

This resource assessment is designed to gather and display information specific to Tooele County, Utah. This report will highlight the natural and social resources present in the county, detail specific concerns, and be used to aid in resource planning and target conservation assistance needs. This document is dynamic and will be updated as additional information is available through a multi-agency partnership effort. The general observations and summaries are listed first, followed by the specific resource inventories.

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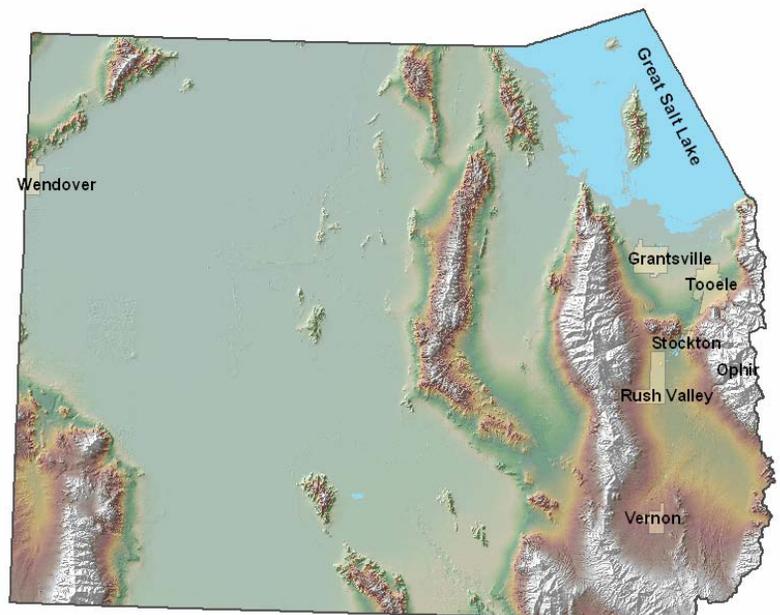
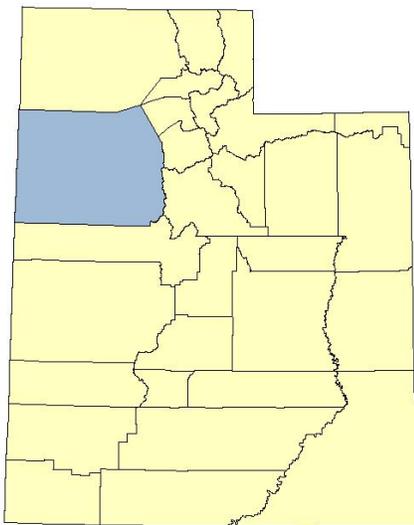
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Introduction

Tooele County covers 6,923 square miles, stretching west from the Great Salt Lake to the Nevada State line. The county was one of Utah's original six counties created in 1850, and since has had several boundary changes.

The current boundaries of Tooele County encompass classic basin and range terrain with large expanses of the Great Salt Lake Desert interrupted by north to south running mountain ranges. On the eastern border are the Oquirrh Mountains and along the western border are the Deep Creeks, with the Onaqui and Stansbury Mountains in between. Elevations range from 4,200 feet above sea level at the edge of the Great Salt Lake to over 11,031 at Deseret Peak in the Stansbury Mountains.

Equal Opportunity Providers and Employers.



Originally valued by the pioneers for livestock grazing, Tooele later attracted settlers for farming and mining. By the end of World War II, the county had become an important site for military installations, including the Tooele Army Depot, Dugway Proving Grounds, and the now closed Wendover Air Force Base.

Typically summers are hot and the winters are cold, with the timing of precipitation dependent upon elevation. At the lower elevations the average annual precipitation ranges from 8 to 12 inches, coming mostly during the summer months in the form of thunderstorms. Higher elevations commonly receive up to 24 inches of precipitation or more in the form of winter snow.

General Land Use Observations

Croplands / Pasture / Haylands

- Productivity reduced due to soil salinity
- Productivity reduced due to inadequate availability of surface or groundwater for irrigation
- Invasion of noxious weeds impacts crop production, landowner time and finances
- Mitigate wildlife depredation on private agricultural lands
- Loss of cropland and pasture as development expands into previously agricultural lands

Rangeland / Wildlife Habitat

- Increase and maintain plant diversity to improve wildlife habitat and range condition
- Reduced forage availability and increased soil erosion due to juniper encroachment
- Habitat for threatened, endangered or other sensitive species to be retained and enhanced
- Invasion of noxious weeds affects forage production and has changed the natural fire regime
- Prescribed burning to re-establish healthy wildlife habitat and increase forage production is desired
- Riparian and aquatic habitat will be restored or maintained to retain fishery and water quality values

