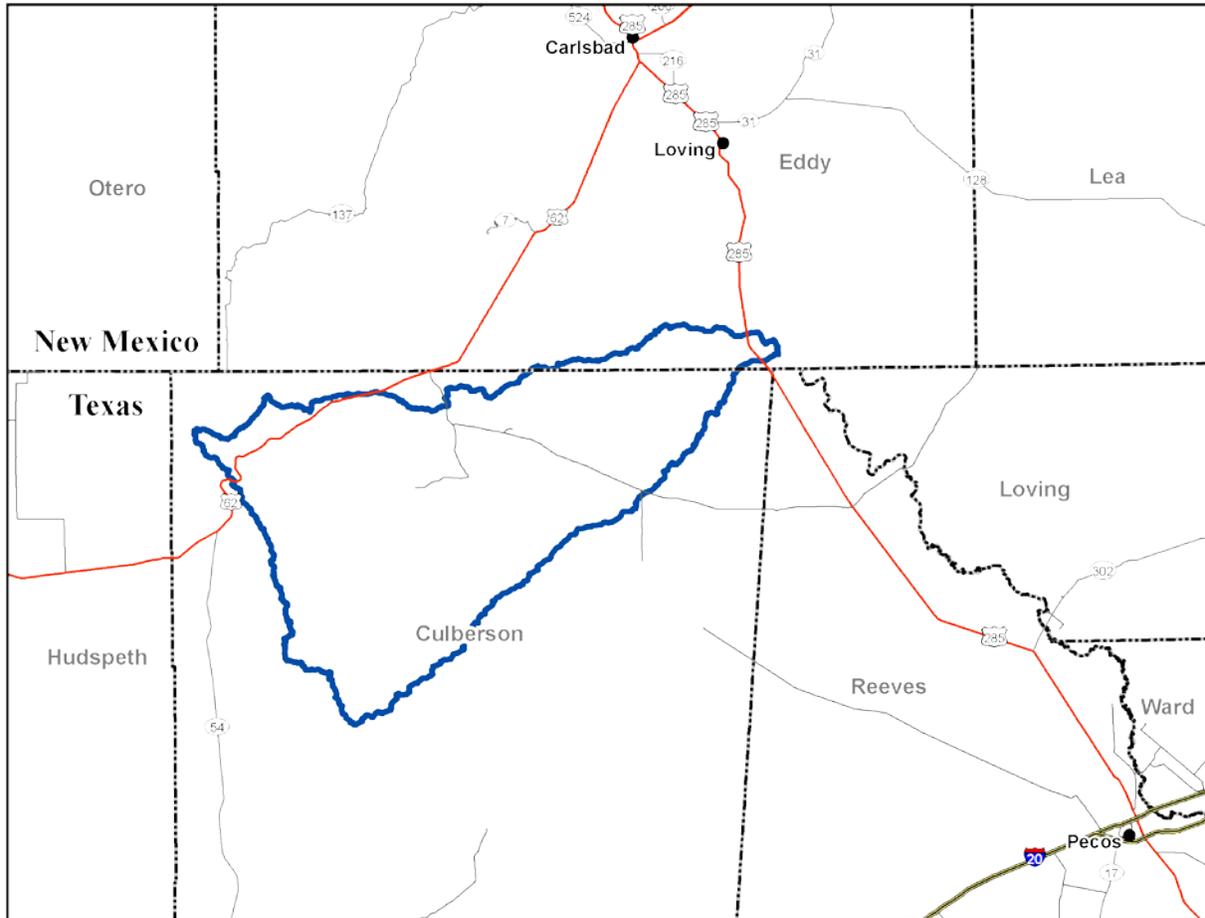
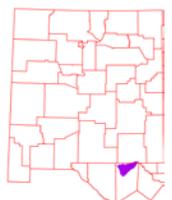


Figure 1. Delaware Watershed Overview

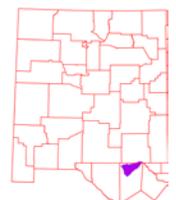


Overview

The Delaware Watershed is located in southeastern New Mexico and northwestern part of Texas. It covers 503,566 total acres (2,038 sq. km). Portions of the Delaware Watershed are in Culberson County in Texas and in Eddy County, New Mexico. Table 1 summarizes the distribution of the Delaware watershed.

County	County Acres Total	Acres in HUC	% of HUC in County	% of County in HUC
Culberson, TX	2,439,575	474,758	94	19
Eddy , NM	2,684,688	28,789	6	1
Sum (Σ)	--	503,547	100	--

Table 1. Delaware Watershed acreage distribution.



Physical Setting

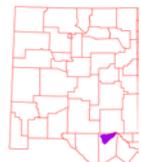
Geology:

The HUC has a northwestern boundary at Shumgard Peak in the Guadalupe Mountains. The southern boundary passes through Guadalupe Peak; southeastward along the Delaware Mountains to Cooky Hat Point; northeastward to The Pinnacle; junction of Farm to Market Road 652 and 2185; crosses into New Mexico about 1.5 miles of U.S. Highway 285; and then to the confluence of the Delaware river with the Pecos River. The northern boundary turns eastward from the Guadalupe Mountains near Pratt Road and crosses U.S. Highways 62/ 182 just north of McKittrick Road; crosses Ranch Road 652 north of the junction with Farm to Market Road 1108; skirts the southern edge of the Yeso Hills; follows the northern watershed boundary of the Delaware River; crosses U.S. Highway 285 just south of the intersection with Whitehorn Road; and then to the confluence of the Delaware river with the Pecos River.

The bedrock is predominantly Permian Period limestones, 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.

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 Delaware 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.

