



Basin Description

Watershed Characteristics

Physical Characteristics

General Location

The Upper Sevier River Basin (also referred to as a large watershed, composed of smaller watersheds) is a 1,324,899 acre area covering the headwaters of the Sevier River in Beaver, Garfield, Iron, Kane, Wayne and Piute Counties of south-central Utah. The upper reaches of the Sevier River drain much of the southern portions of the High Plateaus section of the Colorado Plateau Province. The Sevier River and its main tributary, the East Fork Sevier River, flow northward cutting a trough through the center of the High Plateaus section with a broad, flat north-south trending fault-controlled valley (Fig. 2-1).

Basin Location and Classification

The basin is classified according to Hydrologic Unit Cataloging (HUC). The Upper Sevier River Basin is part of the Great Basin Region (3rd Level HUC, Catalog Unit 160300) and is bordered to the south by the Lower Colorado Region, and to the East by the Upper Colorado Region (Fig. 2-2). The nine 5th level watersheds and location within the basin are shown in Fig. 2-1. Fifth and 6th level subwatershed and HUC numbers are listed in Table 2-1.

The Upper Sevier River Basin is important to local communities for commodity production as well as for recreational opportunities. People from urban areas such as the Wasatch Front (Salt Lake City area) and Las Vegas use the area mainly for recreation, while livestock grazing is among one of the oldest land uses in the region, contributing important cultural and social values to the area.

Major Land Resource Areas

Almost 94 percent of the basin is within the Wasatch and Uinta Mountains Plateau Major Land Resource Area (MLRA), while the remaining 6 percent falls within the Great Salt Lake Plateau MLRA (Fig. 2-3). MLRA's are classified by the U.S. Department of Agriculture (USDA) according to geographically associated units with dominant physical characteristics of topography, climate, hydrology, soils, land use, and potential natural vegetation.

County Location

Although 73 percent of the basin is located in Garfield County, it accounts for only 28 percent of the total county acres. Garfield County derives 20 percent of its income from agriculture. Only 9 percent of the watershed is located in Piute County (26 percent of total county acres), 8 percent in Kane County (4 percent of total county acres), 8 percent in Iron County (5 percent of total county acres), and less than one percent in Beaver and Wayne Counties (less than 1 percent of total county acres) (Table 2-2, Fig. 2-4). Major communities within the watershed include: Panguitch, Antimony, Hatch,