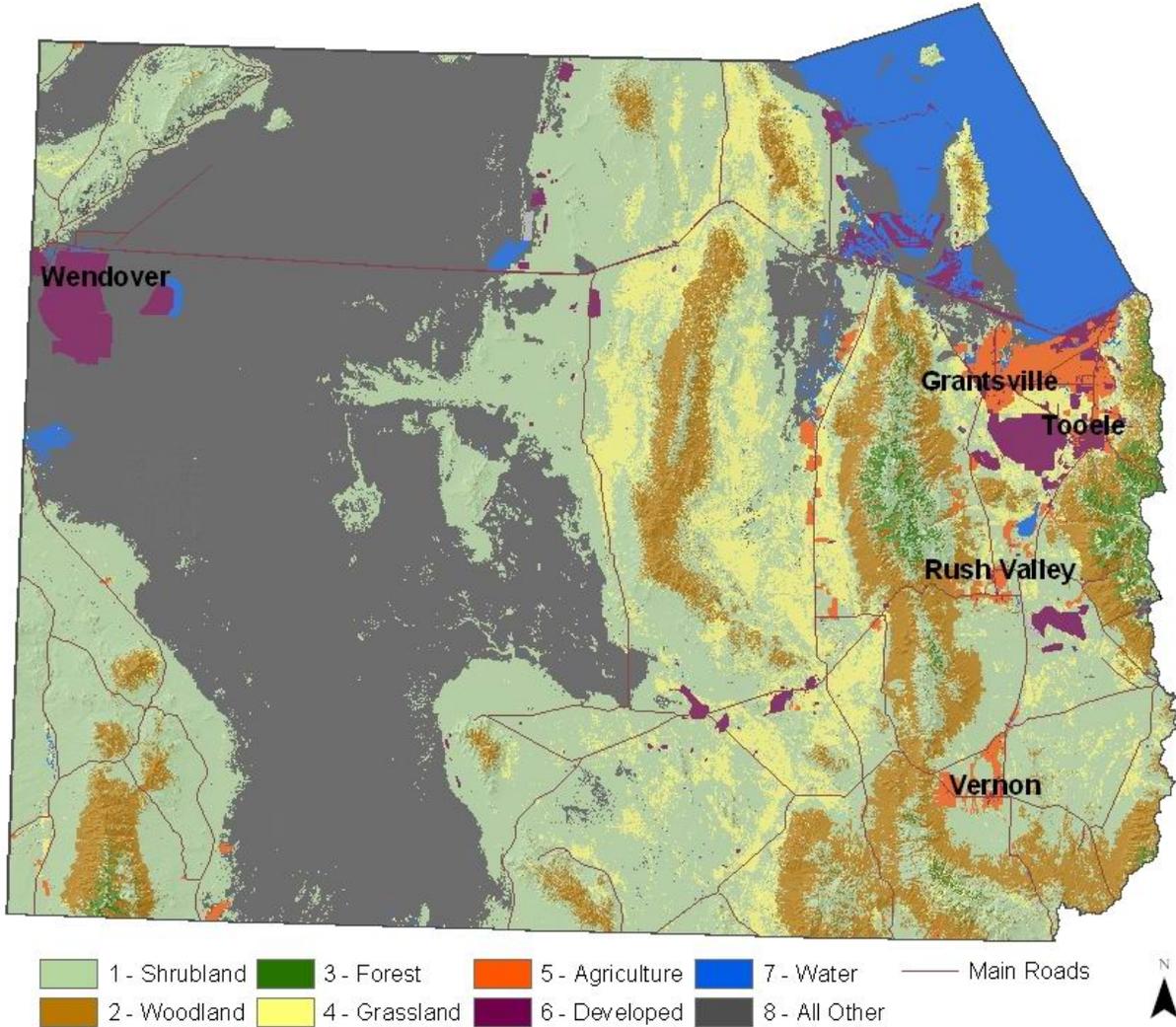
Forest Lands

- Fire Wise Planning is needed in communities within forested areas
- Forest lands are managed for wildlife habitat and watershed values

Resource Assessment Summary

Categories	Concern high, medium, or low	Description and Specific Location (quantify where possible)
Soil	Medium	Wind erosion on west desert rangeland and playas is a concern especially during periods of drought.
Water Quantity	High	Drought, population growth and urban expansion are placing demands on irrigation water. Additional storage needed in irrigated areas.
Water Quality Ground Water	High	Groundwater is typically high in salinity, chlorine, TDS, and bicarbonate and occasionally high in boron, manganese, sulfur, or bacteria.
Water Quality Surface Water	Medium	Relative scarcity of perennial streams reduces the likelihood of surface water contamination.
Air Quality	Low	Dust can be a concern on windy days. Smog become a concern in the future as traffic increases. Chemical storage concerns some people.
Plant Suitability	High	Juniper invasion threatens livestock forage and healthy watersheds. Sagebrush is dying in some areas & becoming a monoculture in others.
Plant Condition	Medium	The drought has degraded range conditions generally but the range seems to be rebounding with a wet year.
Fish and Wildlife	High	Sage grouse populations have decreased but efforts are being made to increase habitat for grouse and other sensitive species.
Domestic Animals	Medium	Drought and poor range condition can reduce the numbers and health of livestock in the County.
Social and Economic	Medium	Tooele County is one of the fastest growing counties in the state and nation but the County is taking steps to plan for the future.

Land Cover

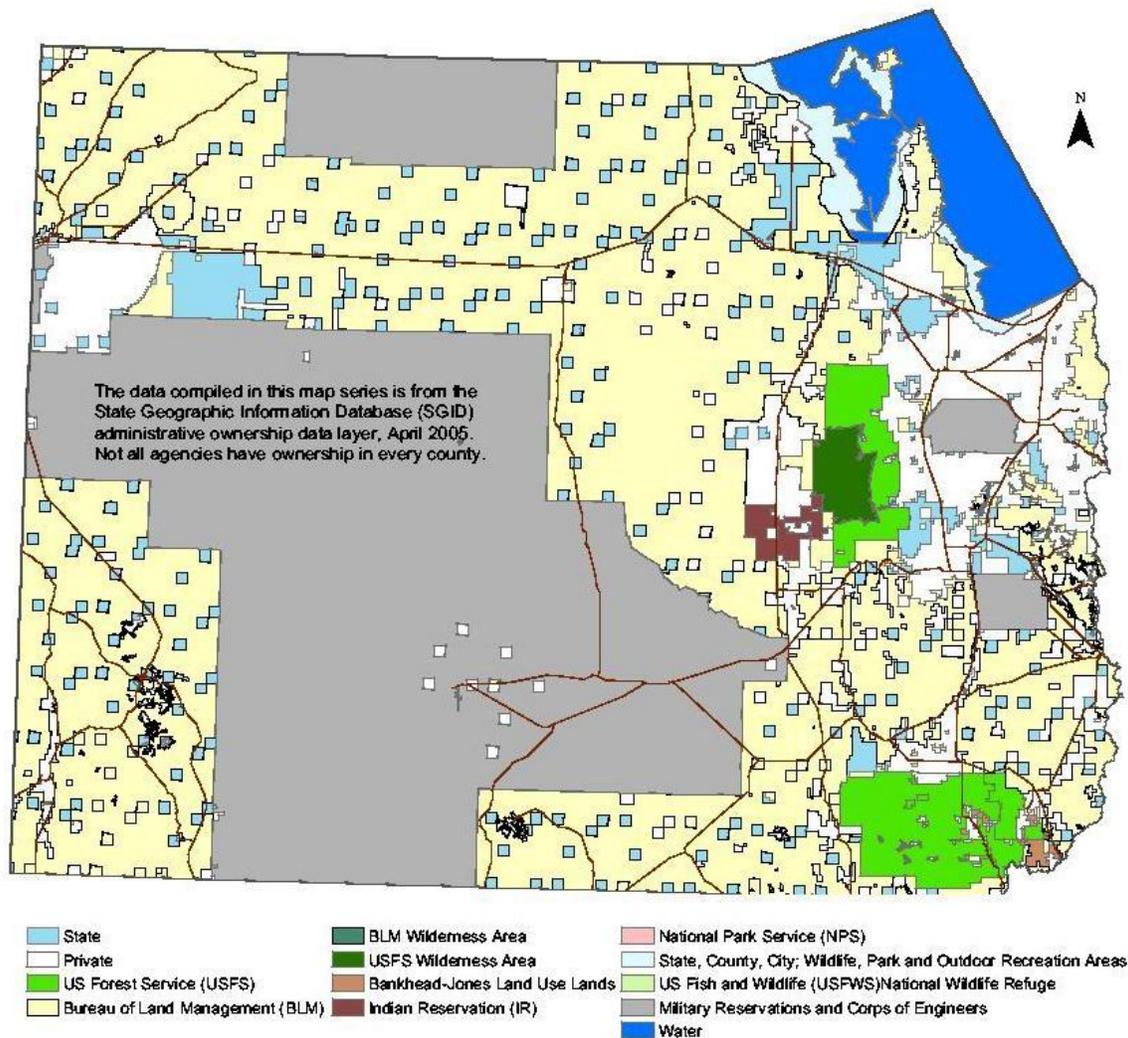


Land Cover/Land Use		
	Acres	%
Forest		0.00%
Grain Crops	3,944	0.98%
Conservation Reserve Program *a		0.00%
Grass/Pasture/Haylands	52,670	13.04%
Orchards/Vineyards		0.00%
Row Crops	455	0.11%
Shrub/Rangelands		0.00%
Water	284,113	70.32%
Wetlands	45,739	11.32%
Developed	17,082	4.23%
Tooele County Totals *b	404,003	100.00%
<p><i>*a: Estimate from Farm Service Agency records and include CRP/CREP. *b: Totals may not add due to rounding and small unknown acreages.</i></p>		