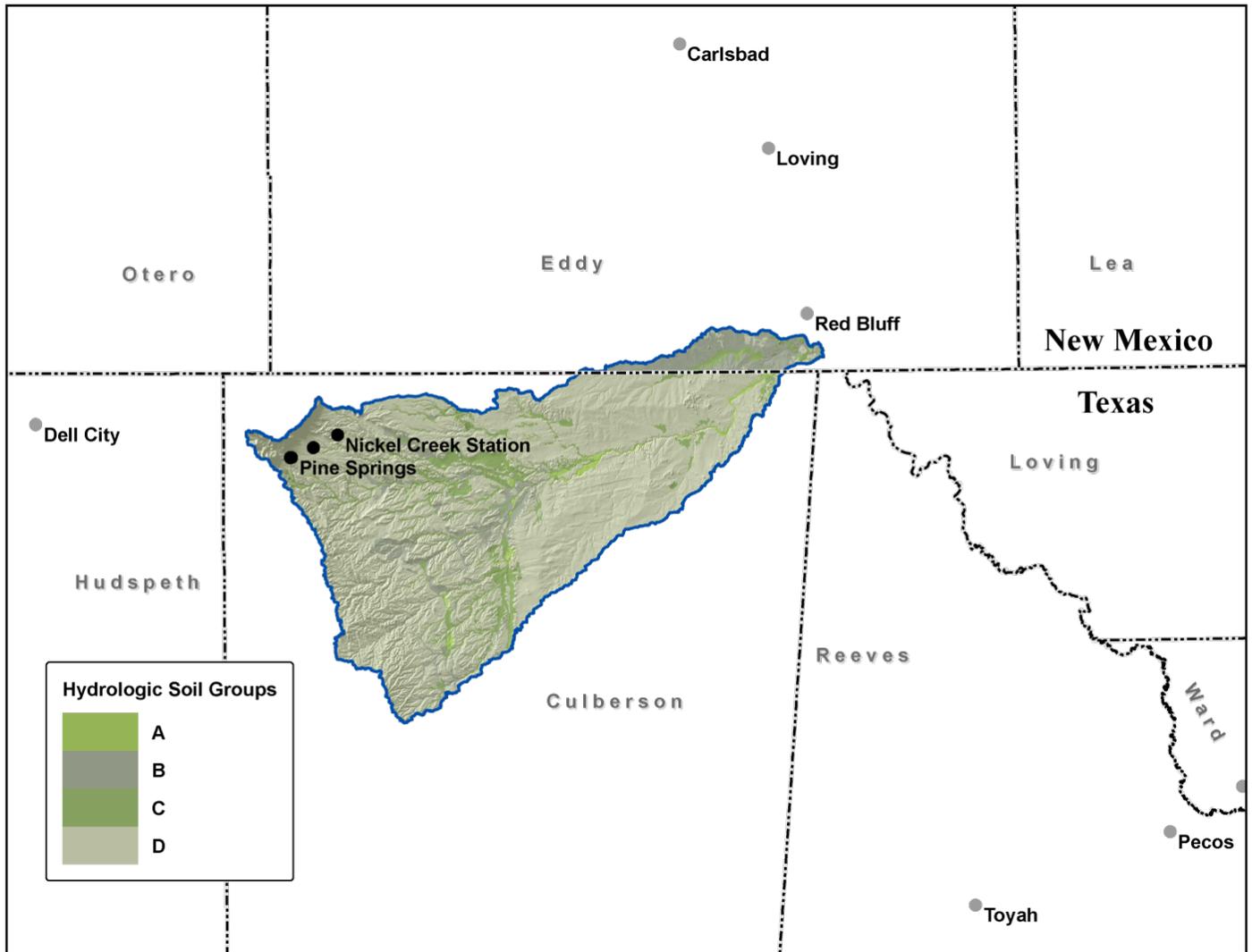


Figure 2. Delaware Watershed Shaded Hydrologic Soil Groups



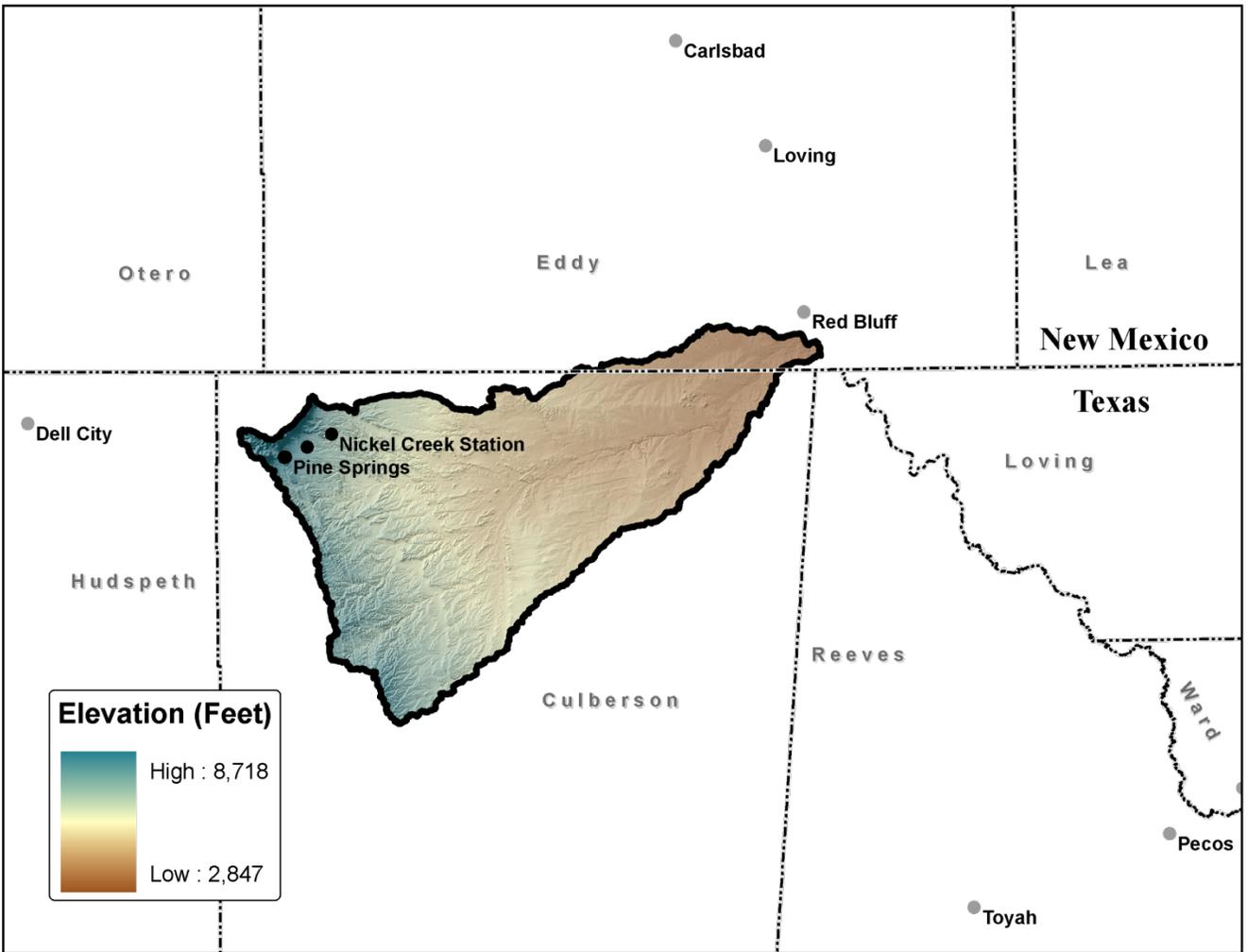


Figure 3. Delaware Watershed Shaded Relief

Precipitation ¹

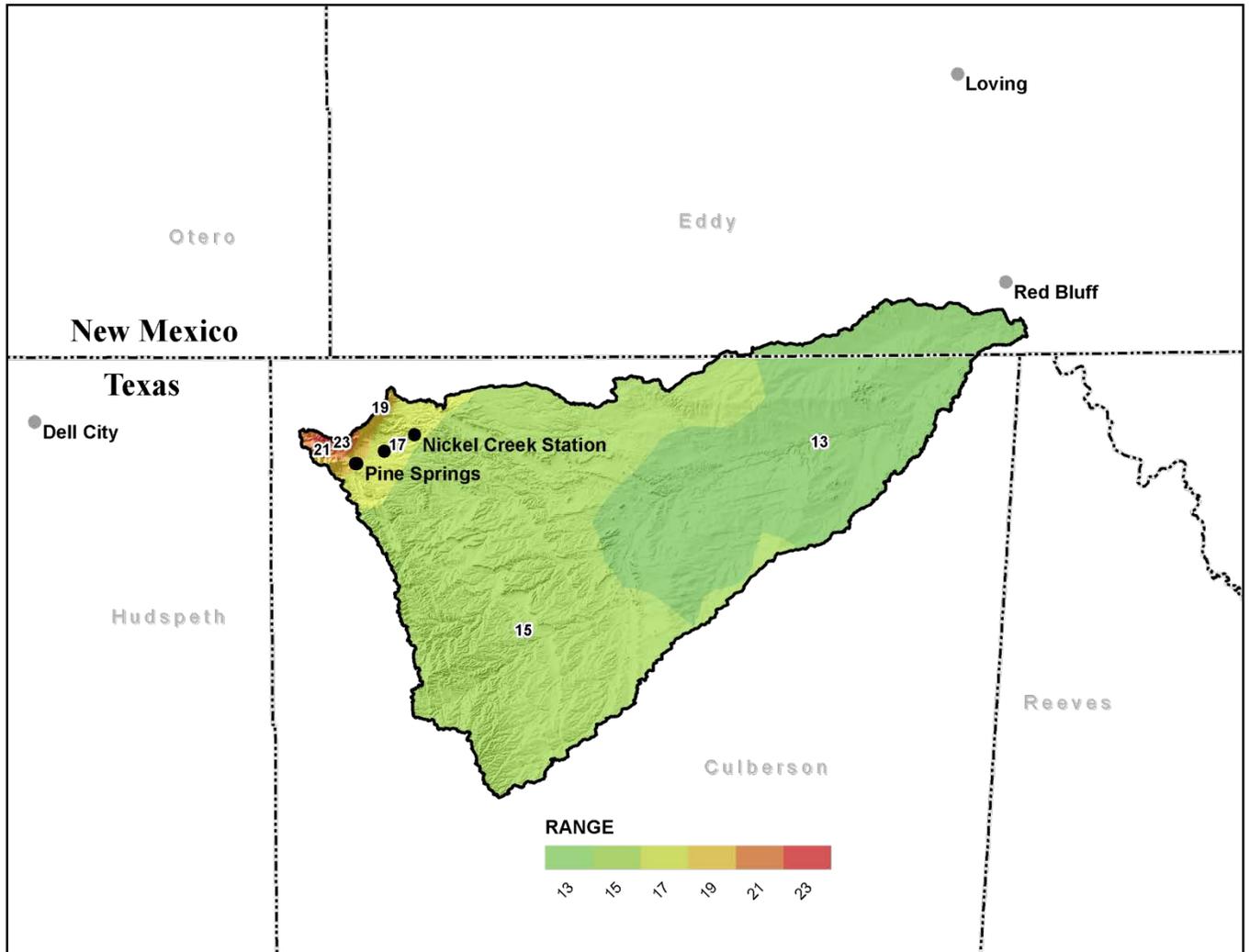
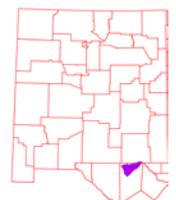


