

This resource assessment is designed to gather and display information specific to Washington 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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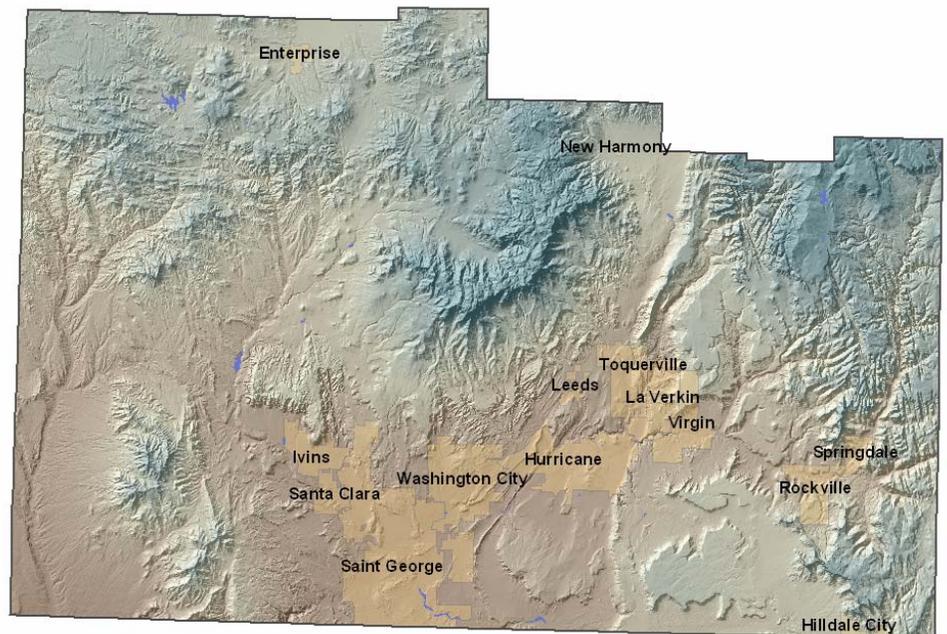
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Introduction

Washington County is comprised of approximately 1,553,280 acres and is in the Southwestern corner of Utah. The majority of the county is public land or urban lands. Most Federal Public Land is administered by the United States Forest Service (USFS), Bureau of Land Management (BLM) and National Parks Service (NPS). Much of the State Land is administered by the School and Institutional Trust Lands Administration (SITLA) and Utah Division of Wildlife Resources (DWR).

Major land uses in the county include range, alfalfa and grass hay, corn and small grains crops, fruit and nut orchards, forest production, and industrial and urban areas. Recreational uses are also common activities both on private and public lands.

Equal Opportunity Providers and Employers.



PHYSICAL DESCRIPTION

Elevation and Land Cover are diverse within the county. Elevations range from over 10,300 feet in the Pine Valley Mountains found on the Northern end of the County down to 2,000 feet in the Beaver Dam Wash which is located in the most Southwest corner of the county. The county includes the following mountain ranges: Pine Valley Mountains, Beaver Dam Mountains, Bull Valley Mountains, Vermilion Cliffs and Kolob Mountain. The valley areas in and around St George are within the Mohave Desert zone and are very hot during summer months. Due to the variability of Elevation, Precipitation, Land Cover and Land Uses are also quit variable.

Land Cover

The higher elevations support Conifer and Aspen Forests. These areas receive from 25 to 35 inches of precipitation annually. Middle elevations support Mixed Forest communities, Mountain Shrub lands and Pinion/Juniper forests. Precipitation in the Mixed Forest Communities ranges from 15 to 25 inches. Lower elevations support Semi-Desert, Hot Desert, and Salt Desert Rangelands and receive 7 to 15 inches of precipitation. It is in this lower elevation where irrigated cropland and irrigated pastures are found. There is also some Non irrigated croplands at some of the mid elevation areas on Smiths Mesa and in the New Harmony area. Irrigated lands utilize water from mountain stream runoff or from underground aquifers. The majority of land dependent upon aquifers for irrigation is found in the Enterprise area. St George and the cities surrounding St George are thriving and growing at an alarming rate. The farm ground and other available open space are under tremendous pressure for development.

Land Use

Farming operations are found in the remaining undeveloped lands where suitable water, productive soils and adequate growing season are found. Rangelands and pastures are prominent land uses where water, soils and growing season are not suitable for cropland. Urban and Industrial areas are major and important land uses. Recreational uses of public and private lands are also a major land use.

General Land Use Observations

- Poor grazing management practices have reduced range and pasture productivity as well as creating other natural resource problems.
- Noxious and invasive plants are an ever increasing problem.
- The small, part-time hobby farms are increasing in number and may require different types of assistance.
- Water availability and efficient use of water is a concern.
- Urban build up is a concern.