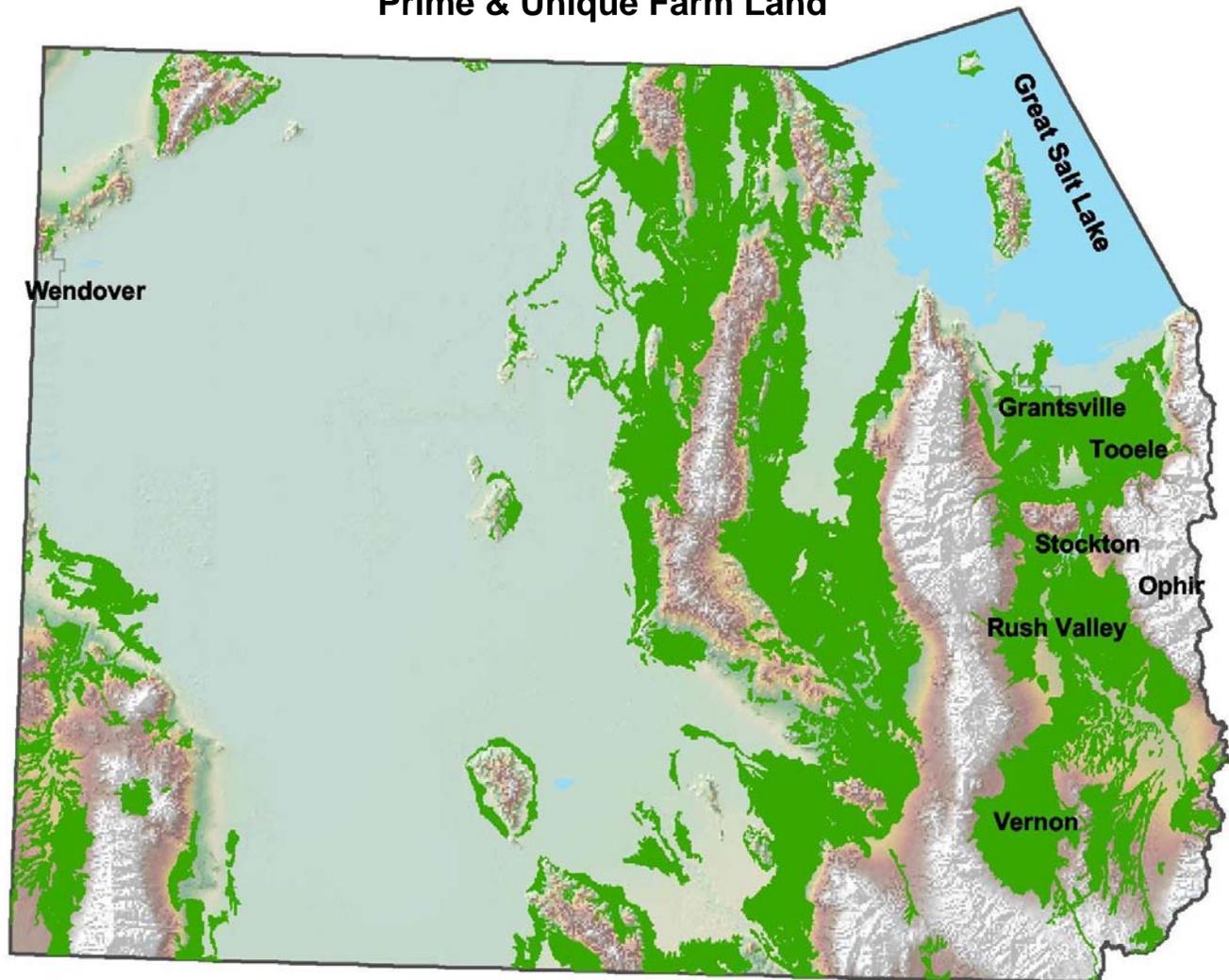
Special Considerations for Tooele County:

- Tooele County is the 25th fastest growing county in the country (Tooele County).
- Several Coordinated Resource Management Plans developed in the County (Vernon Watershed, Clover Creek Watershed, and Deep Creek Watershed).
- Multiple entities (private, local, tribal, state, and federal) own or manage large sections of land within Tooele County.
- Several important historical trails traverse the County including the Lincoln Highway, Donner Reed, and Pony Express.

Land Ownership



Prime & Unique Farm Land



Farmland of statewide importance - 992,563 acres

Prime farmland

Prime farmland is that land with soils best suited for the production of food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion.

Unique farmland

Unique farmlands are those lands other than prime farmland that is used for the production of specific high-value food or fiber crops such as orchards or row crops.

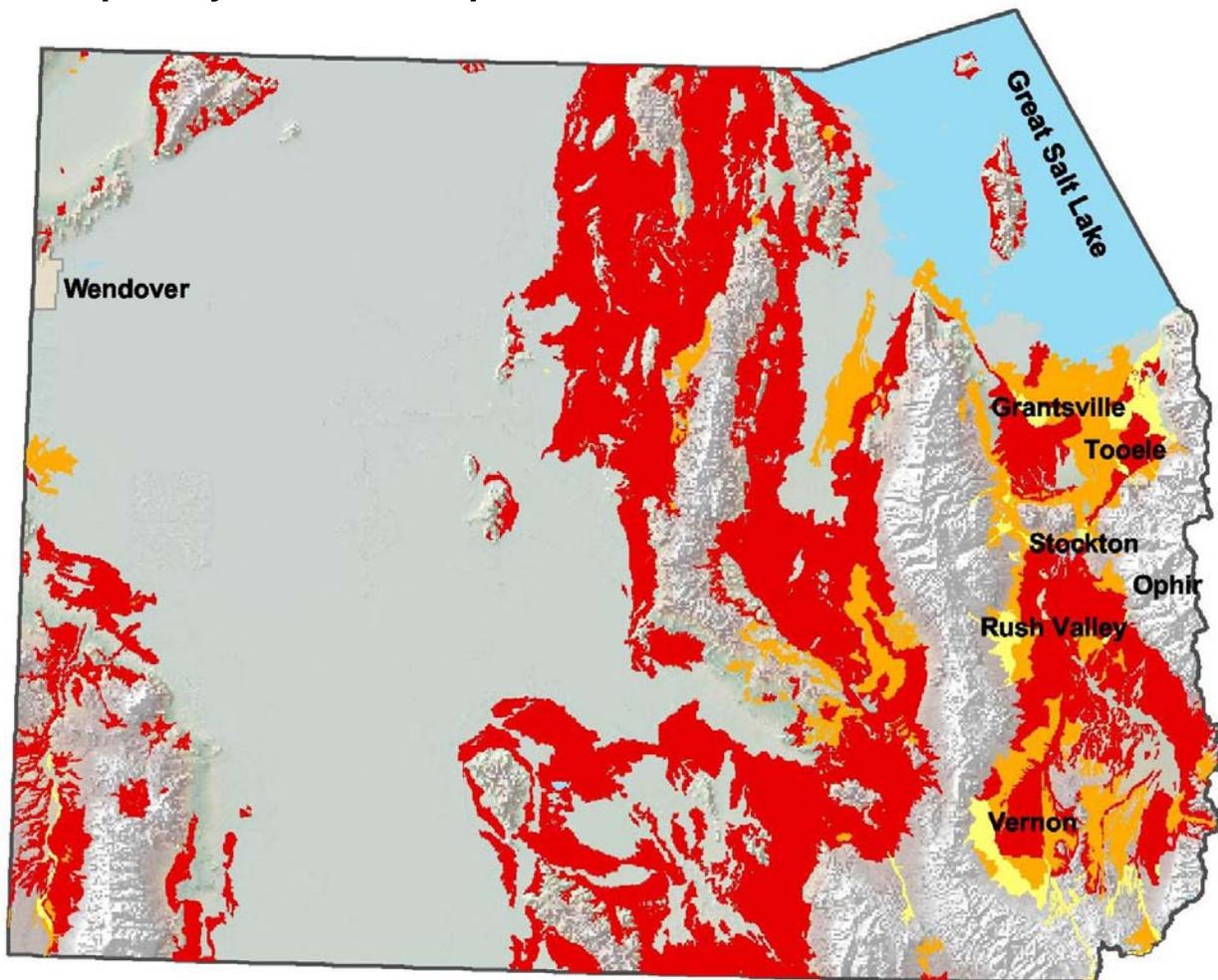
Additional farmland of statewide or local importance