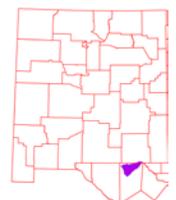
Figure 4. Delaware Watershed Annual Precipitation.



Land Ownership

<u>COUNTY</u>	<u>BLM</u>	<u>Guadalupe Mountains National Park</u>	<u>Private</u>	<u>State</u>
Culberson, TX		11,793	463,008	
Eddy , NM	16,788		1,933	10,044
Watershed (Σ)	16,788	11,793	464,941	10,044
% Watershed	3	2	92	2

Table 2. Land ownership in the Delaware Watershed.



Land Use / Land Cover ^{3,4}

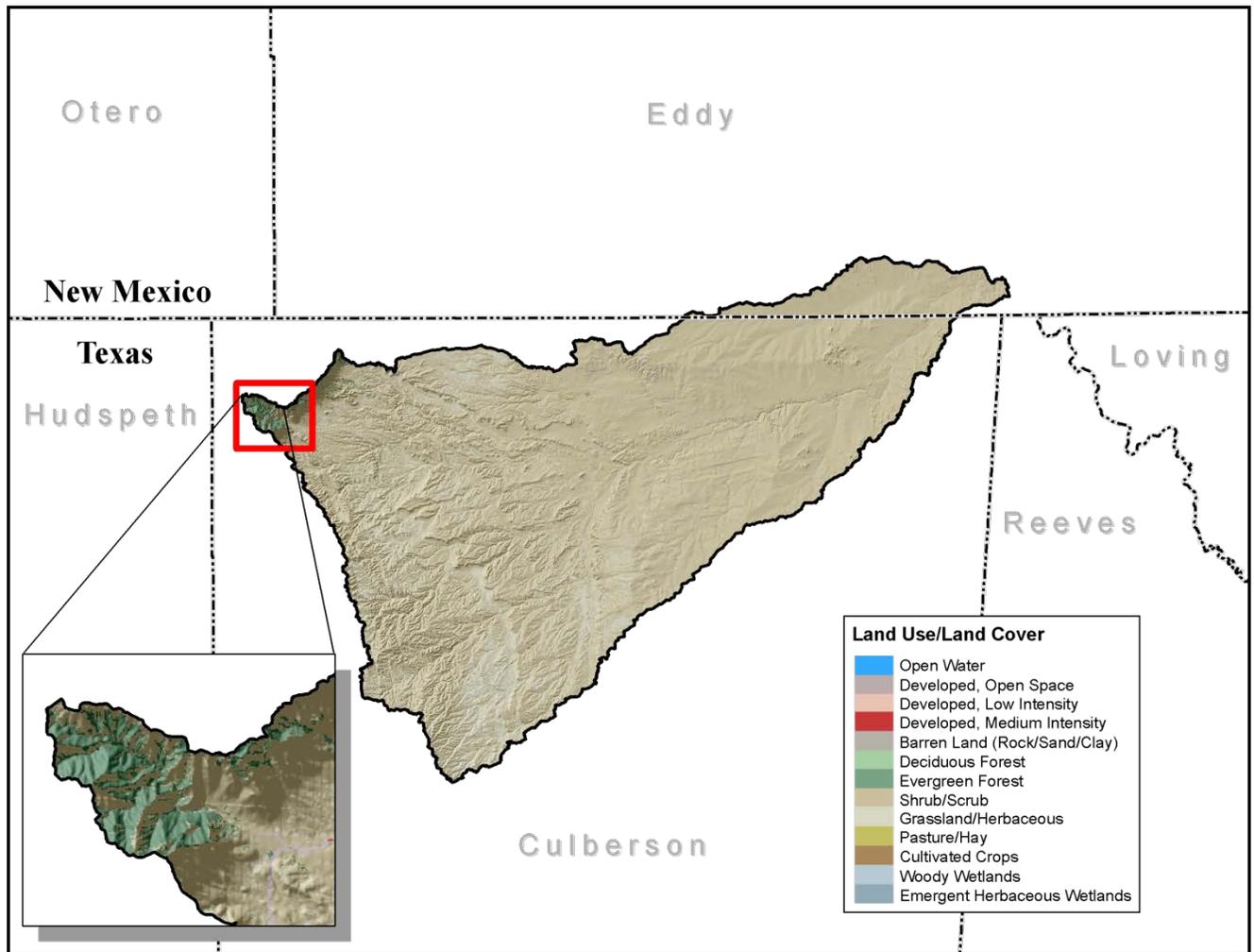


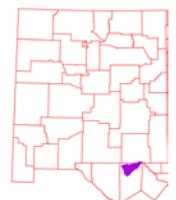
Figure 6. Subset of the National Land Cover Dataset in the Delaware Watershed.

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.

<u>Ecosystem</u>	<u>Acres</u>	<u>% of Watershed</u>
Shrub/Scrub	457,767	91
Grassland/Herbaceous	43,902	9
Evergreen Forest	2,522	1
Developed, Open Space	1,461	< 1
Barren Land (Rock/Sand/Clay)	1,031	< 1
Cultivated Crops	63	< 1
Woody Wetlands	39	< 1
Emergent Herbaceous Wetlands	35	< 1
Developed, Low Intensity	32	< 1
Deciduous Forest	18	< 1
Pasture/Hay	10	< 1
Developed, Medium Intensity	2	< 1

Table 3. Extent of NLCD classes in the Delaware Watershed.