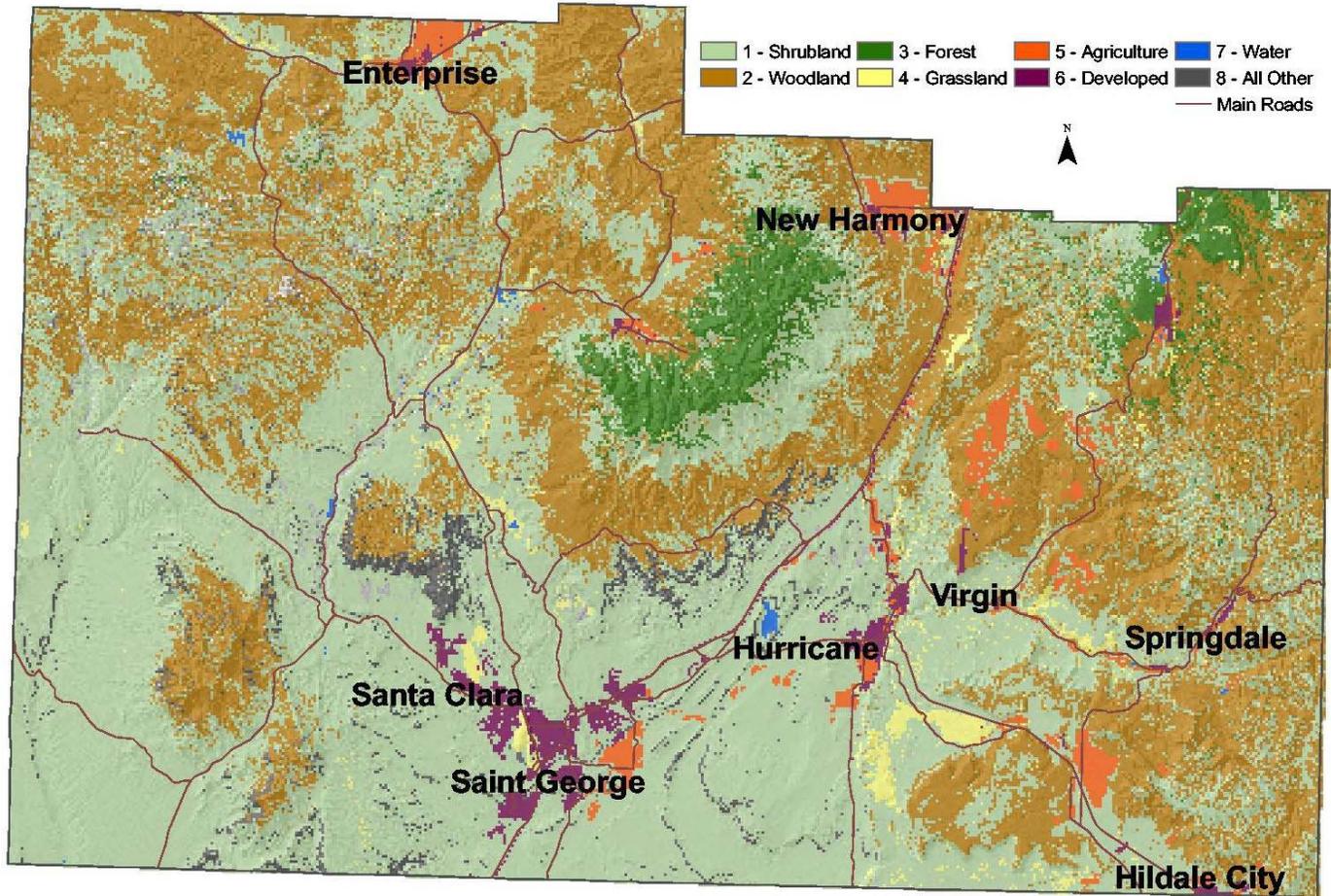
Resource Assessment Summary

Categories	Concern high, medium, or low	Description and Specific Location (quantify where possible)
Soil	High	Wind Erosion on Soil is a concern for much of the cropland in the Enterprise area as well as the non irrigated cropland in New Harmony and on Smiths Mesa. Winds are constant and strong in many of these locations. High wind conditions coupled with soils that are susceptible to wind erosion makes this a constant concern for human and safety as well as health to livestock, crops and environmental stability of the area. Soil Erosion from Water is a great concern generally within many areas of the county. The Virgin River, Ash Creek, Santa Clara and Shoal Creek near Enterprise have recently experienced severe stream bank and other water induced soil erosion problems. The winter of 2005 produced record precipitation events within the mountainous regions of the county. These events caused tremendous amounts of streambank erosion, sheet/rill erosion and deposition of sediments. Assessments were made of these events and they total in the hundreds of millions of dollars due to damages done to properties, structures, crops, roads and infrastructures. These river systems are vulnerable to destabilization from future
Water Quantity	High	In the Agrecultural area where deep wells supply water to fields the aquifer has been documented as reseeding for many consecutive years. Many operators have to deepen wells and increase pump size to obtain access to the available well water. This condition has decreased the economic viability of these farming and ranching operations. The use of larger engines and motors to drive the increased size in pumps has increased energy consumption and decreased air quality. In other areas of the county where surface water is utilized the concern for water quantity is related to the availability of water. Climate conditions can be variable and change the amount of water that is available for use. Due to these conditions reduce reservoir capacities and in turn reduce the amount of water the producers are able to utilize.
Water Quality Ground Water	Medium	The concerns for water quality are generally tied to surface water conditions and sediment loads explained in the Soil Erosion from Water category listed above.

Resource Assessment Summary Continued

Categories	Concern high, medium, or low	Description and Specific Location (quantify where possible)
Water Quality Surface Water	Medium	The concerns for water quality are generally tied to surface water conditions and sediment loads explained in the Soil Erosion from Water category listed above.
Air Quality	High	Air Quality due to rangeland fires is a growing concern. Air Quality was diminished for hundreds of miles from the fire locations. This is a temporary situation unless the burned rangelands are rehabilitated properly. (See Plants Section for further explanation) Air Quality concerns is also related to the description of Soil Erosion due to Wind and Water Quantity sections as listed above.
Plant Suitability	High	The major concern in this category relates to the evasion of unwanted and unproductive plant species on rangelands and fields. Pinion/Juniper encroachments, as well as evasion of Cheatgrass, Red Brome and other noxious weeds have decreased productivity of many rangelands and cropland. Some of these stands of Cheatgrass and Red Brome have exasperated the wildfire danger and situation within the county. As of Mid July of 2005 approximately 100,000 acres of rangeland have burned in Washington Co. These fires have reduced range productivity and without proper revegetative practices these land will perpetuate additional stands of annual grasses and weeds thus increasing the potential for future fires.
Plant Condition	Low	
Fish and Wildlife	High	Concerns in this category are related to regulations and restrictions that are brought upon producers by the Endangered Species Act. The species of most concern within the county are the Desert Tortoise, Southwest Willow Flycatcher, Virgin River Chub, Woundfin, Pigmy Rabbit, and Mexican Spotted Owl. Although the some of these sisted species have not been federally listed, the potential for it to be listed has caused much conern.
Domestic Animals	Low	These concerns are related to sufficient feed on rangelands.This related directly to those conditions listed in the Plants category.
Social and Economic	High	Encroachment from urban development is a major concern. The farming areas around the communities is St. George, Santa Clara, Hurricane, Washington, Veyo, La Verkin and New Harmony are at greatest risk to development pressures. Land values for housing and business developments are at record highs and climbing each month. The economics of remaining in farming and ranching businesses is reduced with time. During the summer of 2005 some agricultural lands were being sold for \$190,000/ac. The ability to maintain a way of life has been a great concern in the area. There are many pressures and influences thast are making it hard to maintain some types of traditional lifestyles.