Farmlands of statewide or local importance are those lands identified by state or local agencies for agricultural use, but not of national significance.

Resource Concerns – SOILS

Categories	Specific Resource Concern / Issue	Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area
Soil Erosion	Sheet and Rill				X	X	X		X	X		X	X		X	X
	Wind	X			X		X						X		X	X
	Ephemeral Gully				X	X	X		X	X		X	X		X	X
	Classic Gully				X	X	X		X	X		X			X	X
	Streambank				X	X		X	X	X	X	X	X	X	X	X
	Shoreline															
	Irrigation-induced	X														
	Mass Movement															
	Road, roadsides and Construction Sites								X			X				X
Soil Condition	Organic Matter Depletion	X			X		X						X			
	Rangeland Site Stability				X	X	X	X	X	X			X		X	X
	Compaction	X									X	X	X		X	
	Subsidence													X		
	ContaminantsSalts and Other Chemicals	X	X	X					X			X		X	X	X
	Contaminants: Animal Waste and Other OrganicsN															
	Contaminants: Animal Waste and Other OrganicsP															
	Contaminants: Animal Waste and Other OrganicsK															
	Contaminants : Commercial FertilizerN															
	Contaminants : Commercial FertilizerP															
	Contaminants : Commercial FertilizerK															
	ContaminantsResidual Pesticides															
	Damage from Sediment Deposition															

Land Capability Class on Cropland and Pastureland

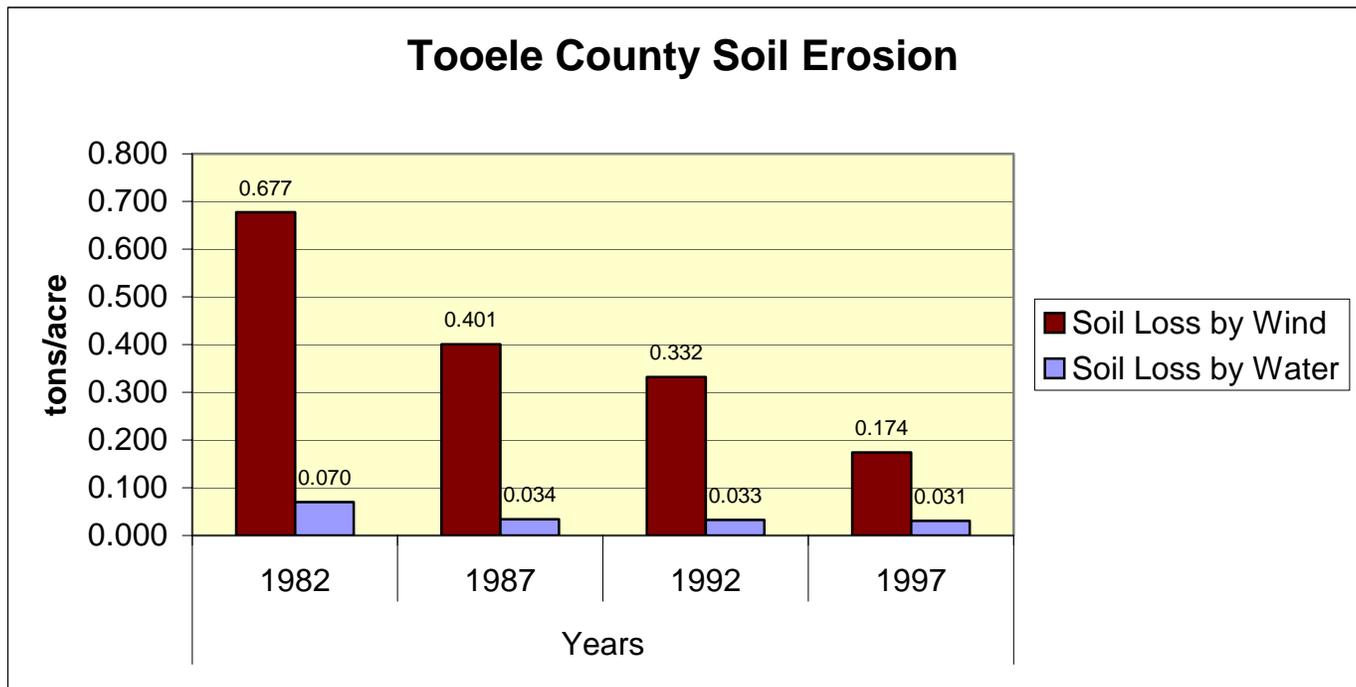


Land Capability Class



		Acres	Percentage
Land Capability Class (Irrigated Cropland & Pastureland Only)	I - slight limitations	0	0%
	II - moderate limitations	40,485	3%
	III - severe limitations	176,488	14%
	IV - very severe limitations	1,059,810	83%
	V - no erosion hazard, but other limitations	0	0%
	VI - severe limitations, unsuited for cultivation, limited to pasture, range, forest	0	0%
	VII - very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	0	0%
	VIII - some areas have limitations, limited to recreation, wildlife, and water supply	0	0%