Land Use / Land Cover

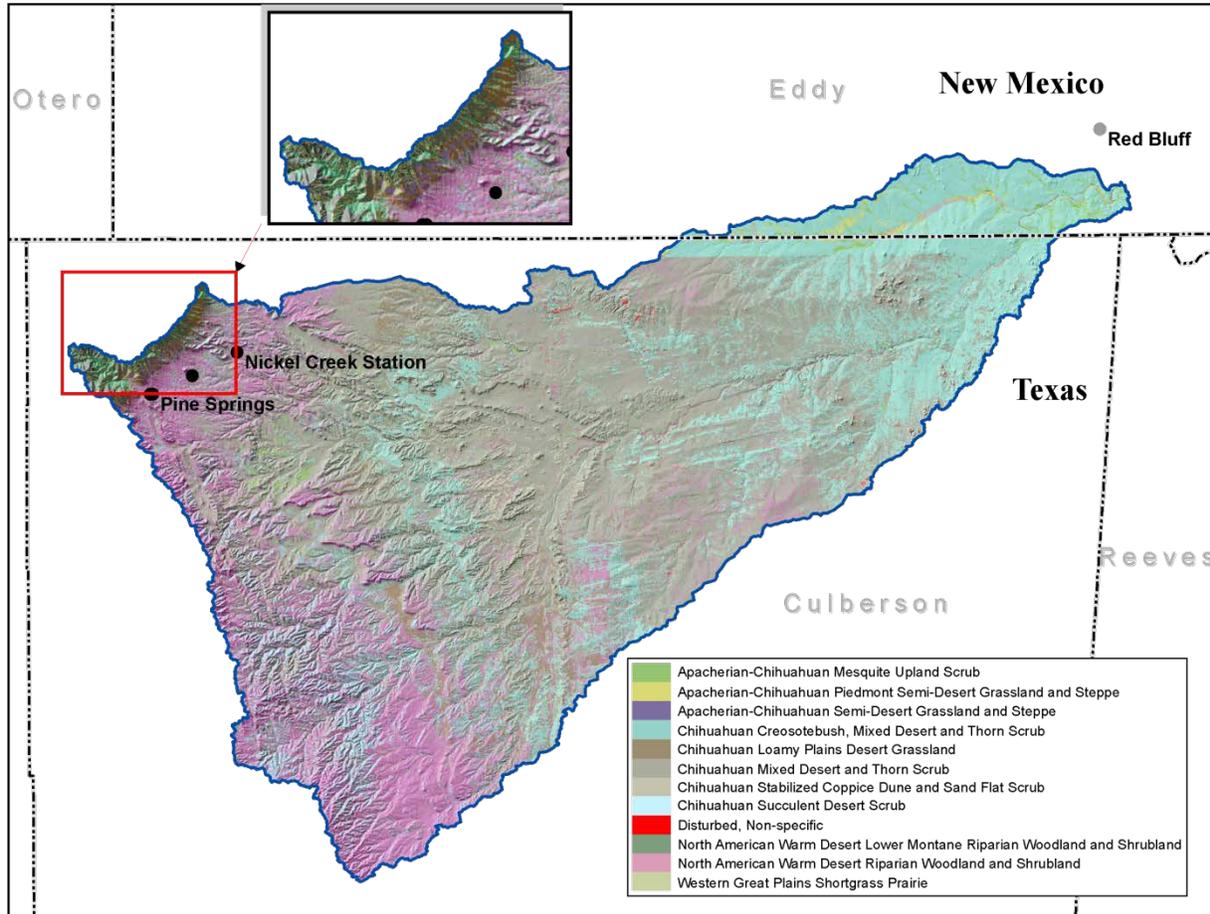


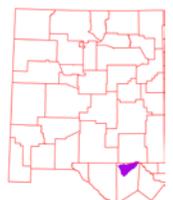
Figure 7. Subset of the SWREGAP over the Delaware Watershed. The 12 dominant ecosystems are displayed in the legend.

Land Use / Land Cover

The land cover 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
Chihuahuan Mixed Desert and Thorn Scrub	236,133	47
Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub	108,090	21
Apacherian-Chihuahuan Semi-Desert Grassland and Steppe	85,738	17
Chihuahuan Succulent Desert Scrub	25,151	5
Chihuahuan Loamy Plains Desert Grassland	20,721	4
Apacherian-Chihuahuan Mesquite Upland Scrub	6,431	1
Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub	4,338	1
North American Warm Desert Riparian Woodland and Shrubland	2,842	1
Western Great Plains Shortgrass Prairie	2,491	< 1
Disturbed, Non-specific	2,191	< 1
North American Warm Desert Lower Montane Riparian Woodland and Shrubland	1,240	< 1
Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe	1,179	< 1

Table 4. SW Region Gap analysis ecosystem acreages.



Hydrology [5,6,7,8,9,10](#)

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 1,790 miles (2,881 km) of water courses in the Delaware Watershed. The majority of these courses typically flow intermittently in summer months during periods associated with high intensity convective thunderstorms.

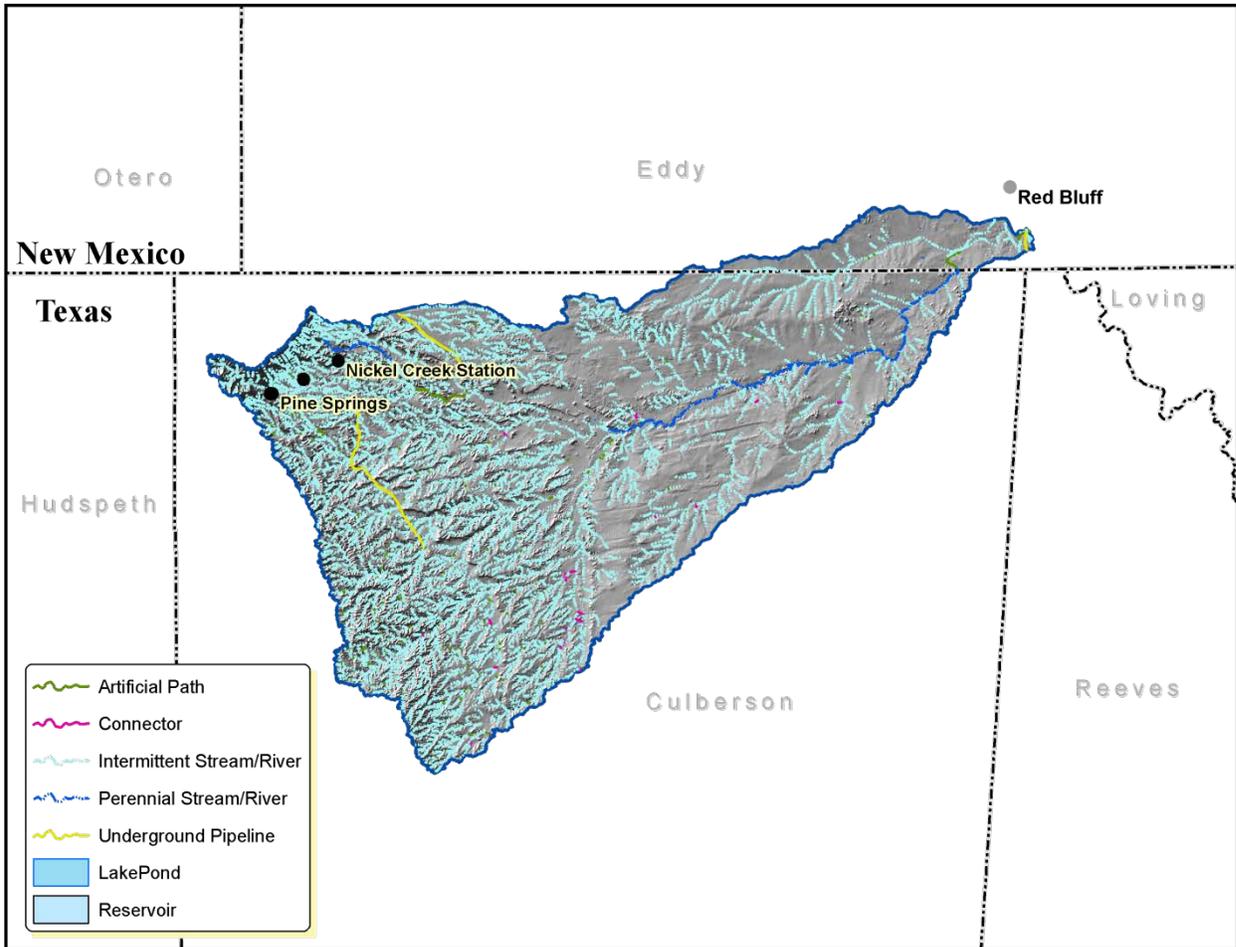


Figure 8. National Hydrologic Dataset (NHD) of the Delaware

Water Course Type	Miles
Artificial Path	16
Connector	4
Intermittent Stream / River	1,713
Perennial Stream / River	39
Underground Pipeline	18
Sum (Σ)	1,790

Table 5. NHD Water Course Type and Extents



Gauging Stations:

There is one water gauging station in the watershed. USGS Site 08408500 is near the NE corner of the watershed on the Delaware River near Red Bluff. During the period 1937 – 2011, this site has had mean annual discharge of 10.337 cubic feet per second, ranging from 0.945 cubic feet per second in May 1938 to 748.1 cubic feet per second in October 1955.