Land Cover

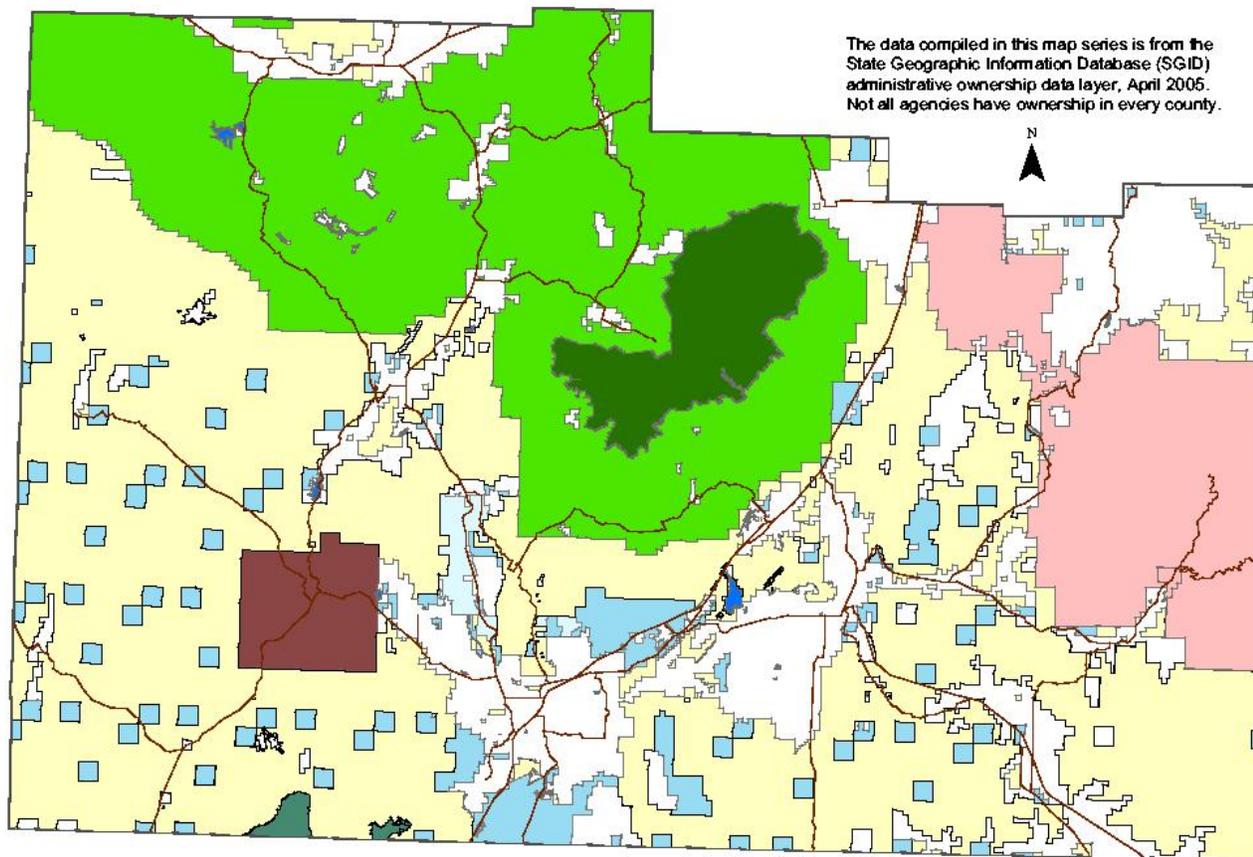


Land Cover/Land Use		
	Acres	%
Forest	155,328	10%
National Parks	126,720	8%
Conservation Reserve Program <i>*a</i>	2,000	0%
Grass/Pasture/Haylands	35,900	2%
Orchards/Vineyards	300	0%
Shrub/Rangelands	1,149,428	74%
Water/Wetlands	15,533	1%
Developed/Urban	69,120	4%
Washington County Totals <i>*b</i>	1,553,280	100%
<i>*a: Estimate from Farm Service Agency records and include CRP/CREP. <i>*b: Totals may not add due to rounding and small unknown acreages.</i></i>		

Special Considerations for Washington County:

- Recreational uses of private and federal lands are very high and result in its own resource concerns.
- Most crop rotations consist of Alfalfa Hay followed by Corn and Small Grains.
- Shrub/rangelands consist of oak savannahs, Pinion/Juniper, Mesquite and Blackbrush areas.
- Orchards/Vineyards/Nurseries include other perennial crops such as nursery stock.
- Much of the county consists of federal National Parks, US Forest Service, and Bureau of Land Management.