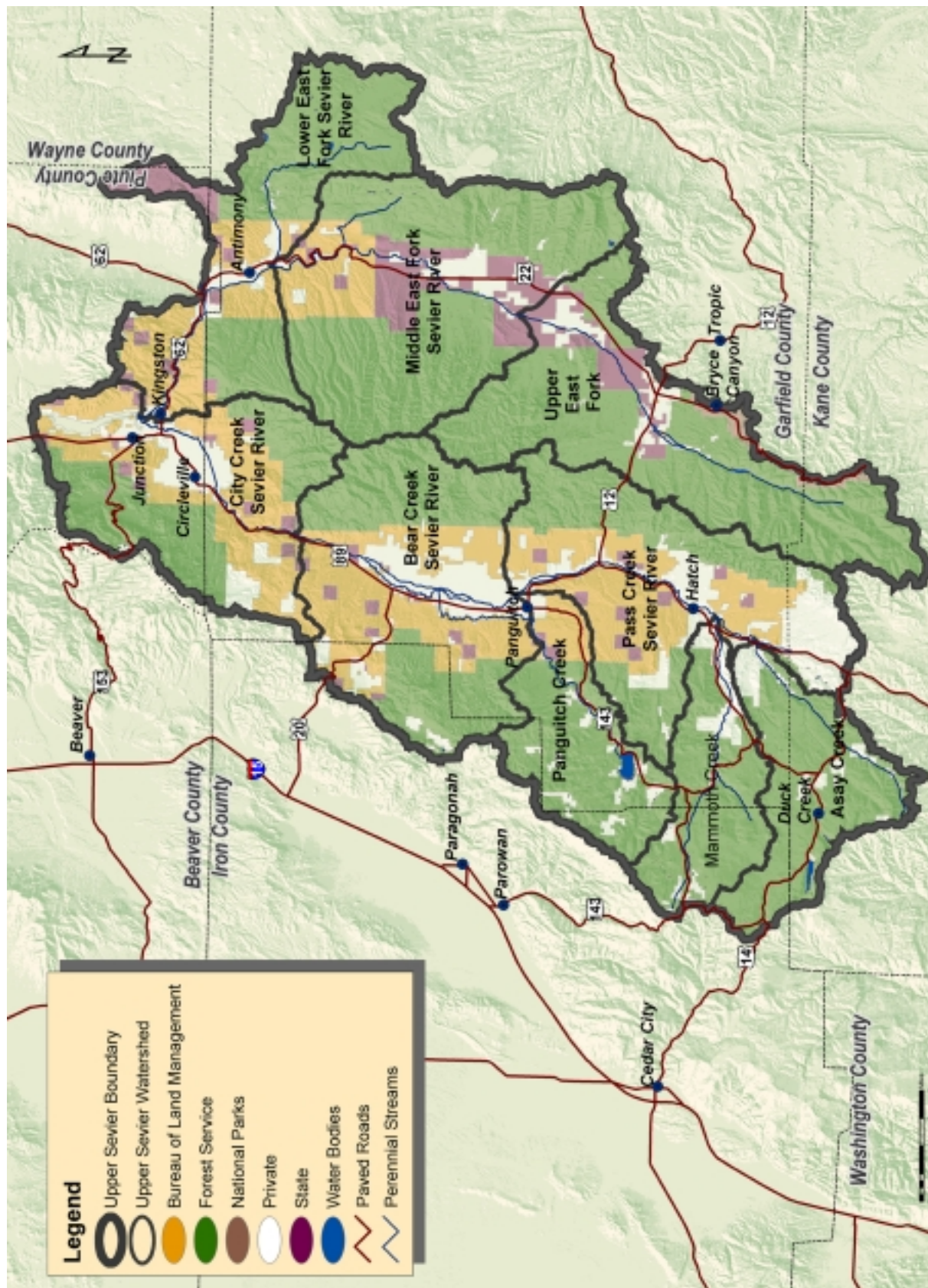


Fig. 2-1. Portions of the basin fall within Beaver, Piute, Wayne, Garfield and Kane counties. Land ownership is diverse with sections of state, federal and private lands. There are 9 watersheds within the Upper Sevier River basin.

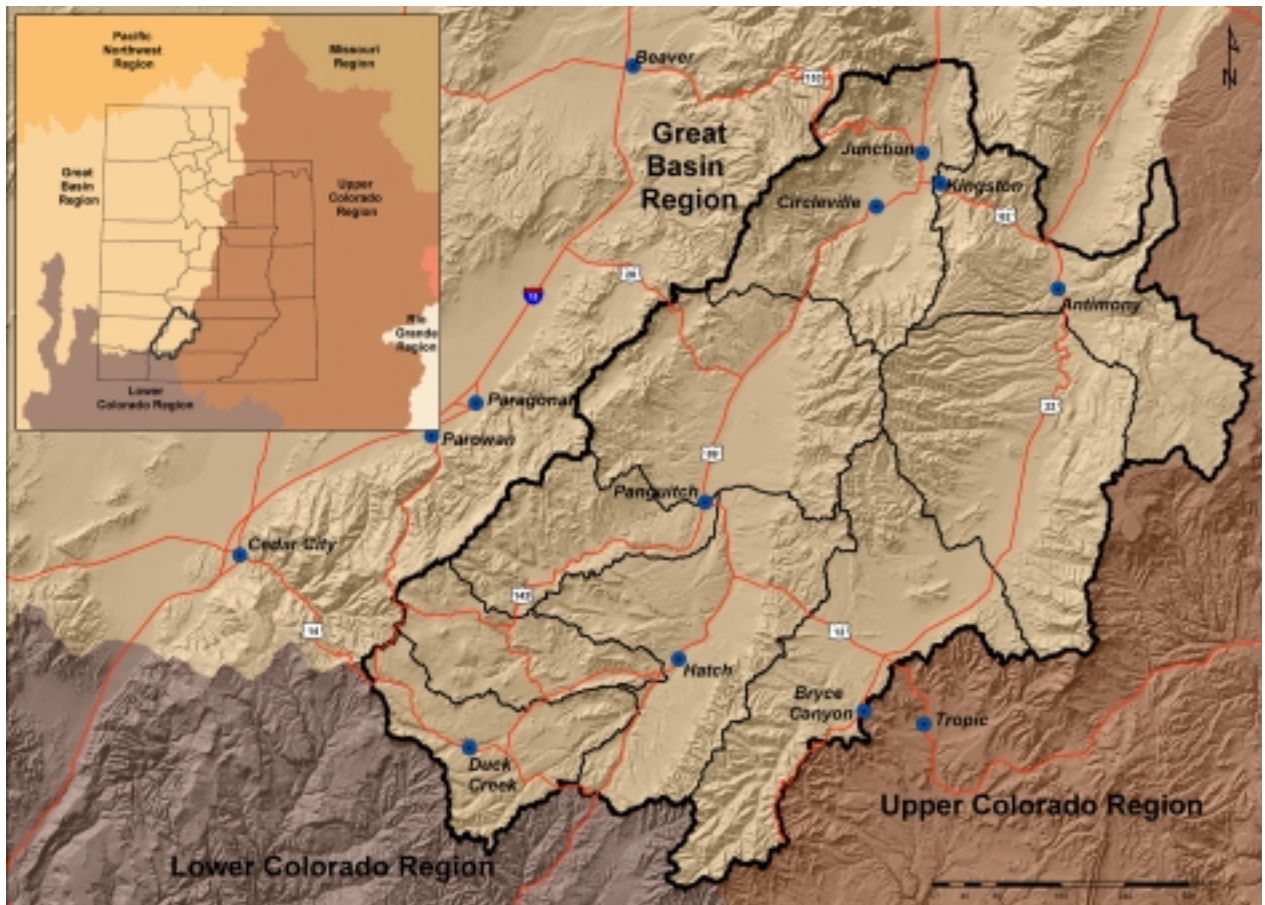


Fig. 2-2. The Upper Sevier River basin is located entirely within the Great Basin Region.