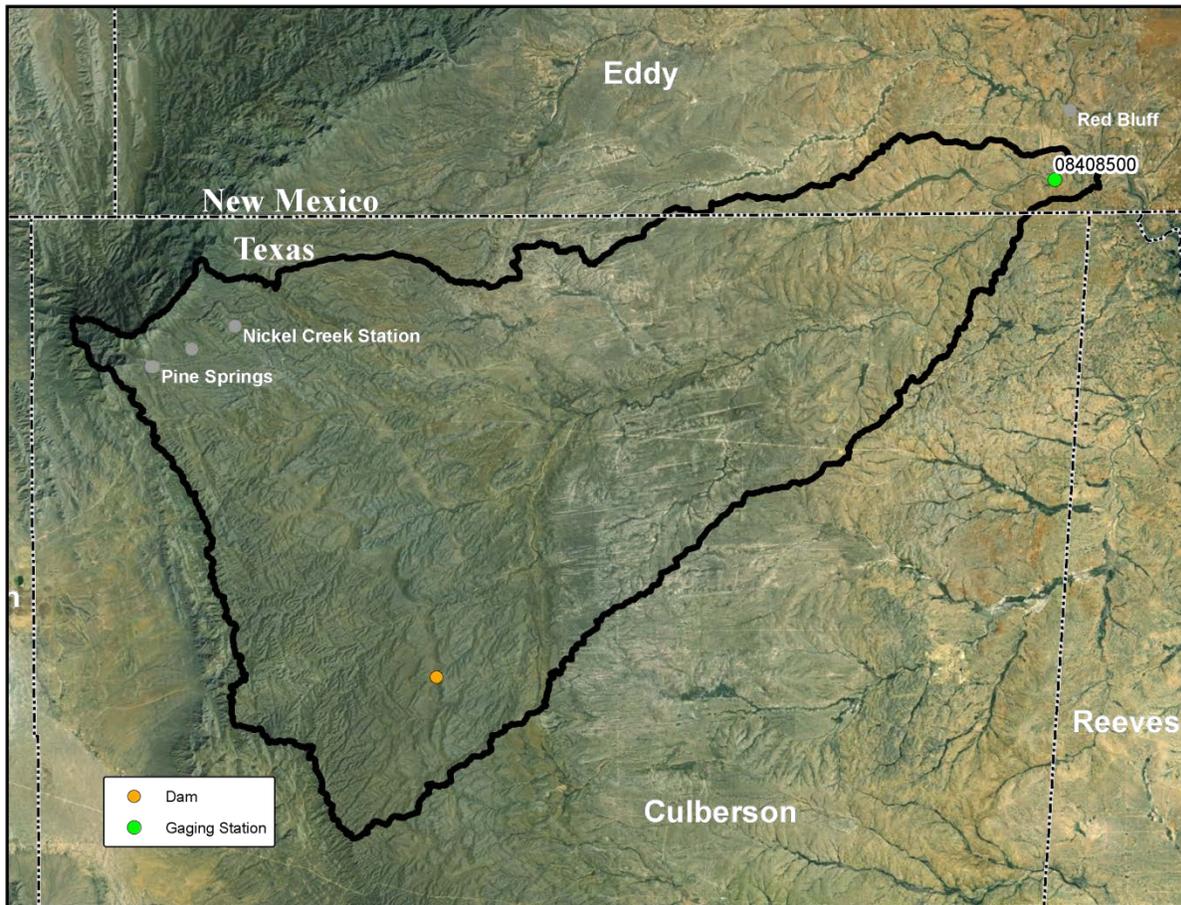


Figure 9. Gauging Stations in the Delaware Watershed.

Hydrology

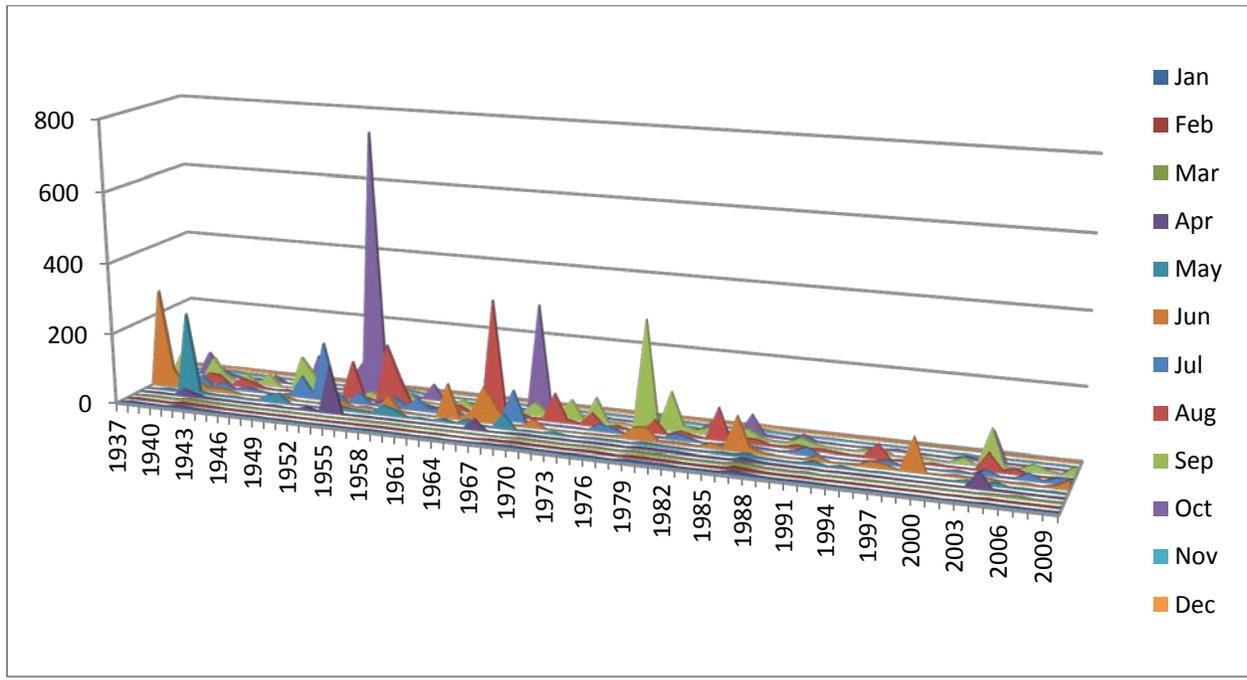


Figure 10. Monthly average of Mean Daily Flow on the Delaware at Red Bluff, NM. Period of observation: 1937-2011.



New Mexico Water Quality Control Commission (NMWQCC):

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 Delaware Watershed as part of the Carlsbad Water Basin.

There are no designated Impaired Surface Waters for this Delaware Watershed.

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.

There are no designated water bodies for the Delaware Watershed.