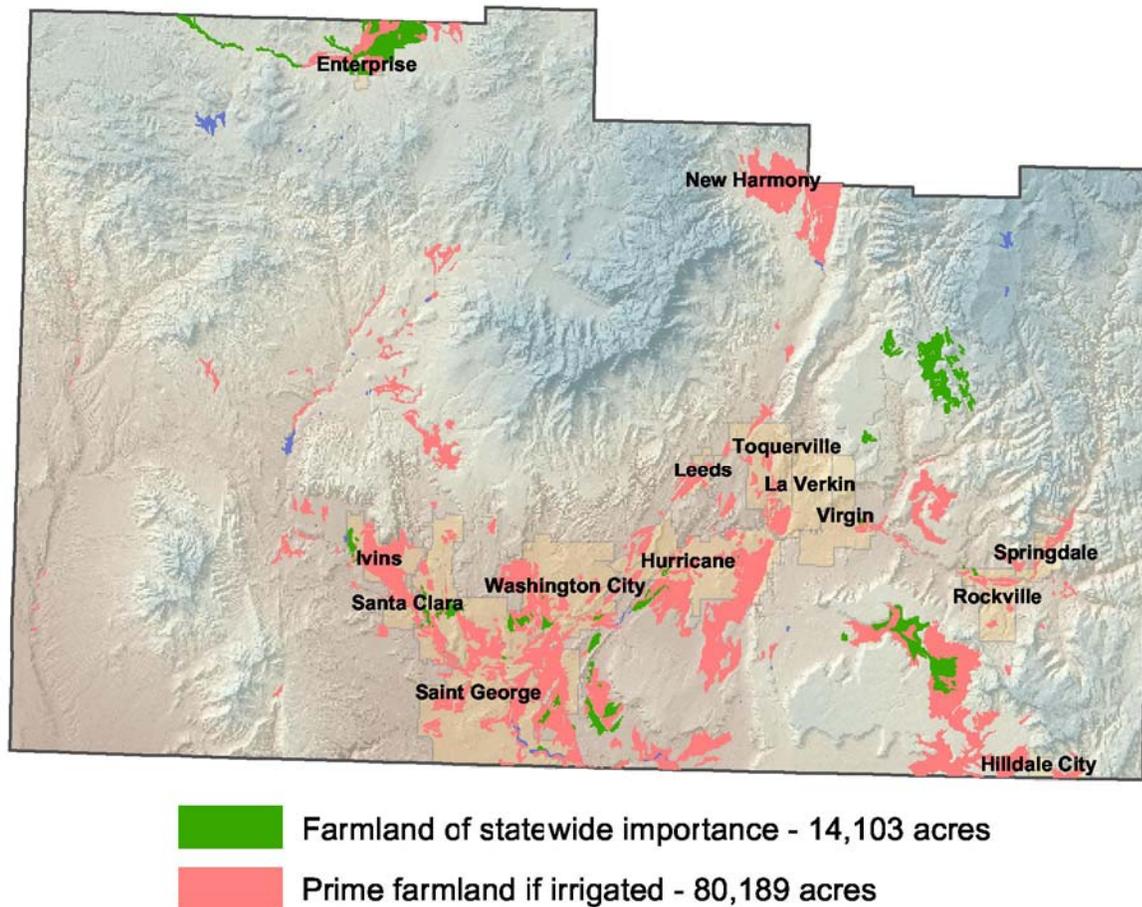
Ownership



The data compiled in this map series is from the State Geographic Information Database (SGID) administrative ownership data layer, April 2005. Not all agencies have ownership in every county.

State	BLM Wilderness Area	National Park Service (NPS)
Private	USFS Wilderness Area	State, County, City; Wildlife, Park and Outdoor Recreation Areas
US Forest Service (USFS)	Bankhead-Jones Land Use Lands	US Fish and Wildlife (USFWS) National Wildlife Refuge
Bureau of Land Management (BLM)	Indian Reservation (IR)	Military Reservations and Corps of Engineers
		Water

Prime & Unique Farm Land



Prime farmland

Land that has the best combination of physical and chemical characteristics for producing 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

Land other than prime farmland that is used for the production of specific high-value food and fiber crops...such as, citrus, tree nuts, olives, cranberries, fruits, and vegetables

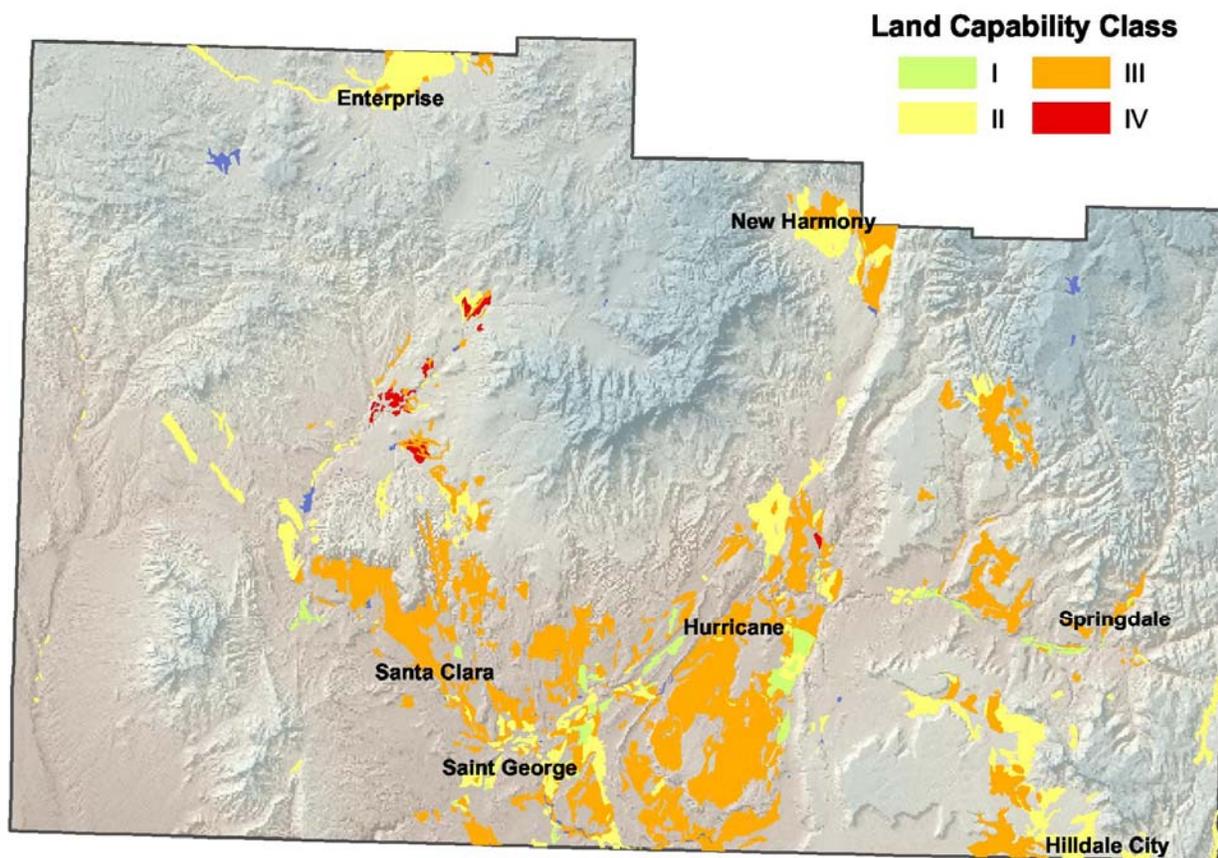
Additional farmland of statewide or local importance

Land identified by state or local agencies for agricultural use, but not of national significance