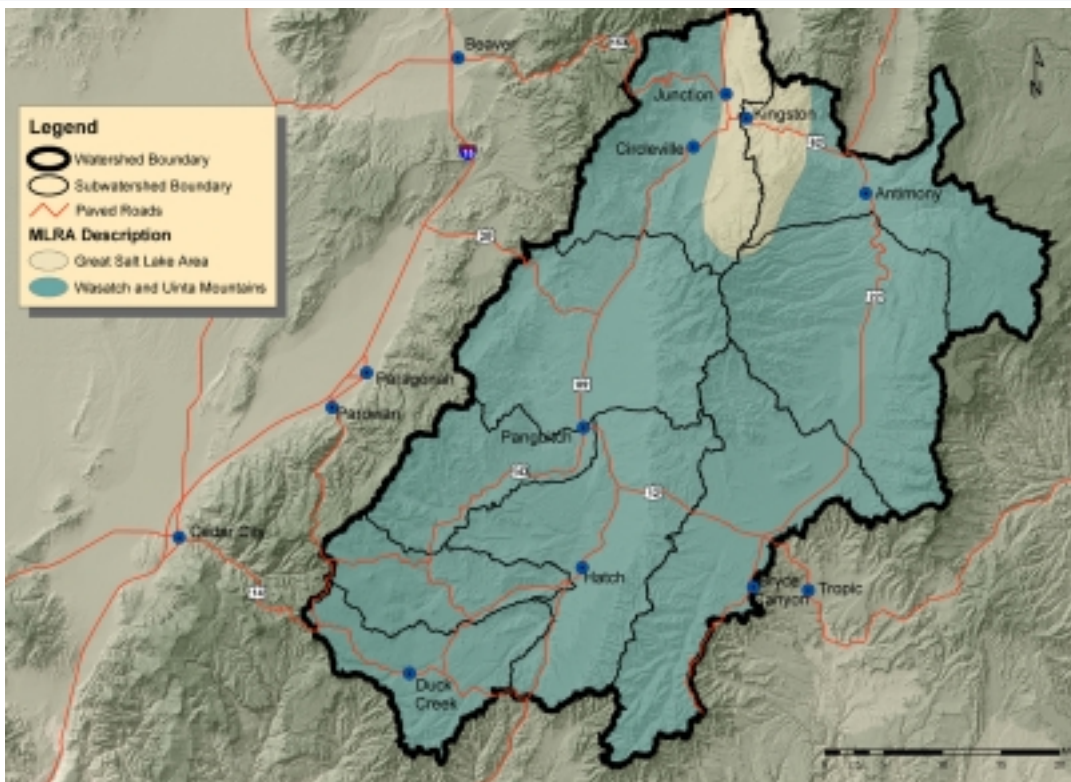


Fig. 2-3. Almost 94 percent of the Upper Sevier River Basin is within the Wasatch and Uintah Major Land Resource Areas.