Texas Commission on Environmental Quality (TCEQ):

The Texas Commission on Environmental Quality (TCEQ) is the issuing agency of water quality standards for interstate and intrastate waters in Texas. There are no designated impaired reaches or water bodies for the Delaware Watershed as of March 19, 2008.

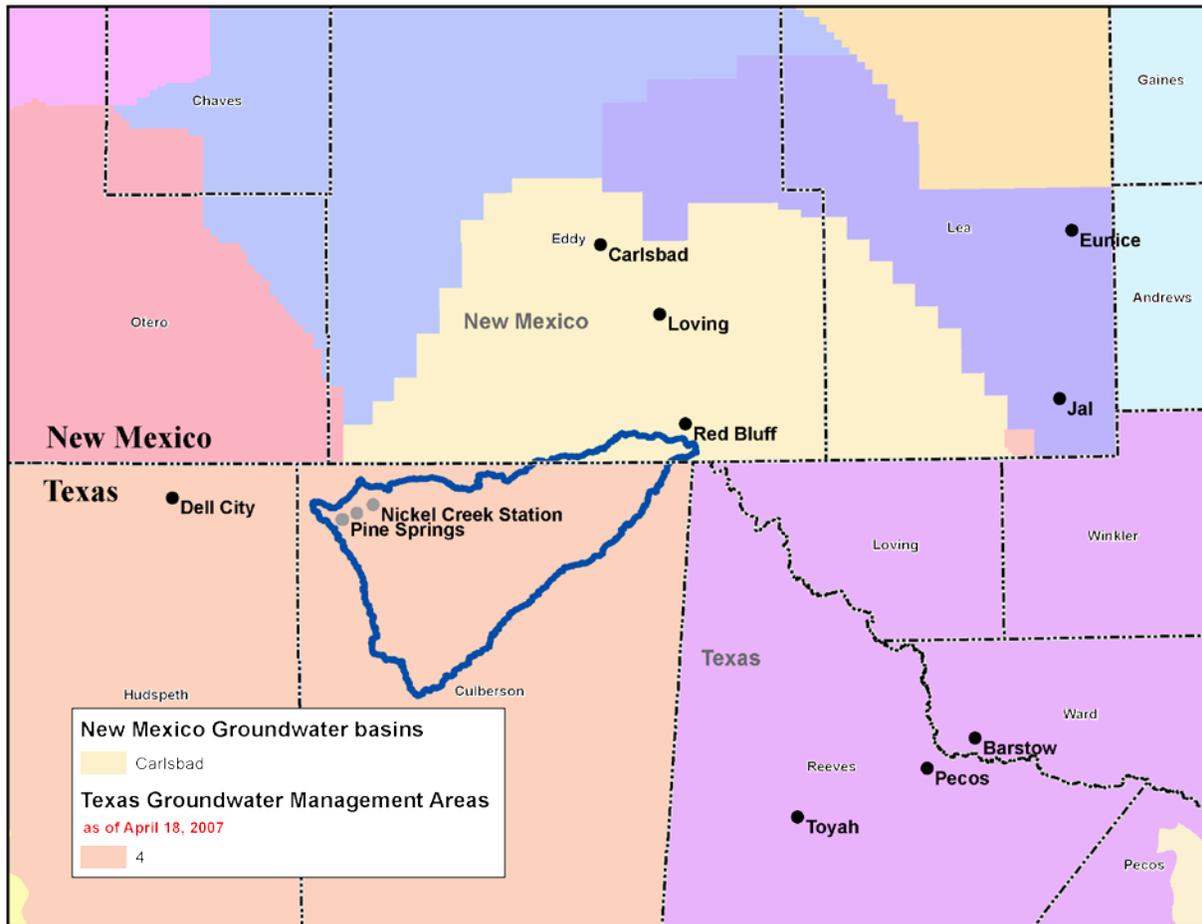


Figure 1.1 Declared Groundwater Basins of the Delaware.

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. There are 2 declared groundwater basins in the Delaware Watershed: Carlsbad and GMA 4. The surface watershed in NM covers a small portion of 30,257 acres and large portion of surface watershed in TX covers 474,759, acres of the approximately million acres of the 14,423,155 underground water basins in both NM and TX.



Threatened and Endangered Species ^{11, 12}

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 and the Texas Parks & Wildlife Department programs track 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 Delaware Watershed.

<u>Common Name</u>	<u>Scientific Name</u>	<u>Tax Class</u>	<u>Family</u>	<u>Federal Status</u>	<u>State Status</u>
Pecos Pupfish	<i>Cyprinodon pecosensis</i>	Actinopterygii	Cyprinidae		T
American Peregrine Falcon	<i>Falco peregrinus tundrius</i>				T
Common Black-Hawk	<i>Buteogallus anthracinus</i>				T
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>			LT	T
Northern Aplomado Falcon	<i>Falco femoralis septentrionalis</i>			LE	E
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>			LE	E
Zone-tailed Hawk	<i>Buteo albonotatus</i>				T

Table 6. Threatened and Endangered Plant and Animal Species.

Invasive Species ^{13,14}

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 Delaware Watershed, the SWEMP or the Texas Park and Wildlife Department have identified 7 species of invasive plants (Table 7). Each of these species is defined as non-native by the USDA PLANTS database.

<u>Scientific Name</u>	<u>Common Name</u>
<i>Zygophyllaceae (Caltrop Family)</i>	African Rue
<i>Phragmites australis (Cav.)</i>	Common Reed
<i>Echinochloa colona (L.)</i>	Junglerice
<i>Hordeum murinum L.</i>	Mouse Barley
<i>Lactuca serriola L</i>	Prickly Lettuce
<i>Asteraceae (Sunflower Family)</i>	Russian Knapweed
<i>Asteraceae (Sunflower Family)</i>	Yellow Starthistle

Table 7. Invasive Species Recognized by the SWEMP and the Texas Park and Wildlife Department.



Common Resource Areas¹⁵

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.