Resource Concerns – SOILS

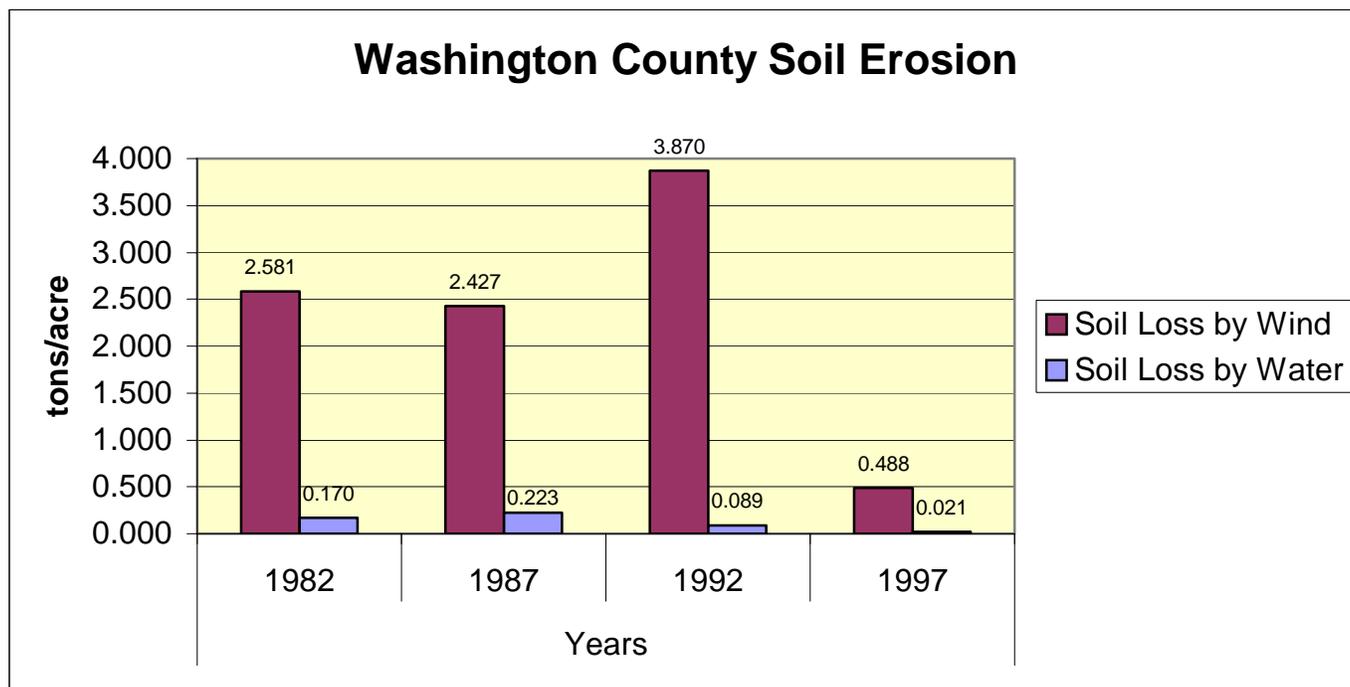
Categories	Specific Resource Concern / Issue	Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area
Soil Erosion	Sheet and Rill	x			x			x	x			x	x		x	x
	Wind	x	x		x			x				x			x	x
	Ephemeral Gully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

Land Capability Class on Cropland and Pastureland



		Acres	Percentage
Land Capability Class (Irrigated Cropland & Pastureland Only)	I - slight limitations	5,619	4%
	II - moderate limitations	38,609	29%
	III - severe limitations	86,639	65%
	IV - very severe limitations	1,675	1%
	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 - misc areas have limitations, limited to recreation, wildlife, and water supply	0	0%

Soil Erosion

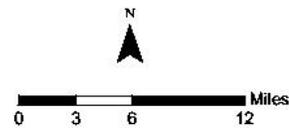
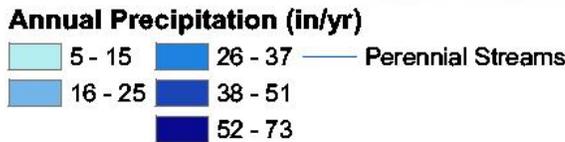
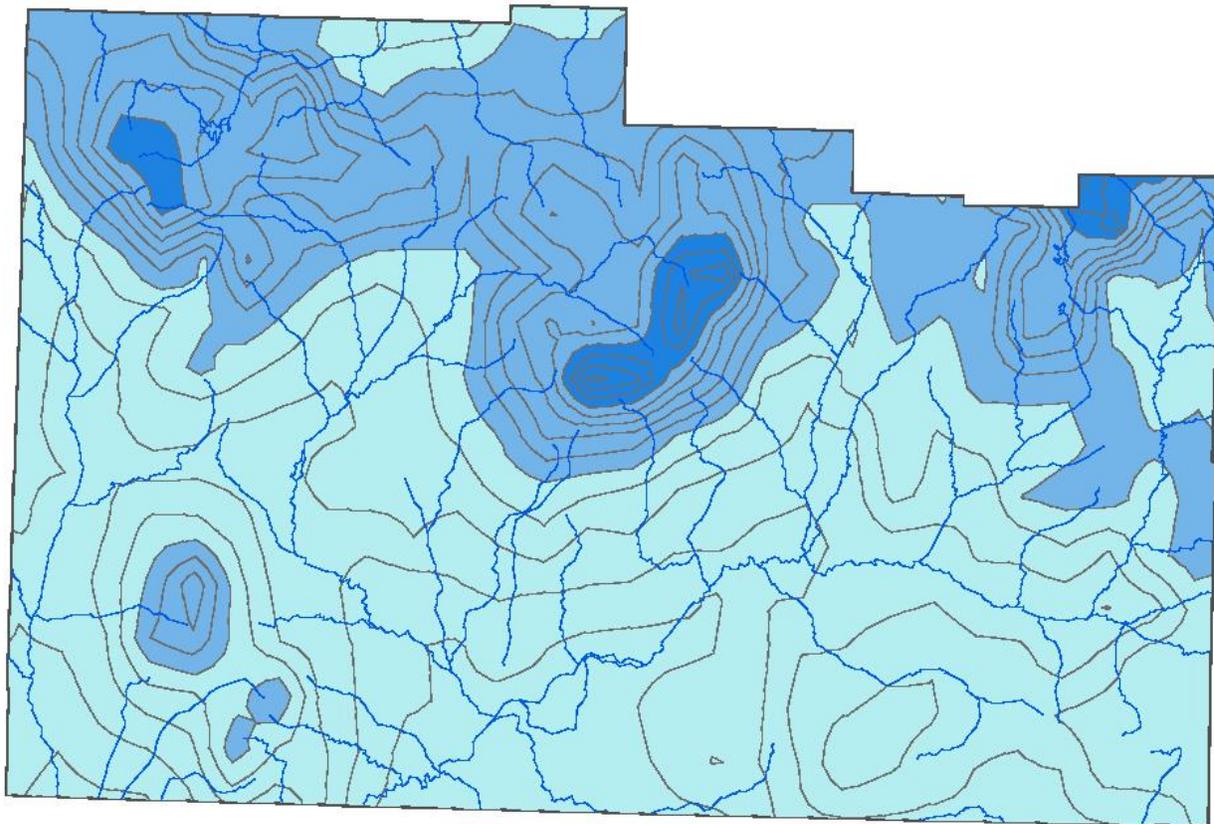


- ❖ Controlling erosion not only sustains the long-term productivity of the land, but also affects the amount of soil, pesticides, fertilizer, and other substances that move into the nation's waters.
- ❖ Through NRCS programs many farmers and ranchers have applied conservation practices to reduce the effects of erosion by water.