Soil Erosion

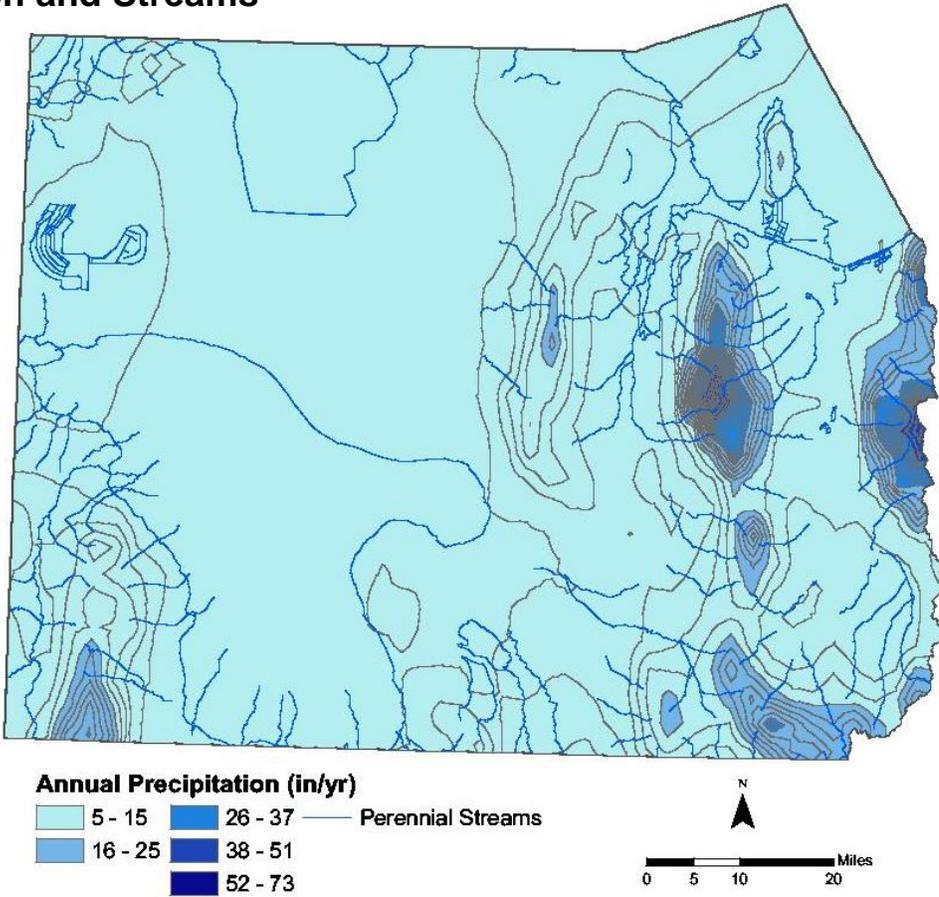


- ❖ Controlling erosion not only sustains the long-term productivity of the land, but also affects the amount of soil, pesticides, fertilizer, and other substances that move into the nation's waters.
- ❖ Through NRCS programs many farmers and ranchers have applied conservation practices to reduce the effects of erosion by water. In addition, wind erosion has been greatly reduced since the 1930s when Tooele County had its own dust bowl. The Soil Conservation Districts alone have established cover and managed grazing on some 8,000 acres of their own land.

Resource Concerns – WATER

Categories	Specific Resource Concern / Issue	Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area	
Water Quantity	Water Quantity – Rangeland Hydrologic Cycle				X	X	X	X	X	X			X	X	X	X	
	Excessive Seepage																
	Excessive Runoff, Flooding, or Ponding										X	X			X		
	Excessive Subsurface Water				X		X				X	X				X	
	Drifted Snow																
	Inadequate Outlets													X		X	
	Inefficient Water Use on Irrigated Land	X	X	X													
	Inefficient Water Use on Non-irrigated Land	X	X	X	X	X	X										
	Reduced Capacity of Conveyances by Sediment Deposition																
	Reduced Storage of Water Bodies by Sediment Accumulation																
	Aquifer Overdraft																
Water Quality, Groundwater	Insufficient Flows in Watercourses			X	X	X	X	X	X	X						X	
	Harmful Levels of Pesticides in Groundwater																
	Excessive Nutrients and Organics in Groundwater																
	Excessive Salinity in Groundwater	X	X	X							X	X					
	Harmful Levels of Heavy Metals in Groundwater															X	
	Harmful Levels of Pathogens in Groundwater										X	X					
Water Quality, Surface	Harmful Levels of Petroleum in Groundwater																
	Harmful Levels of Pesticides in Surface Water																
	Excessive Nutrients and Organics in Surface Water																
	Excessive Suspended Sediment and Turbidity in Surface Water																
	Excessive Salinity in Surface Water	X	X	X	X		X	X	X		X	X				X	
	Water Quality – Colorado River Excessive Salinity																
	Harmful Levels of Heavy Metals in Surface Water															X	
	Harmful Temperatures of Surface Water																
	Harmful Levels of Pathogens in Surface Water																
Harmful Levels of Petroleum in Surface Water																	

Precipitation and Streams



		ACRES	ACRE-FEET
Irrigated Adjudicated Water Rights	Surface		
	Well		
	Total Irrigated Adjudicated Water Rights	0.00	0.00
Stream Flow Data	USGS 10172700 Vernon Creek near Vernon	Total Avg. Yield	2,630
		May-Sept Yield	
Stream Flow Data	USGS 10172727 Faust Creek near Vernon	Total Avg. Yield	1,580
		May-Sept Yield	
Stream Flow Data	USGS 10172800 South Willow Cr near Grantsville	Total Avg. Yield	4,770
		May-Sept Yield	
		MILES	PERCENT
Stream Data	Total Miles - Major (100K Hydro GIS Layer)	5,707	n/a
	303d (DEQ Water Quality Limited Streams)	140	0%

		Irrigation Efficiency:		
		<40%	40 - 60%	>60%
Percentage of Total Acreage	Cropland	30%	70%	
	Pastureland	70%	30%	

Watersheds & Total Maximum Daily Load (TMDL)

Watershed Projects, Plans, Studies and Assessments			
NRCS Watershed Projects		NRCS Watershed Plans, Studies & Assessments	
Name	Status	Name	Status
Vernon CRMP	Completed		
Clover Creek CRMP	Final Implementation		
Deep Creeks CRMP	Planning		
DEQ TMDL's		NRCS Comprehensive Nutrient Management Plans	
Name	Status	Number	Status
n/a		2	Planned Implemented

AFO/CAFO

Animal Feeding Operations (AFO)						
Animal Type	Dairy	Feed Lot (Cattle)	Poultry	Swine	Mink	Other
No. of Farms	1	40	0	2	0	30
No. of Animals	150	800	0	60	0	650

Potential Confined Animal Feeding Operations (PCAFO)						
Animal Type	Dairy	Feed Lot (Cattle)	Poultry	Swine	Mink	Other
No. of Farms	0	0	0	0	0	0
No. of Animals	0	0	0	0	0	0

Confined Animal Feeding Operations - Utah CAFO Permit					
Animal Type	Dairy	Feed Lot (Cattle)	Poultry	Swine	Other
No. of Permitted Farms	0	0	1	0	0
No. of Permitted Animals	0	0	5,000	0	0

Data for these tables was provided by the Utah Animal Feeding Operation (AFO) Strategy 2000-2002.