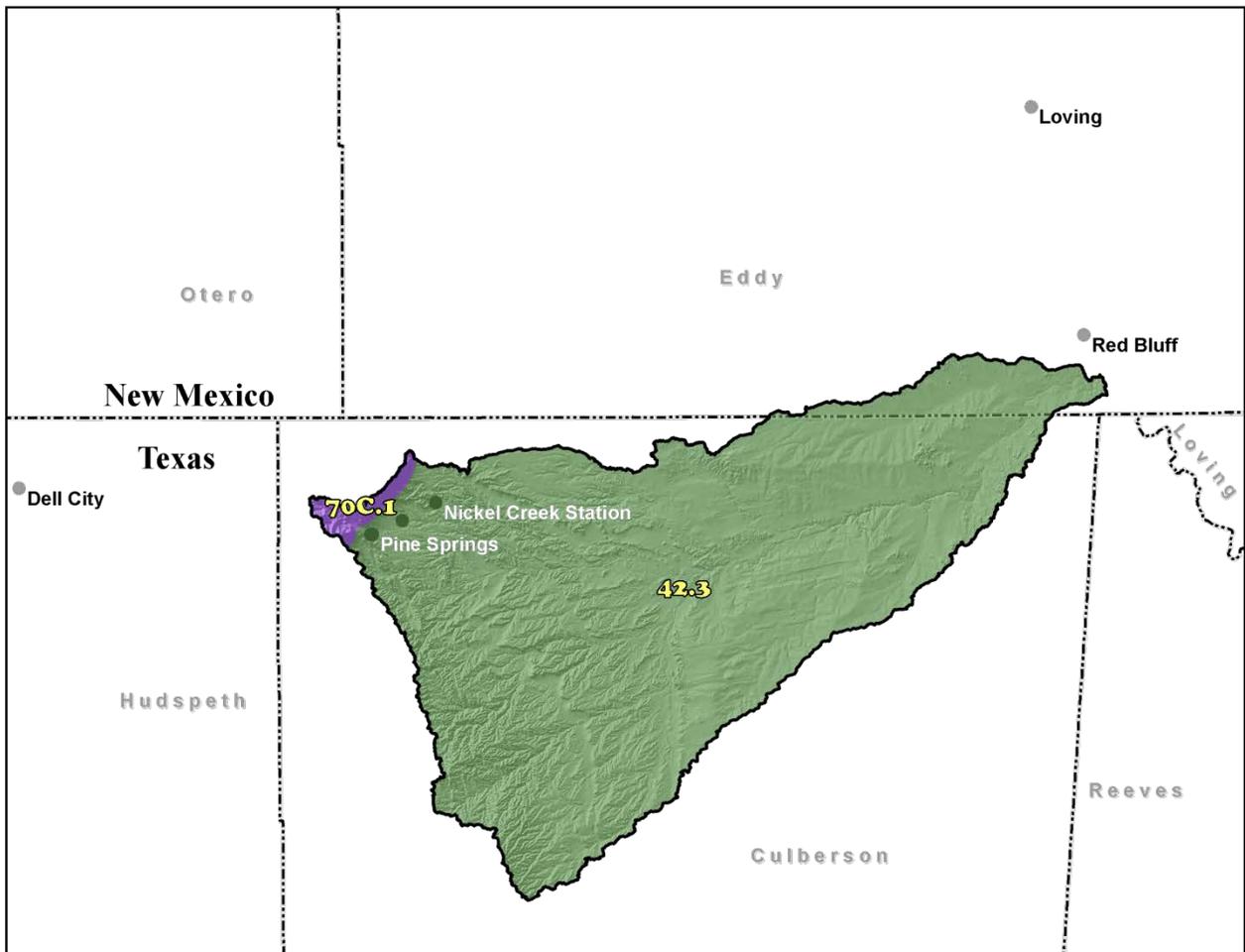


Figure 12 Common Resource Areas of the Delaware Watershed.

Common Resource Areas

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, soap tree 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)



Conservation ¹⁶

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	2006		2007		2008		2009		2010		TOTAL	
	#	Acres	#	Acres	#	Acres	#	Acres	#	Acres	#	Acres
Brush Management	1	1,730			1	839	1	10,800			3	13,369
Prescribed Grazing					1	147,348	1	137,213	1	11,042	3	295,603
Upland Wildlife Habitat Management	1	162,936			1	152,264	1	65,900	1	6,720	4	387,820
SUM (Σ)	2	164,666			3	300,451	3	213,913	2	17,762	10	696,792

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

Conservation Practice	2006		2007		2008		2009		2010		TOTAL	
	#	Feet	#	Feet	#	Feet	#	Feet	#	Feet	#	Feet
Fence	1	5,390			1	24,159	1	7,772	1	6,045	4	43,365
Pipeline	1	186					1	30,878	1	9,922	3	40,985
SUM (Σ)	2	5,576			1	24,159	2	38,650	2	15,967	7	84,350

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

Soil Resource Inventory¹⁷

The Delaware Watershed has a number of certified National Cooperative Soil Survey (NCSS) inventories. Soils data is available from the NRCS Soil Data Mart at <http://soildatamart.nrcs.usda.gov/> and/or the NRCS Geospatial Data Gateway at <http://datagateway.nrcs.usda.gov>.

National Cooperative Soil Survey:

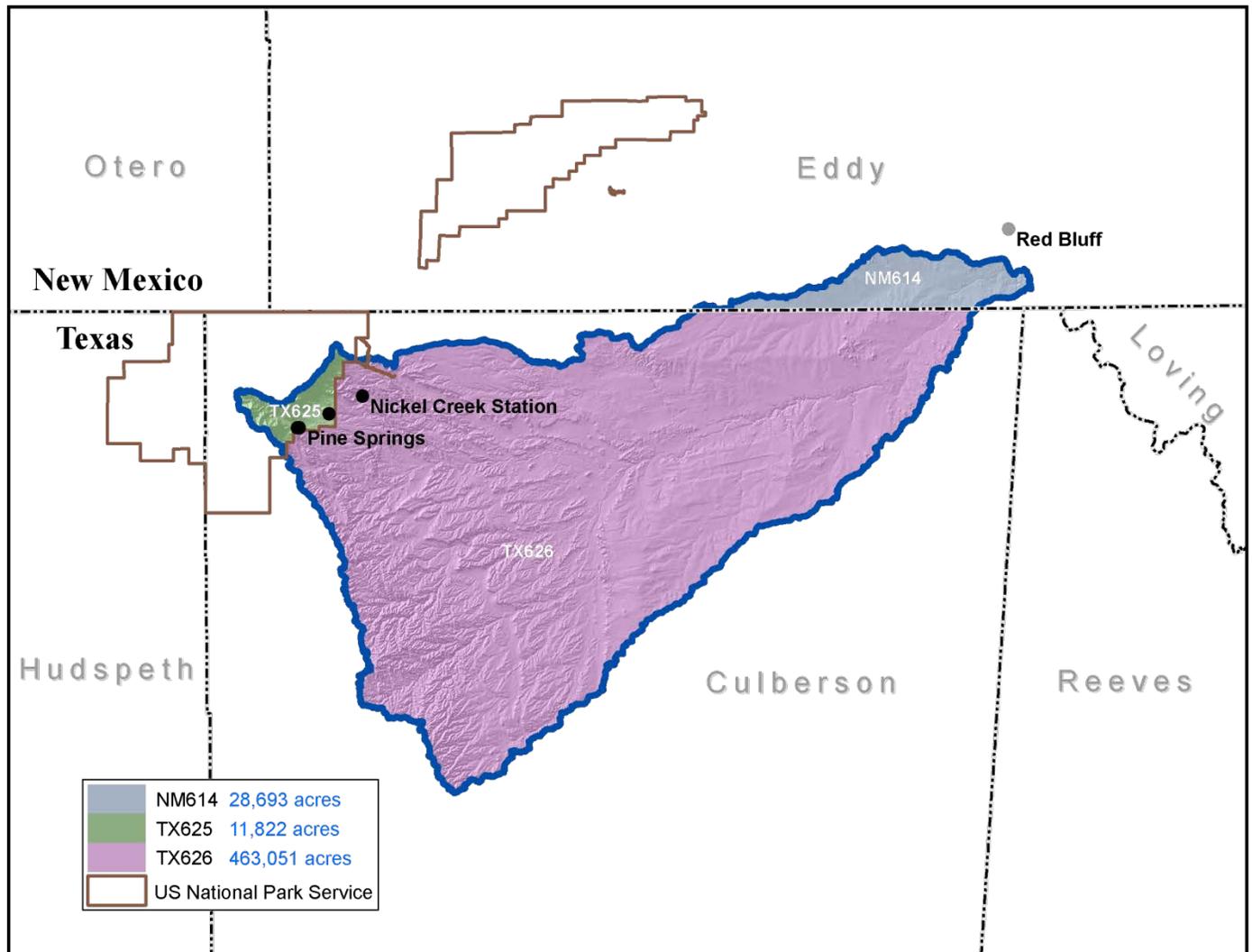


Figure 13 National Cooperative Soil Survey coverage of the Delaware Watershed.

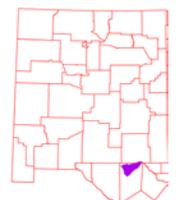


Soil Resource Inventory

In order to evaluate the susceptibility of erosion within the Delaware 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 map unit 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 -

<u>SSURGO Value</u>	<u>Nominal Description</u>	<u>Model Rank</u>
Saturated Hydraulic Conductivity		
$\mu\text{m} / \text{s}$		
705.0 - 100.0	Very High	0
99.9 - 10.0	High	1
9.9 - 1.0	Moderately High	2
0.9 - 0.1	Moderately Low	3
0.09 - 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.