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
	Excessive Seepage											X				
	Excessive Runoff, Flooding, or Ponding	X	X	X	X	X	X	X	X	X	X	X	X		X	X
	Excessive Subsurface Water															
	Drifted Snow															
	Inadequate Outlets		X									X				
	Inefficient Water Use on Irrigated Land	X	X	X												
	Inefficient Water Use on Non-irrigated Land	X														
	Reduced Capacity of Conveyances by Sediment Deposition	X	X	X												
	Reduced Storage of Water Bodies by Sediment Accumulation													X	X	
	Aquifer Overdraft	X	X													
	Insufficient Flows in Watercourses	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Water Quality, Groundwater	Harmful Levels of Pesticides in Groundwater															
	Excessive Nutrients and Organics in Groundwater															
	Excessive Salinity in Groundwater															
	Harmful Levels of Heavy Metals in Groundwater															
	Harmful Levels of Pathogens in Groundwater															
	Harmful Levels of Petroleum in Groundwater															
Water Quality, Surface	Harmful Levels of Pesticides in Surface Water															
	Excessive Nutrients and Organics in Surface Water	X	X											X		
	Excessive Suspended Sediment and Turbidity in Surface Water													X		
	Excessive Salinity in Surface Water															
	Water Quality – Colorado River Excessive Salinity													X		
	Harmful Levels of Heavy Metals in Surface Water															
	Harmful Temperatures of Surface Water													X		
	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	30,515	
	Well	5,385	
	Total Irrigated Adjudicated Water Rights	35,900	0.00
Stream Flow Data	USGS 09408135 Virgin River AB Quail Creek near Hurricane, Utah	Total Avg. Yield	69,000
		MILES	PERCENT
Stream Data	Total Miles - Major (100K Hydro GIS Layer)		
	303d (DEQ Water Quality Limited Streams)		

		Irrigation Efficiency:	<40%	40 - 60%	>60%
Percentage of Total Acreage	Cropland		30%	30%	40%
	Pastureland		40%	40%	20%

Watersheds & Total Maximum Daily Load (TMDL)

Watershed Projects, Plans, Studies and Assessments			
NRCS Watershed Projects		NRCS Watershed Plans, Studies & Assessments	
Name	Status	Name	Status
Warner Draw	Evaluation for Watershed Rehabilitation	Washington Co. EWP	In Construction
Washington Co. EWP	In construction	Virgin River Watershed Plan	Completed Plan and ready for implementation.
DEQ TMDL's		NRCS Comprehensive Nutrient Management Plans	
Name	Status	Number	Status
		1 0	Currently being planned Implemented

AFO/CAFO

Animal Feeding Operations (AFO)						
Animal Type	Dairy	Feed Lot (Cattle)	Poultry	Swine	Horses	Other
No. of Farms	0	35	0	0	11	11
No. of Animals						

Potential Confined Animal Feeding Operations (PCAFO)						
Animal Type	Dairy	Feed Lot (Cattle)	Poultry	Swine	Horses	Other
No. of Farms	0	3	0	0	2	2
No. of Animals						

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

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			x	
	Particulate matter less than 2.5 micrometers in diameter (PM 2.5)	x	x									x	x			x	
	Excessive Ozone																
	Excessive Greenhouse Gas: CO2 (carbon dioxide)																
	Excessive Greenhouse Gas: N2O (nitrous oxide)																
	Excessive Greenhouse Gas: CH4 (methane)																
	Ammonia (NH3)										x						
	Chemical Drift																
	Objectionable Odors				x												
	Reduced Visibility																
	Undesirable Air Movement																
	Adverse Air Temperature		x	x	x								x				
Plant Suitability	Plants not adapted or suited				x	x	x	x		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				x	x		x		x							
	Threatened or Endangered Plant Species: Declining Species, Species of Concern				x	x		x		x							
	Noxious and Invasive Plants	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Forage Quality and Palatability	x	x	x													
Plant Condition – Wildfire Hazard				x	x			x	x				x			x	
Fish and Wildlife	Inadequate Food				x	x		x	x								
	Inadequate Cover/Shelter																
	Inadequate Water				x	x		x	x				x			x	
	Inadequate Space																
	Habitat Fragmentation				x	x		x						x			
	Imbalance Among and Within Populations				x	x		x						x			
	Threatened and Endangered Species: Species Listed or Proposed for Listing under the Endangered Species Act				x	x		x						x		x	
Domestic Animals	Inadequate Quantities and Quality of Feed and Forage		x	x	x	x			x								
	Inadequate Shelter																
	Inadequate Stock Water				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:

- Bermudagrass** (cynodon dactylon)
- Canada thistle (cirsium arvense)
- Diffuse knapweed (centaurea diffusa)
- Dyers woad (isatis tinctoria L)
- Field bindweed (Wild Morning Glory) (convolvulus arvensis)
- Hoary cress (cardaria drabe)
- Johnsongrass (sorghum halepense)
- Leafy spurge (euphorbia esula)
- Medusahead (taeniatherum caput-medusae)
- Musk thistle (carduus mutans)
- Perennial pepperweed (lepidium latifolium)
- Perennial sorghum (sorghum halepense L & sorghum almum)
- Purple loosestrife (lythrum salicaria L.)
- Quackgrass (agropyron repens)
- Russian knapweed (centaurea repens)
- Scotch thistle (onopordum acanthium)
- Spotted knapweed (centaurea maculosa)
- Squarrose knapweed (centaurea squarrosa)
- Yellow starthistle (centaurea solstitialis)

** Bermudagrass shall not be a noxious weed in Washington County and shall not be subject to provisions of the Utah Noxious Weed Act within the boundaries of the county.