3rd Level Huc/Name	4th Level Huc/Name	5th Level Huc/Name	6th Level Huc/Name					
1603000	Great Basin Region	16030001	Escalante Desert-Sevier Lake	1603000101	Asay Creek	160300010101	Midway Valley-Midway Creek	
					160300010102	Deer Valley-Midway Creek		
					160300010103	Strawberry Creek		
					160300010104	Swains Creek		
					160300010105	West Fork Asay Creek-Asay Creek		
				1603000102	Mammoth Creek	160300010201	Upper Mammoth Creek	
					160300010202	Tommy Creek		
					160300010203	Middle Mammoth Creek		
					160300010204	Lower Mammoth Creek		
					1603000103	Pass Creek-Sevier River	160300010301	Castle Creek-Sevier River
				160300010302		Pole Canyon-Sevier River		
				160300010303		Big Hollow-Sevier River		
				160300010304		Proctor Canyon-Sevier River		
				160300010305		Pass Creek		
				160300010306		Red Canyon		
				160300010307		Hillsdale-Sevier River		
				160300010308		Casto Wash		
				160300010309		Graveyard Hollow		
				160300010310		Peterson Wash-Sevier River		
				1603000104		Panguitch Creek	160300010401	Ipson Creek
						160300010402	Blue Spring Creek	
					160300010403	Haycock Creek		
					160300010404	Butler Creek		
					160300010405	Fivemile Hollow-Panguitch Creek		
					160300010406	South Canyon-Panguitch Creek		
					1603000105	Bear Creek-Sevier River	160300010501	Threemile Creek
				160300010502		East Bench-Sevier River		
				160300010503		Limekin Creek		
				160300010504		West Ditch-Sevier River		
				160300010505		Sandy Creek		
				160300010506		Tebbs Hollow-Sevier River		
				160300010507		Sanford Creek		
				160300010508		Bear Creek		
				160300010509		Smith Canyon-Sevier River		
				160300010510		Horse Valley Creek-Sevier River		
				1603000106	City Creek-Sevier River	160300010601	Eehard Creek	
					160300010602	Chokecherry Creek-Sevier River		
					160300010603	Birch Creek-Sevier River		
					160300010604	Lost Creek		
					160300010605	Cottonwood Creek		
					160300010606	Burnt Hollow-Sevier River		
					160300010607	City Creek		
					160300010608	Piute Reservoir		
				1603000203	Upper East Fork Sevier River	160300020301	East Fork Sevier River Headwaters	
					160300020302	Tropic Reservoir		
					160300020303	Mud Spring Creek-East Fork Sevier River		
					160300020304	Showalter Creek-East Fork Sevier River		
					160300020305	Hunt Creek		
					160300020306	Cameron Wash-East Fork Sevier River		
					1603000204	Middle East Fork Sevier River	160300020401	Clay Creek
				160300020402		South Creek		
				160300020403		Sweetwater Creek		
				160300020404		Prospect Creek		
				160300020405		Ranch Creek-Sevier River		
				160300020406		Cottonwood Creek		
				160300020407		Cow Creek-Sevier River		
				160300020408		Deer Creek		
160300020409	North Creek							
160300020410	Deep Creek							
160300020411	Forest Creek							
160300020412	Pacer Lake							
1603000205	Lower East Fork Sevier River	160300020501	Coyote Hollow-Antimony Creek					
	160300020502	Lost Spring Draw						
	160300020503	Antimony Creek						
	160300020505	Dry Wash						
	160300020506	Antimony-East Fork Sevier River						
	160300020507	East Fork Sevier River Outlet						

Table 2-1. Third through sixth level hydrologic cataloging units (HUC).

Circleville, Kingston, and Long Valley Junction. Urban-interface type subdivisions within the Dixie National Forest include those at Panguitch Lake, Mammoth Creek and Duck Creek.

Elevation

Elevation within the Upper Sevier River Basin varies from 5,884 feet (City Creek Sevier River Watershed, Piute Reservoir Subwatershed) to 11,322 feet

(City Creek Sevier River Watershed, Birch Creek Subwatershed). Gentle rolling hills alongside high altitude forests are characteristic of the Markagunt, Paunsaugunt and Aquarius Plateaus in which the watershed resides (Fig. 2-5).

County Name	Watershed Acres	County Acres	Watershed as % of County
Beaver	642.16	1682238.15	0.04%
Garfield	978322.85	3411695.58	28.68%
Iron	111691.65	2094287.04	5.33%
Kane	111240.17	2652166.74	4.19%
Piute	122641.29	466503.84	26.29%
Wayne	715.54	1560792.42	0.05%
Watershed Total	1325253.66	11867683.8	

Table 2-2. Portions of the Upper Sevier River Basin (watershed) are located in Beaver, Garfield, Iron, Kane, Piute and Wayne Counties. The basin represents less than one-third of the total acres within all counties in which it is located.

Upper Sevier River Basin
Total = 100% of basin

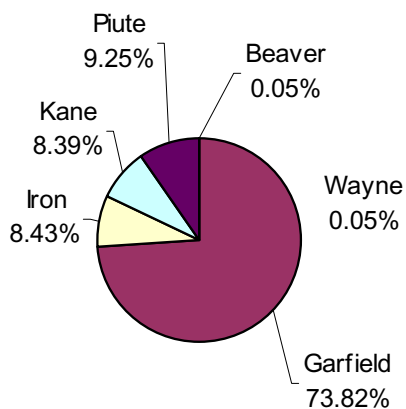


Fig. 2-4. The largest portion of the basin falls within Garfield County.

Precipitation

Precipitation ranges from 5 inches in lower elevations (~5,000 to ~6,500 ft) to more than 40 inches per year near Brian Head Peak (11,307 ft) - one of the highest points in the watershed. Although heavy thunderstorms are common throughout summer months, causing increased overland erosion, most of the annual precipitation falls as snow during winter months. Information regarding annual average maximum/minimum temperatures, annual average snowfall and precipitation is available through the Western Regional Climate Center for seven points within the watershed (Fig. 2-6).

Geology

The Upper Sevier River Basin is within the Northern Markagunt, Southern

Markagunt-Paunsaugunt Plateaus, Sevier Plateau, and Johns Valley subsections of the Utah High Plateaus and Mountains Section.

Geologically, the area consists of mixed volcanics (recent basalts, andesite, rhyolite, etc.), and Wasatch Limestone formation. Large basalt flows are present at higher elevations within the western portion of the basin (8,000+ ft.), while the lower portion of the basin (5,000 - 6,000 ft.) consists of rounded hills and broad valleys.