Resource Concerns – AIR, PLANTS, ANIMALS

Categories	Specific Resource Concern / Issue	Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area
Air Quality	Particulate matter less than 10 micrometers in diameter (PM 10)				X		X						X			X
	Particulate matter less than 2.5 micrometers in diameter (PM 2.5)															
	Excessive Ozone															
	Excessive Greenhouse Gas: CO2 (carbon dioxide)															
	Excessive Greenhouse Gas: N2O (nitrous oxide)															
	Excessive Greenhouse Gas: CH4 (methane)															
	Ammonia (NH3)															
	Chemical Drift															
	Objectionable Odors															
	Reduced Visibility															
	Undesirable Air Movement															
Adverse Air Temperature		X	X													
Plant Suitability	Plants not adapted or suited								X			X				
Plant Condition	Plant Condition – Productivity, Health and Vigor	X	X	X	X	X	X									
	Threatened or Endangered Plant Species: Plant Species Listed or Proposed for Listing under the Endangered Species Act															
	Threatened or Endangered Plant Species: Declining Species, Species of Concern															
	Noxious and Invasive Plants	X	X	X	X	X	X		X	X	X	X	X	X	X	X
	Forage Quality and Palatability		X	X	X	X		X								
Plant Condition – Wildfire Hazard				X	X	X										X
Fish and Wildlife	Inadequate Food				X	X	X			X						X
	Inadequate Cover/Shelter				X	X	X			X						
	Inadequate Water															
	Inadequate Space															
	Habitat Fragmentation											X				
	Imbalance Among and Within Populations															
	Threatened and Endangered Species: Species Listed or Proposed for Listing under the Endangered Species Act															
Domestic Animals	Inadequate Quantities and Quality of Feed and Forage		X	X	X	X	X									X
	Inadequate Shelter				X											X
	Inadequate Stock Water			X	X	X	X									X
	Stress and Mortality															

Noxious Weeds

Utah Noxious Weed List

The following weeds are officially designated and published as noxious for the State of Utah, as per the authority vested in the Commissioner of Agriculture under Section 4-17-3, Utah Noxious *Weed Act*:

- Bermuda grass (*Cynodon dactylon*)
- Canada thistle (*Cirsium arvense*)
- Diffuse knapweed (*Centaurea diffusa*)
- Dyers woad (*Isatis tinctoria*)
- Field bindweed or wild morning glory (*Convolvulus arvensis*)
- Hoary cress (*Cardaria draba*)
- Johnson grass (*Sorghum halepense*)
- Leafy spurge (*Euphorbia esula*)
- Medusahead (*Taeniatherum caput-medusae*)
- Musk thistle (*Carduus nutans*)
- Perennial pepperweed (*Lepidium latifolium*)
- Purple loosestrife (*Lythrum salicaria*)
- Quackgrass (*Elytrigia repens*)
- Russian knapweed (*Centaurea repens*)
- Scotch thistle (*Onopordum acanthium*)
- Spotted knapweed (*Centaurea maculosa*)
- Squarrose knapweed (*Centaurea virgata*)
- Yellow starthistle (*Centaurea solstitialis*)

Additional noxious weeds declared by Tooele County (2003):

- Yellow toadflax (*Linaria vulgaris*)
- Houndstongue (*Cynoglossum officinale*)
- Dalmatian toadflax (*Linaria genistifolia*)
- Jointed goatgrass (*Aegilops cylindrica*)

Wildlife Species of Greatest Conservation Need

The Utah Comprehensive Wildlife Conservation Strategy (CWCS) prioritizes native animal species according to conservation need. At-risk and declining species in need of conservation were identified by examining species biology and life history, populations, distribution, and threats. The following table lists species of greatest conservation concern in the county.

AT-RISK SPECIES				
	Common Name	Group	Primary Habitat	Secondary Habitat
FEDERALLY-LISTED				
Endangered:	(None)			
Threatened:	Bald Eagle	Bird	Lowland Riparian	Agriculture
Candidate:	Yellow-billed Cuckoo	Bird	Lowland Riparian	Agriculture
Proposed:	(None)			
STATE SENSITIVE				
Conservation Agreement Species:	Columbia Spotted Frog	Amphibian	Wetland	Wet Meadow
	Northern Goshawk	Bird	Mixed Conifer	Aspen
	Bonneville Cutthroat Trout	Fish	Water - Lotic	Mountain Riparian
	Least Chub	Fish	Water - Lentic	Wetland
Species of Concern:	American White Pelican	Bird	Water - Lentic	Wetland
	Bobolink	Bird	Wet Meadow	Agriculture
	Burrowing Owl	Bird	High Desert Scrub	Grassland
	California Floater	Mollusk	Water - Lotic	Water - Lentic
	Dark Kangaroo Mouse	Mammal	High Desert Scrub	Shrubsteppe
	Eureka Mountainsnail	Mollusk	Mountain Shrub	Rock
	Ferruginous Hawk	Bird	Pinyon-Juniper	Shrubsteppe
	Grasshopper Sparrow	Bird	Grassland	
	Greater Sage-grouse	Bird	Shrubsteppe	
	Kit Fox	Mammal	High Desert Scrub	
	Lewis's Woodpecker	Bird	Ponderosa Pine	Lowland Riparian
	Long-billed Curlew	Bird	Grassland	Agriculture
	Lyrate Mountainsnail	Mollusk	Mountain Shrub	Rock
	Northwest Bonneville Pyrg	Mollusk	Wetland	
	Preble's Shrew	Mammal	Wetland	High Desert Scrub
	Pygmy Rabbit	Mammal	Shrubsteppe	
	Short-eared Owl	Bird	Wetland	Grassland
	Southern Bonneville Pyrg	Mollusk	Wetland	
	Southern Tightcoil	Mollusk	Rock	High Desert Scrub
	Townsend's Big-eared Bat	Mammal	Pinyon-Juniper	Mountain Shrub
Utah Physa	Mollusk	Wetland		

*Definitions of habitat categories can be found in the Utah Comprehensive Wildlife Conservation Strategy.