Additional noxious weeds declared by Washington County (2003): Poison Milkweed, Silverleaf Nightshade

Wildlife

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:	California Condor (experimental)	Bird	Cliff	
	Virgin River Chub	Fish	Water - Lotic	Lowland Riparian
	Woundfin	Fish	Water - Lotic	
	Brown (Grizzly) Bear (extirpated)	Mammal	Mixed Conifer	Mountain Shrub
	Gray Wolf (extirpated)	Mammal	Mountain Shrub	Mixed Conifer
	Southwestern Willow Flycatcher	Bird	Lowland Riparian	Mountain Riparian
Threatened:	Mexican Spotted Owl	Bird	Cliff	Lowland Riparian
	Bald Eagle	Bird	Lowland Riparian	Agriculture
	Desert Tortoise	Reptile	Low Desert Scrub	
Candidate:	Relict Leopard Frog (extirpated)	Amphibian	Wetland	Water - Lotic
	Yellow-billed Cuckoo	Bird	Lowland Riparian	Agriculture
Proposed:	(None)			
STATE SENSITIVE				
Conservation Agreement Species:	Northern Goshawk	Bird	Mixed Conifer	Aspen
	Bonneville Cutthroat Trout	Fish	Water - Lotic	Mountain Riparian
	Bluehead Sucker	Fish	Water - Lotic	Mountain Riparian
	Virgin Spinedace	Fish	Water - Lotic	Lowland Riparian
	Flannelmouth Sucker	Fish	Water - Lotic	

Species of Concern:	Allen's Big-eared Bat	Mammal	Lowland Riparian	Pinyon-Juniper
	American White Pelican	Bird	Water - Lentic	Wetland
	Arizona Toad	Amphibian	Lowland Riparian	Wetland
	Big Free-tailed Bat	Mammal	Lowland Riparian	Cliff
	Black Swift	Bird	Lowland Riparian	Cliff
	Bobolink	Bird	Wet Meadow	Agriculture
	Burrowing Owl	Bird	High Desert Scrub	Grassland
	Common Chuckwalla	Reptile	High Desert Scrub	Low Desert Scrub
	Desert Iguana	Reptile	Low Desert Scrub	
	Desert Night Lizard	Reptile	Low Desert Scrub	Pinyon-Juniper
	Desert Springsnail	Mollusk	Wetland	
	Desert Sucker	Fish	Water - Lotic	
	Ferruginous Hawk	Bird	Pinyon-Juniper	Shrubsteppe
	Fringed Myotis	Mammal	Northern Oak	Pinyon-Juniper
	Gila Monster	Reptile	Low Desert Scrub	
	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
	Mojave Rattlesnake	Reptile	Low Desert Scrub	
	Pygmy Rabbit	Mammal	Shrubsteppe	
	Short-eared Owl	Bird	Wetland	Grassland
	Sidewinder	Reptile	Low Desert Scrub	
	Speckled Rattlesnake	Reptile	Low Desert Scrub	
	Spotted Bat	Mammal	Low Desert Scrub	Cliff
	Three-toed Woodpecker	Bird	Sub-Alpine Conifer	Lodgepole Pine
	Townsend's Big-eared Bat	Mammal	Pinyon-Juniper	Mountain Shrub
	Western Banded Gecko	Reptile	Low Desert Scrub	Pinyon-Juniper
	Western Red Bat	Mammal	Lowland Riparian	
	Western Threadsnake	Reptile	Lowland Riparian	Low Desert Scrub
Western Toad	Amphibian	Wetland	Mountain Riparian	
Wet-rock Physa	Mollusk	Cliff	Wetland	
Zebra-tailed Lizard	Reptile	Low Desert Scrub	Shrubsteppe	

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

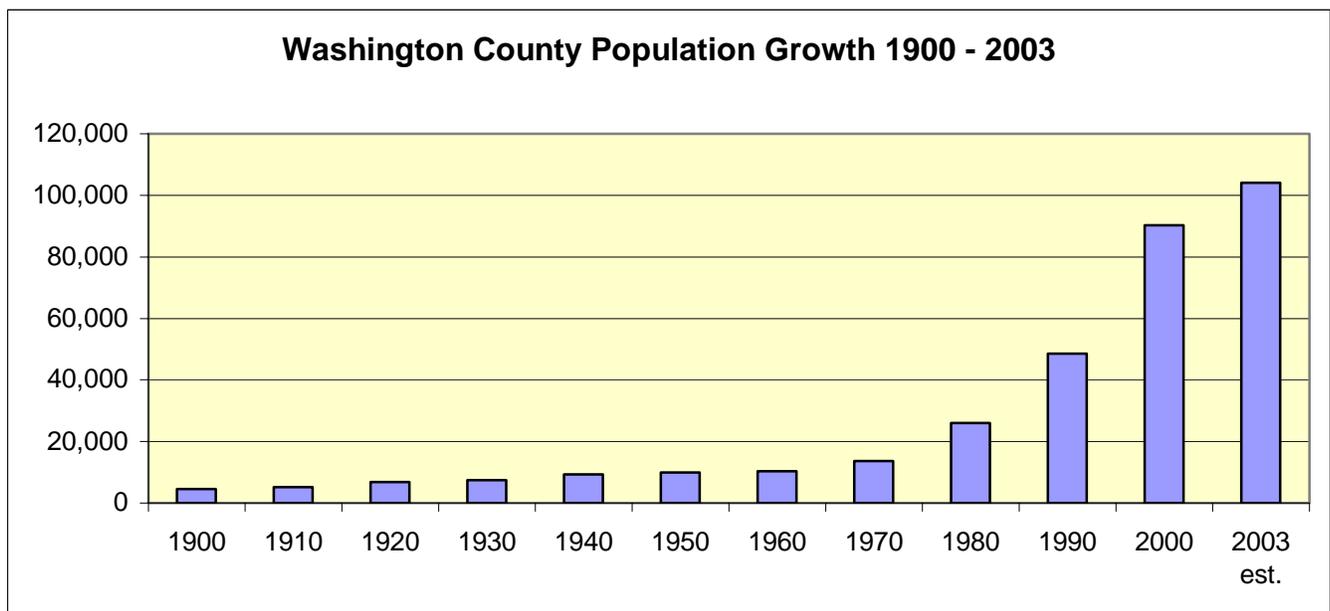
The Utah CWCS also prioritizes habitat categories based on several criteria important to the species of greatest conservation need. The top ten key habitats state-wide are (in order of priority):