Rock areas consist primarily of Wasatch Formation (limestone and sandstone) in the form of cliffs,

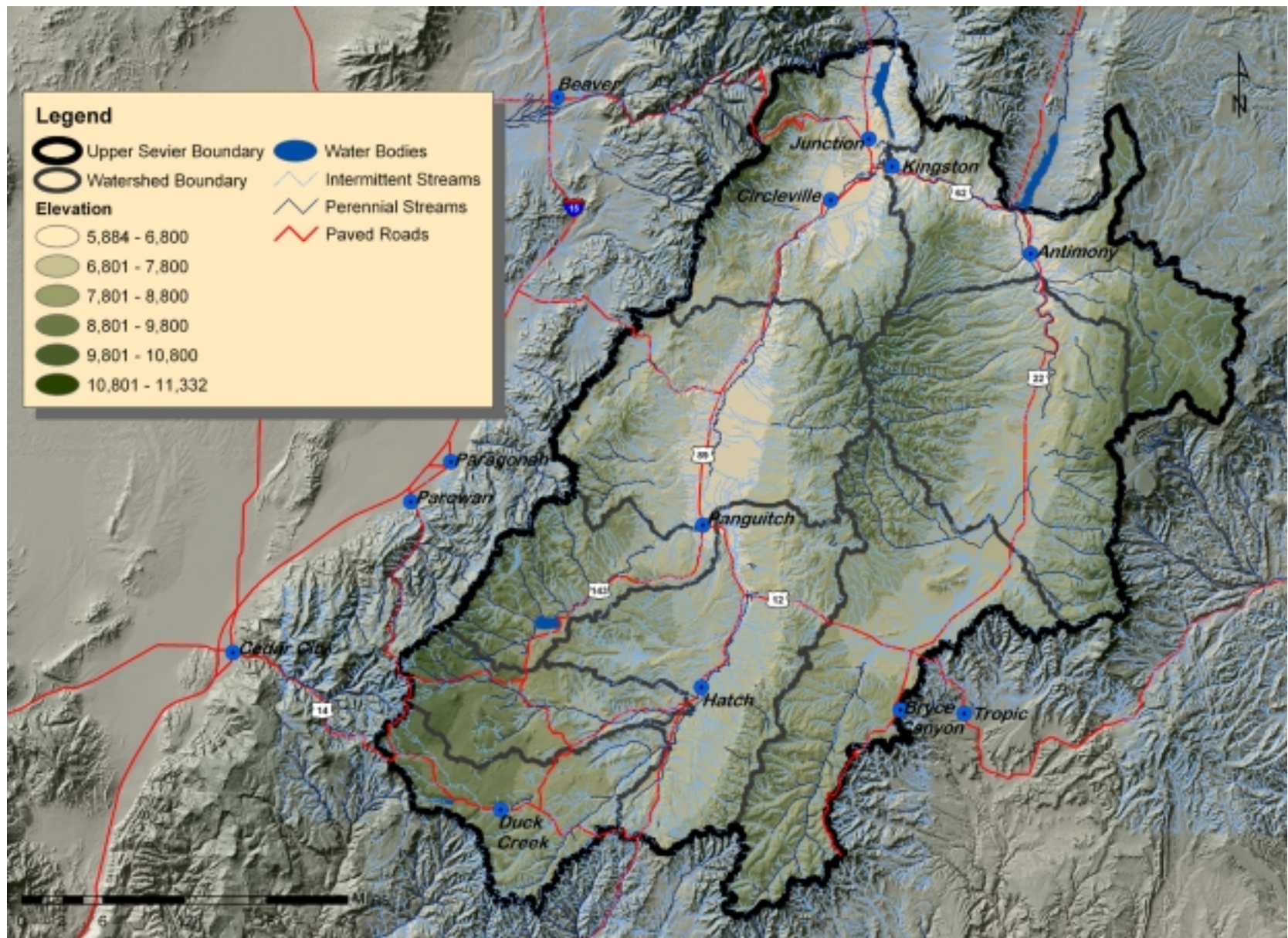


Fig. 2-5. Both the lowest and the highest points in the watershed are located within the City Creek Sevier River Watershed - the northwestern most watershed within the Upper Sevier River Basin.

escarpments and tertiary volcanic soils. Although vegetation is found in many rocky areas, it comprises no more than 10% cover. Most disturbances tend to be small and isolated except for rockslides and landslides. Under extremely windy conditions, fires may spot across rocky areas, burning patches of vegetation. Generally, however, these rocky areas act as fuel breaks.

Soil types

Soils within the Upper Sevier River Basin are classified according to soils data and map unit delineations as part of the State Soil Geographic (STATSGO) database (Table 2-3, Fig. 2-7). This system, used throughout the country, uses unique map units to classify soil series having similar chemical and physical properties.