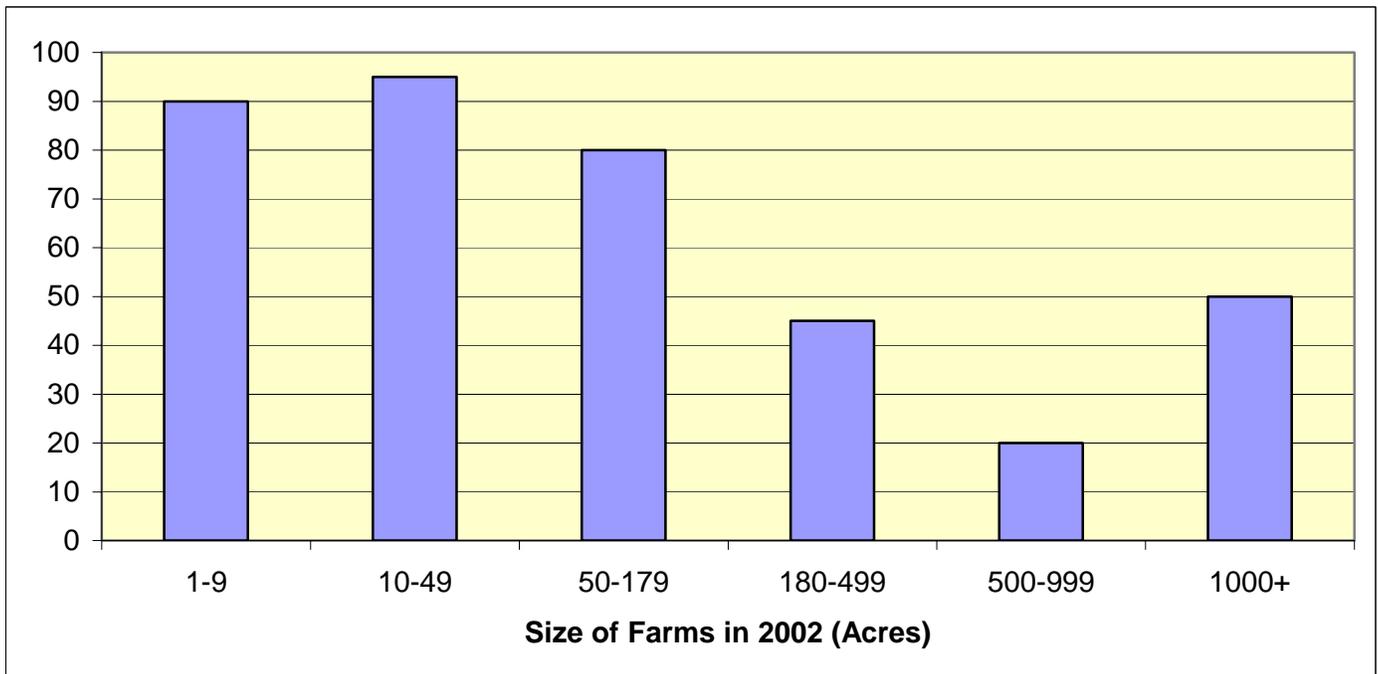
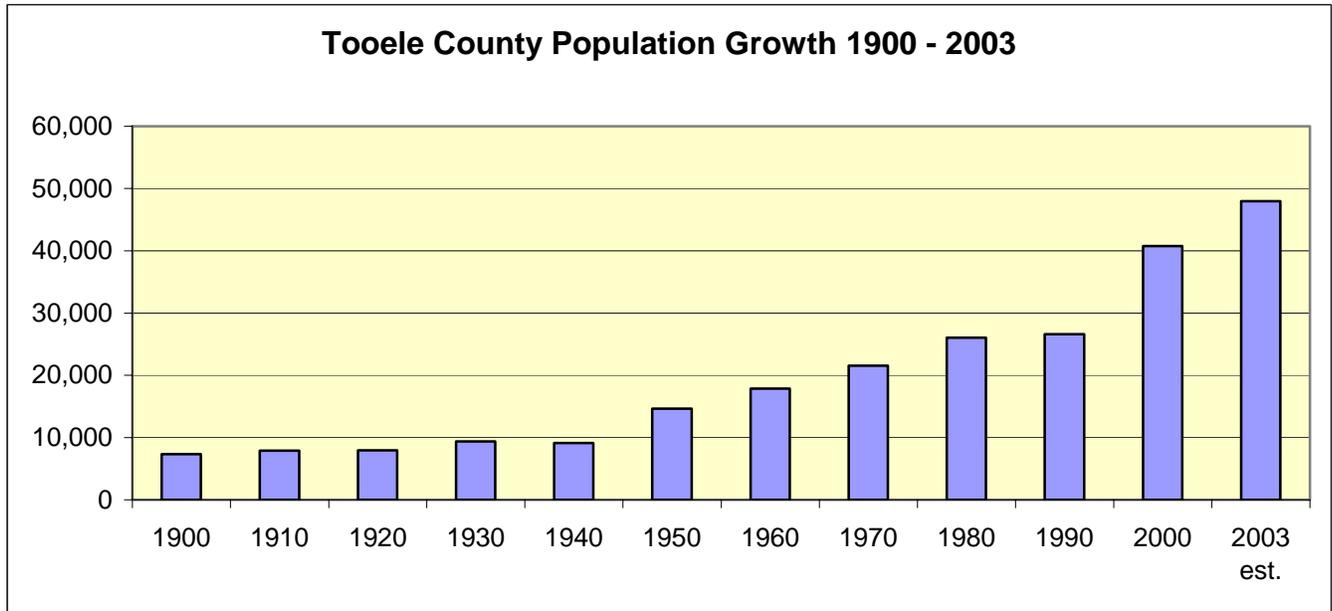
The Utah CWCS also prioritizes habitat categories based on several criteria important to the species of greatest conservation need. The top ten key habitats state-wide are (in order of priority):

1. **Lowland Riparian** (riparian areas <5,500 ft elevation; principal vegetation: Fremont cottonwood and willow)
2. **Wetland** (marsh <5,500 ft elevation; principal vegetation: cattail, bulrush, and sedge)
3. **Mountain Riparian** (riparian areas >5,500 ft elevation; principal vegetation: narrowleaf cottonwood, willow, alder, birch and dogwood)
4. **Shrubsteppe** (shrubland at 2,500 - 11,500 ft elevation; principal vegetation: sagebrush and perennial grasses)
5. **Mountain Shrub** (deciduous shrubland at 3,300 - 9,800 ft elevation; principal vegetation: mountain mahogany, cliff rose, bitterbrush, serviceberry, etc.)
6. **Water - Lotic** (open water; streams and rivers)
7. **Wet Meadow** (water saturated meadows at 3,300 - 9,800 ft elevation; principal vegetation: sedges, rushes, grasses and forbs)
8. **Grassland** (perennial and annual grasslands or herbaceous dry meadows at 2,200 - 9,000 ft elevation)
9. **Water - Lentic** (open water; lakes and reservoirs)
10. **Aspen** (deciduous aspen forest at 5,600 - 10,500 ft elevation)

Resource Concerns – SOCIAL AND ECONOMIC

Categories	Specific Resource Concern / Issue																
		Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area	
Social and Economic	Non-Traditional Landowners and Tenants	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
	Urban Encroachment on Agricultural Land	X	X	X	X			X	X			X	X	X	X	X	X
	Marketing of Resource Products																
	Innovation Needs			X	X				X			X					
	Non-Traditional Land Uses							X					X				
	Population Demographics, Changes and Trends											X	X				
	Special Considerations for Land Mangement (High State and Federal Percentage)				X	X	X	X	X	X			X				X
	Active Resource Groups (CRMs, etc)				X		X	X	X								X
	Full Time vs Part Time Agricultural Communities																
	Size of Operating Units																
	Land Removed from Production through Easments																
	Land Removed from Production through USDA Programs																
Other																	

Census and Social Data



Number of Farms: 380
Full time operators: 169
Part time operators: 211

Public Survey/Questionnaire Results:

The Tooele Soil Conservation District sponsored a questionnaire in 2005 in order to gather input on the public's level of concern about natural resources. People were asked to provide input by taking an online survey, returning a paper copy of the survey, voicing their opinion at an SCD meeting, or talking directly to an SCD Board member. A news release was sent to the newspaper inviting people to take the online survey. Community and organization leaders were invited to take the survey by e-mail where possible and by regular mail when no e-mail was available. In addition, over 150 surveys were mailed to Tooele County residents, mostly to people that voted in the last SCD election.