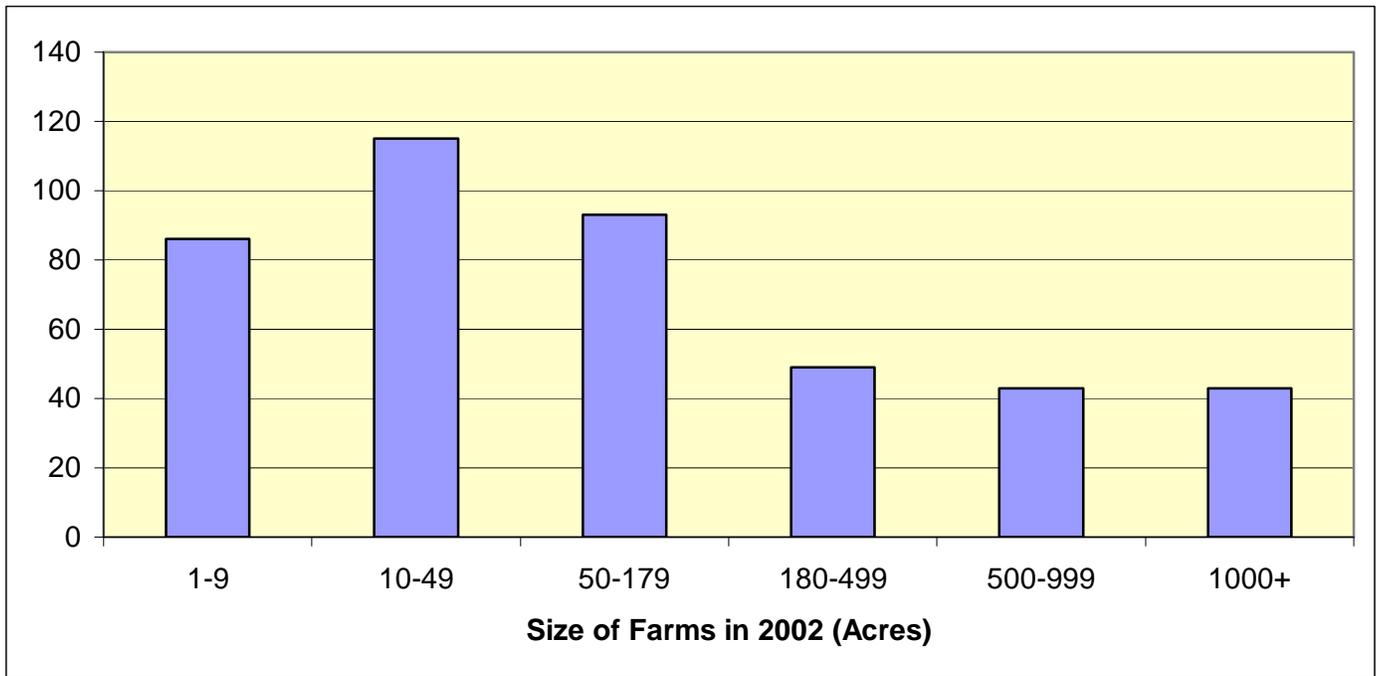
- 1) **Lowland Riparian** (riparian areas <5,500 ft elevation; principal vegetation: Fremont cottonwood and willow)
- 2) **Wetland** (marsh <5,500 ft elevation; principal vegetation: cattail, bulrush, and sedge)
- 3) **Mountain Riparian** (riparian areas >5,500 ft elevation; principal vegetation: narrowleaf cottonwood, willow, alder, birch and dogwood)
- 4) **Shrub steppe** (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		
	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	X		X					X				X
	Non-Traditional Land Uses	X	X	X	X	X		X					X				X
	Population Demographics, Changes and Trends										X	X	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	X	X	X	X	X	X	X	X	X	X	X
	Full Time vs Part Time Agricultural Communities	X	X	X	X	X	X				X						
	Size of Operating Units	X	X	X													
	Land Removed from Production through Easments																
	Land Removed from Production through USDA Programs																
	Other																

Census and Social Data





Number of Farms: 481

Number of Operators:

- Full-Time Operators: 224
- Part-Time Operators: 257

Public Survey/Questionnaire Results:

**Washington County
Resource Assessment Survey Project
July 20, 2005
Dixie Soil Conservation District**

The E&I Soil Conservation District received 73 resource assessment surveys from citizens/stakeholders in Iron County from;

1. Dixie SCD Resource Assessment Meeting/Tour/Barbeque
2. Dixie SCD Conservation Tree Program
3. Color Country RC&D Meeting

Top Five Concerns that should be addressed immediately:

- | | |
|--|-----|
| 1. Soil Loss/Erosion on Land/Stream Channels | 72% |
| 1. Wildfire Hazard | 72% |
| 2. Loss of Open Space or Agricultural Lands | 68% |
| 3. Urban/suburban growth | 60% |
| 4. Adequate Water Supply for Desired Uses | 56% |
| 4. Ground Water Quality & Quantity | 56% |
| 5. Storm Water Runoff & Flooding | 48% |

Top Five Concerns that should be addressed in the future:

- | | |
|--|-----|
| 1. Air Quality, Including dust, Pollutants | 60% |
| 1. Recreational Opportunities | 60% |
| 2. Plant Health, Production, and Adequate Quantities | 48% |
| 3. Soil contamination due to salts, chemicals, and other | 44% |
| 4. Adequate Food, Water and Cover for Livestock | 40% |
| 4. Adequate Support of Historic/Prehistoric Resources | 40% |
| 5. Adequate Marketing for Ag Products | 36% |
| 5. Adequate Energy Sources Available | 36% |
| 5. Storm runoff or flooding | 36% |
| 5. Soil Condition Due to Compaction or Other Changes | 36% |

Washington County Survey Demographics:

Gender – 22 Responses

Male - 73%

Female – 27%

Age – 25 Responses

18-24 – 0%

25-38 – 24%

39- 50 – 20%

51-65 – 40%

65+ - 16%

Race/Ethnicity – 23 Responses

European/Caucasian – 91%

Native American – 4%

Other – 4%

Hispanic – 0%

13 Responses

Ag Producers - 67%

Non-Ag Producers – 33%

Footnotes / Bibliography

1. Location and land ownership maps made using GIS shape files from the Automated Geographical Reference Center (AGRC), a Utah State Division of Information Technology. Website: <http://agrc.utah.gov/>
2. Land Use/Land Cover layer developed by the Utah Department of Water Resources. A polygon coverage containing water-related land-use for is used on all 2003 agricultural areas of the state of Utah. Compiled from initial USGS 7.5 minute Digital Raster Graphic water bodies, individual farming fields and associated areas are digitized from Digital Orthophotos, then surveyed for their land use, crop type, irrigation method, and associated attributes.
3. 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
4. Land Capability Classes derived from SURGO Soils Survey UT607 and Soil Data Viewer.
5. 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/>
6. 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>
7. Irrigated Adjudicated Water Rights obtained from the Utah Division of Water Rights.
8. Stream Flow data from NRCS Snow Survey Stream flow forecast data.
10. Stream length data calculated using ArcMap and 100k stream data from AGRC and 303d waters from the Utah Department of Environmental Quality.
11. Watershed information from NRCS data.
12. 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
13. 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/>).

14. County population data from the U.S. Census Bureau, Utah Quick Facts,
<http://www.fedstats.gov/qf/states/49/49053.html>

15. Farm information obtained from the National Agricultural Statistics Service, 2002 Census of Agriculture.
<http://www.nass.usda.gov/census/census02/volume1/index2.htm>