Erosion Processes

Within natural forested landscapes mass erosion such as geological creep, and to a lesser degree slump and debris avalanches, are the dominant upland erosion processes. After intense wildfire, surface erosion is a dominant factor. In valley bottoms, stream channel erosion, including both bed and bank erosion, may deposit materials into the channel, where transport, storage and deposition may influence stream integrity.

As early settlers moved into the Upper Sevier River Basin, surface erosion processes have become more prevalent in areas where road constructing, mining, timber harvesting and grazing occur. Roads have increased surface and mass erosion rates beyond those associated with natural watershed disturbances. An extensive network of roads constructed in areas such as stream bottoms and unstable landtypes has resulted in large scale mass erosion.

Vegetation

Vegetation within the basin ranges from sparse, desert-type plants in the lower elevations to stands of low growing pinyon pine and juniper in the mid-elevations. Aspen, and conifer species such as ponderosa pine, spruce and fir dominate at higher elevations (Fig. 2-8, Table 2-4).

Pinyon/juniper and Sagebrush/grass occupy 53% of the basin, and are the two dominant vegetation types.

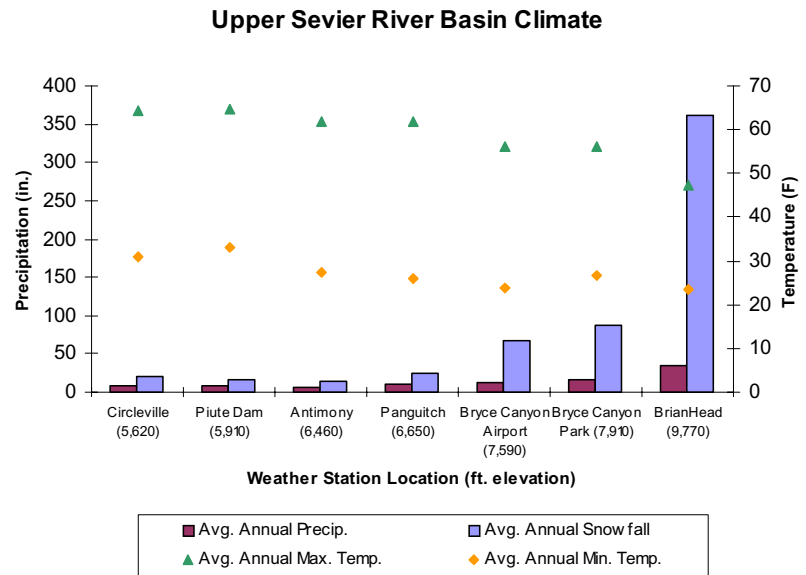
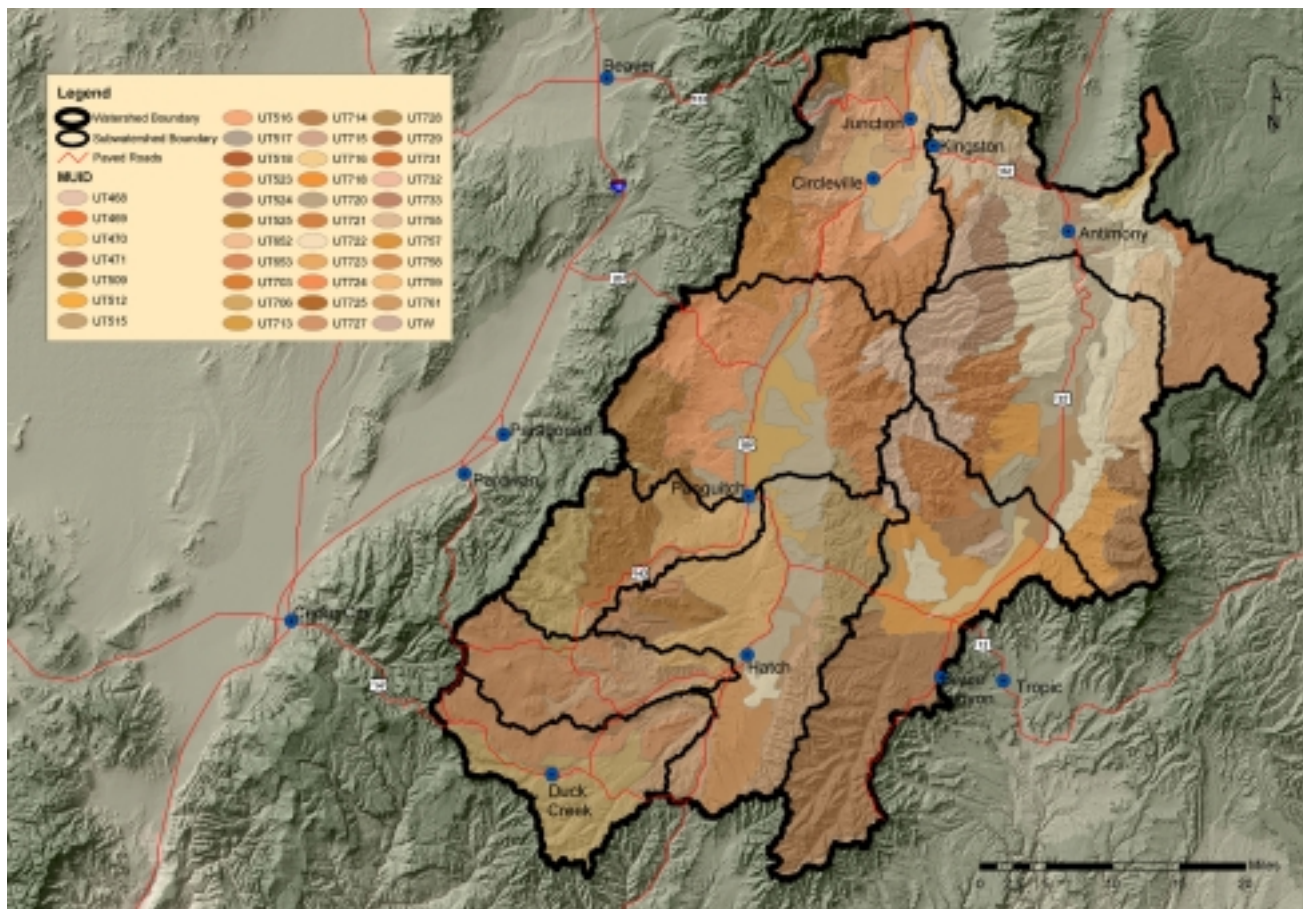