Fifty-seven responded by taking the online survey or returning the questionnaire. Sixty-six percent of the respondents indicated that they farm or ranch, on a part-time or full-time basis. Twenty-one percent represent local, state, or federal government. Twenty-five percent were water users. Rural citizens, agribusiness, and sportsmen & wildlife groups also had large representations (10-16% each). Respondents were free to indicate that they represented more than one group. Seventy-five percent thought of themselves as agricultural producers. Most of the respondents were male Caucasians over 50 years old.

Questionnaire respondents were asked to rate the urgency of addressing 41 natural resource concerns. Over 50% of the respondents thought that nine of these concerns should be addressed immediately. Grazing lands, water conservation & supply, and agricultural sustainability were viewed as the three most pressing natural resource concerns in Tooele County by at least 60% of the respondents. The rest of the nine top concerns are groundwater, loss of agricultural land, weeds, water quality, rangeland health, and land conservation and development. See the table below for a complete listing of the results for all the natural resources concerns. One respondent suggested that watershed degradation is an additional area of concern.

Twenty people were concerned enough to clarify why their concerns are critical and which geographical areas of the County need the most attention. It would be difficult to come up with a predominant theme but many comments dealt with vegetation, water, planning, and agricultural preservation issues. General land types such as watersheds, mountains, rangeland, wetlands, benches, etc as well as more specific places (Oquirrh & Stansbury ranges; Tooele, Rush, & Skull valleys; Settlement, Middle, & Soldier canyons; Great Salt & Rush lakes, were listed as areas to attend to first.

Respondents were also asked to rank the importance of five different roles of the Soil Conservation District. Providing technical assistance to landowners was perceived as the most important role. Scores for the different roles were:

- 190 Technical Assistance to Landowners
- Intermediary between Landowners and Regulatory
- 134 Agencies
- 119 Natural Resources Education
- 114 Data Collection
- 111 Financial Assistance to Landowners

It was also thought that the SCD should have roles in working with local and federal officials, especially on planning issues.

Tooele County Percentage	A concern that should be addressed immediately	A concern that should be addressed in the future	A minor concern or not a concern	No Opinion
Grazing Lands	63%	23%	7%	7%
Water Conservation and Supply	61%	18%	5%	16%
Agricultural Sustainability	60%	19%	11%	11%
Groundwater	58%	14%	9%	19%
Loss of Agricultural Land	56%	18%	11%	16%
Weeds	54%	26%	11%	9%
Water Quality	53%	25%	7%	16%
Rangeland Health	51%	33%	7%	9%
Land Conversion to Development	51%	14%	12%	23%
Irrigation Water Management	49%	26%	7%	18%
Public Land Management	47%	33%	9%	11%
Surface Water	46%	28%	11%	16%
Invasive Species	42%	26%	12%	19%
Wildfire	40%	37%	7%	16%
Rural Land Use	35%	32%	12%	21%
Urban Land Use	35%	25%	18%	23%
Soil Erosion	33%	30%	23%	14%
Fish and Wildlife Populations	32%	39%	11%	21%
Soil Quality/Soil Health	32%	33%	12%	23%
Food and Fiber Production	30%	35%	14%	21%
Open Space	30%	23%	23%	25%
Pesticide Management	26%	40%	14%	19%
Riparian Corridors (waterways)	26%	42%	12%	19%
Air Quality	25%	33%	25%	18%
Fish and Wildlife Habitat	23%	47%	12%	18%
Wetlands	23%	39%	19%	19%
Forest Health	21%	30%	21%	28%
Energy Conservation and Supply	21%	44%	12%	23%
Small-Acreage Management	21%	40%	23%	16%
Biological Diversity	18%	40%	16%	26%
Landfills and Waste Disposal	18%	49%	12%	21%
Urban Water Pollution	14%	49%	18%	19%
Threatened/Endangered or State-Sensitive Species	14%	28%	32%	26%
Recreation	12%	42%	26%	19%
Nutrient/Fertilizer Management	12%	51%	14%	23%
Flooding	11%	40%	30%	19%
Mined Land Reclamation	11%	28%	37%	25%
Timber Production	11%	37%	30%	23%
Landslides	9%	30%	33%	28%
Manure Management	9%	39%	33%	19%
Cultural Resources	4%	44%	25%	28%

Footnotes / Bibliography

1. General information about Davis County obtained from the official Davis County website: <http://www.co.davis.ut.us/discoverdavis/>
2. Location and land ownership maps made using GIS shapefiles from the Automated Geographical Reference Center (AGRC), a Utah State Division of Information Technology. Website: <http://agrc.utah.gov/>
3. Land Use/Land Cover layer developed by the Utah Department of Water Resources. A polygon coverage containing water-related land-use for all 2003 agricultural areas of the state of Utah. Compiled from initial USGS 7.5 minute Digital Raster Graphic waterbodies, individual farming fields and associated areas are digitized from Digital Orthophotos, then surveyed for their land use, crop type, irrigation method, and associated attributes. Acreages derived from this layer also.
4. Prime and Unique farmlands derived from SURGO Soils Survey UT607 and Soil Data Viewer. Definitions of Prime and Unique farmlands from U.S. Geological Survey, http://water.usgs.gov/eap/env_guide/farmland.html#HDR5
5. Land Capability Classes derived from SURGO Soils Survey UT607 and Soil Data Viewer.
6. Tons of Soil Loss by Water Erosion data gathered from National Resource Inventory (NRI) data. Estimates from the 1997 NRI Database (revised December 2000) replace all previous reports and estimates. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is due to changes in statistical estimation protocols, and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: <http://www.nrcs.usda.gov/technical/NRI/>
7. Precipitation data was developed by the Oregon Climate Service at Oregon State University using average monthly or annual precipitation from 1960 to 1990. Publication date: 1998. Data was downloaded from the Resource Data Gateway, <http://dgateway-wb01.lighthouse.itc.nrcs.usda.gov/lighthouse>
8. Irrigated Adjudicated Water Rights obtained from the Utah Division of Water Rights.
9. Stream length data calculated using ArcMap and 100k stream data from AGRC and 303d waters from the Utah Department of Environmental Quality.
10. The 2003 noxious weed list was obtained from the State of Utah Department of Food and Agriculture. For more information contact Steve Burningham, 801-538-7181 or visit their website at http://ag.utah.gov/plantind/noxious_weeds.html
11. Wildlife information derived from the Utah Division of Wildlife Resources' Comprehensive Wildlife Conservation Strategy (CWCS) (<http://wildlife.utah.gov/cwcs/>) and from the Utah Conservation Data Center (<http://dwrcdc.nr.utah.gov/ucdc/>).
12. County population data from the U.S. Census Bureau, Utah Quick Facts, <http://quickfacts.census.gov/qfd/states/49000.html>
13. Farm information obtained from the National Agricultural Statistics Service, 2002 Census of Agriculture. <http://www.nass.usda.gov/census/census02/volume1/index2.htm>
14. Utah Animal Feeding Operation (AFO) information was obtained from "Utah! Animal Feeding Operation Strategy: five Years of Progress 1999-2004".