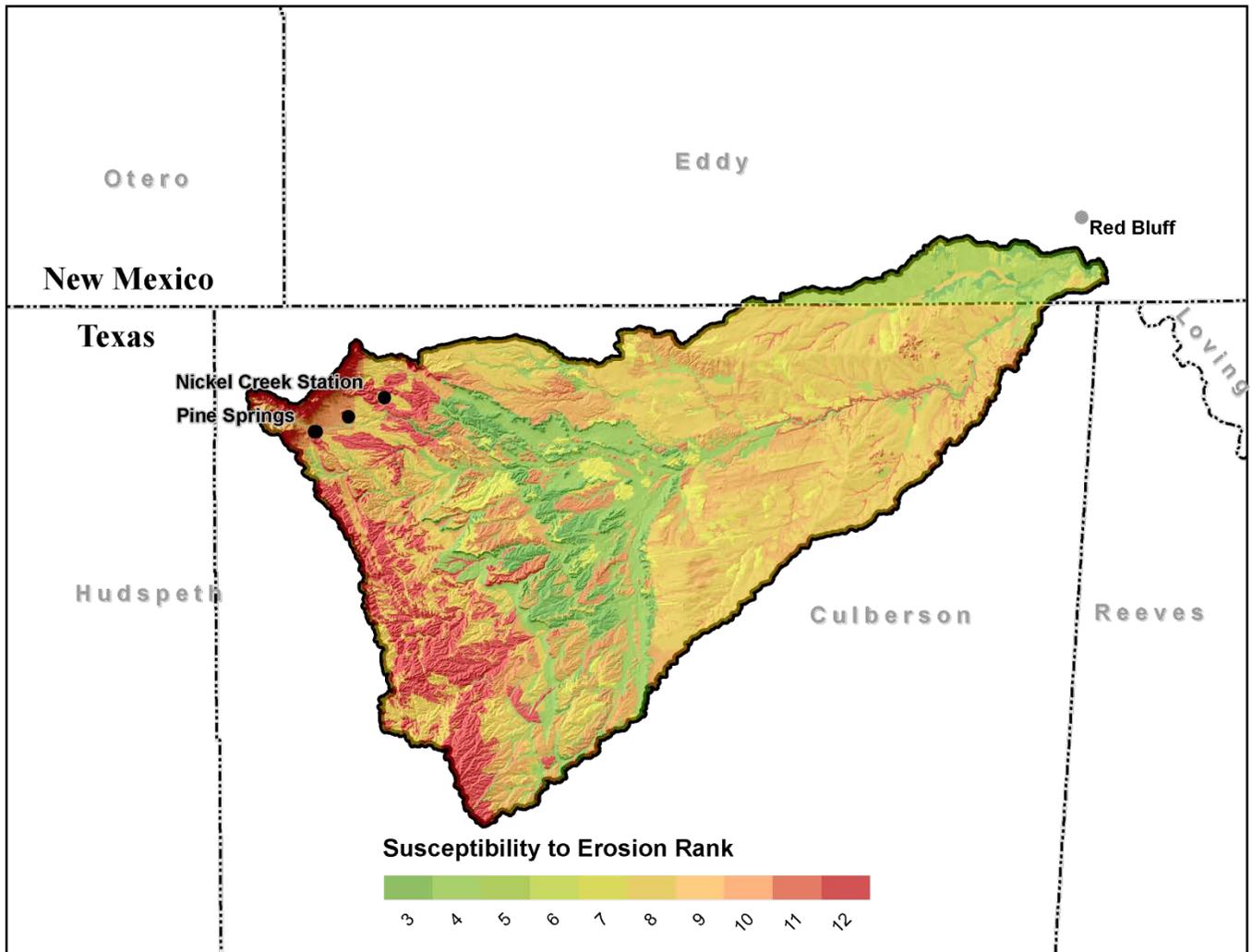
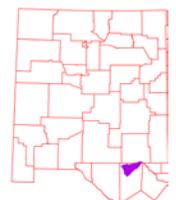


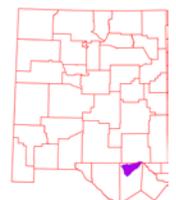
Figure 14. Delaware Watershed Erosion Potential.



Soil Resource Inventory

<u>Rank</u>	<u>Acres</u>
3	2,284
4	64,688
5	26,665
6	2,132
7	23,418
8	169,339
9	89,873
10	30,368
11	5,402
12	59,244
Sum(Σ)	473,413

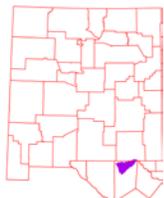
Table 11. Soil Erosion Potential Model Results. A greater rank indicates greater potential for erosion.



Socioeconomic Data ¹⁹

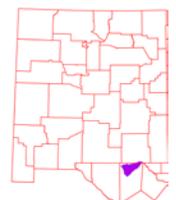
COUNTY	Total population: Total	Total population: Urban	Total population: Rural	Total Pop.: Rural Farm	Total Pop.: Rural Nonfarm	Total population: Hispanic or Latino	Total population: White alone	Total population: Black or African American alone	Total population: American Indian and Alaska Native alone	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 adj. 2009
Eddy, NM	51,658	38,836	12,822	675	12,678	20,023	39,438	805	646	231	47	9,129	1,362	54,824
Culberson, TX	2,975	0	2,975	44	2,931	2,149	2,051	21	14	17	0	807	65	41,378

Table 12. Socioeconomic Data of the Counties in the Delaware Watershed (2000).



References

1. Parameter-elevation Regressions on Independent Slopes Model (PRISM).PRISM is a unique knowledge-based system that uses point measurements of precipitation, temperature, and other climatic factors to produce continuous, digital grid estimates of monthly, yearly, and event-based climatic parameters. <http://www.prism.oregonstate.edu/>
2. Bureau of Land Management – New Mexico State Office. - http://www.blm.gov/nm/st/en/prog/more/geographic_sciences/spatial_data_metadata.html
3. UNITED STATES GEOLOGICAL SURVEY - National Land Cover Dataset. <http://landcover.United States Geological Survey.gov/>
4. Southwest Regional Gap Analysis Project (SWReGAP). <http://earth.gis.usu.edu/swgap/>
5. UNITED STATES GEOLOGICAL SURVEY – National Hydrography Dataset. <http://nhd.United States Geological Survey.gov/>
6. UNITED STATES GEOLOGICAL SURVEY - <http://waterdata.usgs.gov/nwis/rt>
7. State of New Mexico Environment Department - <ftp://ftp.nmenv.state.nm.us/www/swqb/303d-305b/2010/USEPA-Approved303dList.pdf>
8. United States Environmental Protection Agency - http://cfpub.epa.gov/surf/huc.cfm?huc_code=13070002
9. New Mexico - Office of the State Engineer- http://www.ose.state.nm.us/water_info_data.html
10. Texas Commission on Environmental Quality - <http://www.tceq.texas.gov/>
11. New Mexico Natural Heritage Program - <http://nhnm.unm.edu/>
12. Texas Parks & Wildlife Department - <http://www.tpwd.state.tx.us/>
13. Southwest Exotic Plant Mapping Program - <http://www.invasiveweeds.com/mapping/welcome.html>
14. Texas Invasives - <http://www.texasinvasives.org/>
15. Natural Resources Conservation Service – National Coordinated Common Resource Area (CRA) Geographic Database <http://soils.usda.gov/survey/geography/cra.html>
16. Natural Resources Conservation Service – Performance Results System <http://ias.sc.egov.usda.gov/PRSHOME/>



17. Natural Resources Conservation Service – Soil Data Mart

<http://soildatamart.nrcs.usda.gov/>

18. United States Census Bureau - <http://factfinder.census.gov/home/saff/main.html? lang=en>