Fig. 2-6. Temperature and precipitation information for seven locations located throughout the Upper Sevier River Basin..



Map Unit	Soil Group Name	Map Unit	Soil Group Name
UT728	BADLAND-ROCK OUTCROP-SYRETT	UT715	MIKIM-HENRIEVILLE-BARX
UT515	BOWEN-DACORE-AGASSIZ	UT759	MONROE-MEDBURN-GREEN RIVER
UT732	CALLINGS-BEHANIN-BEARDALL	UT720	NOTTER-BRUMAN-TRIDELL
UT731	CASTINO-ROCK OUTCROP-CIRCLEVILLE	UT729	PAHREAH-SYRETT-BADLAND
UT714	CODLEY-DESCOT-JODERO	UT469	PARKAY-FAIM-FORSEY
UT518	CONDIE-SCOUT-BICKMORE FAMILY	UT761	POGANEAB-KIRKHAM-MANASSA
UT523	CONDIE-SCOUT-DATEMAN FAMILY	UT703	ROB ROY-DOYCE-TOLMAN FAMILY
UT509	DACORE-BOWEN-ELLETT	UT524	ROCK OUTCROP-NIELSEN FAMILY-TATIYEE
UT470	DUNE LAND-BUSHVALLEY	UT727	RUKO-ROCK OUTCROP-SWAPPS
UT471	ELDGIN-HANDY	UT653	SCOUT FAMILY-NAMON FAMILY-TINGEY
UT706	FAIM-SETH-WINNEMUCCA	UT517	SCOUT-CONDIE-PARKAY
UT468	FORSEY-FAIM-PARKAY	UT525	SCOUT-LOSEE-BLANCA
UT716	FRANSEN-PLAYAS-CODLEY	UT512	SESSIONS-MORTENSON-KAMACK
UT516	GOLSUM-TELLURA-GABICA	UT718	SHOWALTER-GUBEN-PANGUITCH
UT757	GREEN RIVER-POGANEAB-HAULINGS	UT713	TEBBS-VILLY FAMILY-ALLDOWN
UT725	HAROL-DALCAN-TOLMAN	UT724	TOLMAN-COMODORE-WALTERSHOW
UT758	HIKO PEAK-BERTELSON-TOSSER	UT723	WALTERSHOW-QUILT-VENTURE
UT755	HIKO PEAK-ROCK OUTCROP-RED BUTTE	UTW	WATER
UT722	IPSON-TRIDELL-GUBEN	UT733	WINNEMUCCA-HOODLE-CASTINO
UT652	JEMEZ FAMILY-PARKAY FAMILY-TATIYEE FAMILY	UT721	ZINZER-LUHON-TRIDELL

Fig. 2-7, Table 2-3. Map unit names, numbers and location as contained within the State Soil Geographic database (STATSGO).

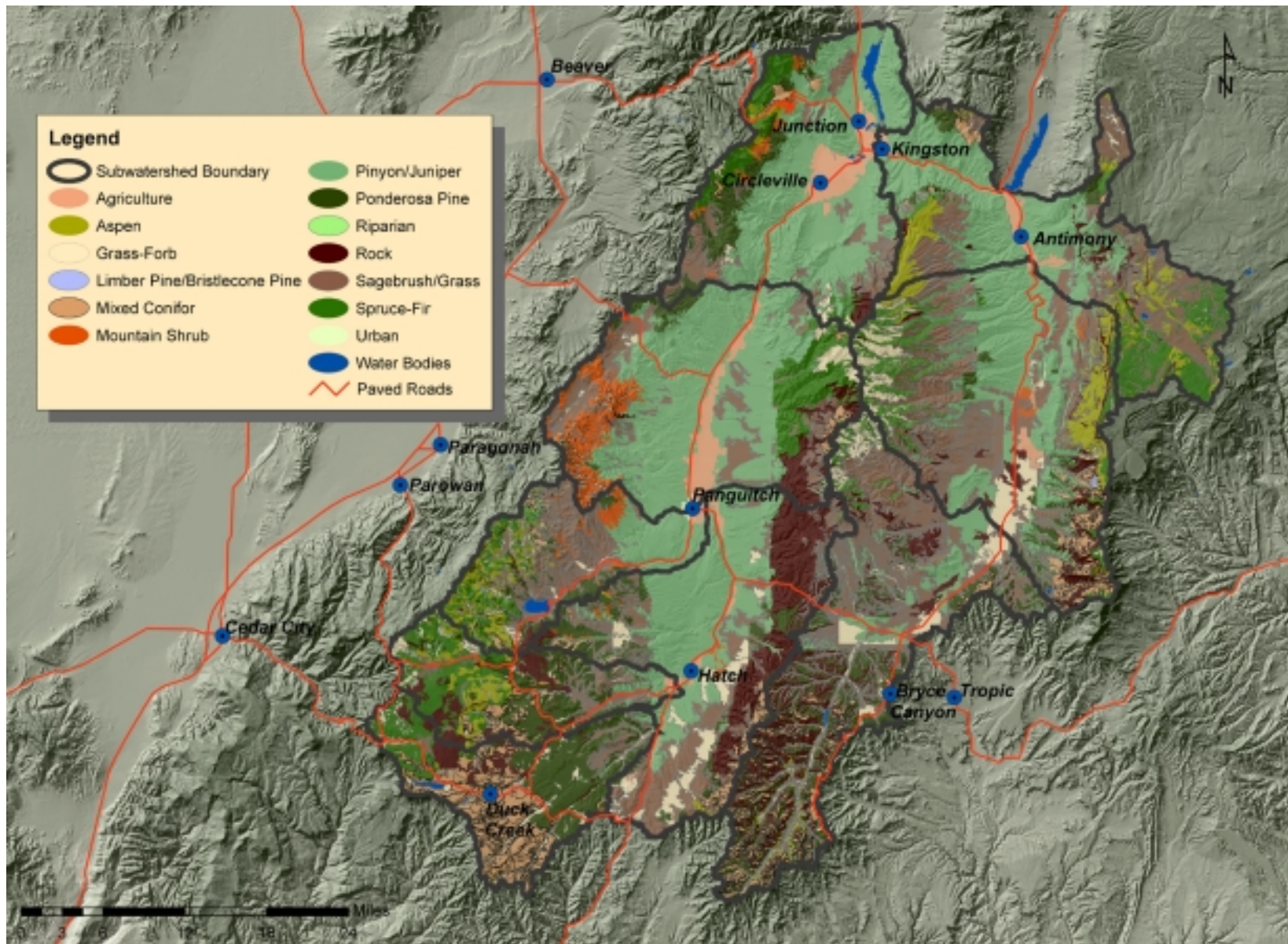


Fig. 2-8. Pinyon-juniper and sagebrush/grasslands occupy much of the basin, while ponderosa pine, aspen, spruce-fir and mixed conifer occupy areas within the higher reaches.

Noxious Weeds

Noxious weeds, as defined by law, are plants of foreign origin that can directly or indirectly injure agriculture, navigation, fish, wildlife or public health.

Noxious weeds identified within the watershed include Canada thistle, Dalmation toadflax, Musk thistle, Russian knapweed, Scotch thistle, spotted knapweed, and whitetop. Noxious weed dispersal is of concern throughout the western United States (including the Upper Sevier River Basin), and especially in agricultural areas and along travel routes.

Stream Miles

Intermittent and perennial streams are shown in Figure 2-5. Several sections of the Sevier River and the Upper East Fork are diverted for irrigation use, and the channels remain dry throughout much of the year. Perennial stream miles account for 12% total stream miles (636.25 miles), while intermittent streams account for 88% stream miles (4,502.76 miles) within the basin.

Water Related Land Uses

As a part of Utah's effort in developing a state water plan, the Division of Water Resources continually assesses water-related land uses within the state. This data includes the kinds and extent of irrigated crops and information on phreatophytes (plants that obtain water from the water table or the soil just below it), wet/open water areas, and residential/industrial areas.

Land Use	Acres
Irrigated	26218.89
Non-Irrigated	1079.864
Other	217.5855
Riparian	898.574
Irrigated Riparian	7988.587
Non-Irrigated Riparian	564.9679
Urban	701.7174
Urban/Resident	3262.539
Water	4664.368
Total	45597.09

Table 2-5. Water-related land uses, Division of Water Resources.

A total of 45,597 acres was devoted to water related land uses within the Upper Sevier River basin. Satellite imagery collected in 1991 by the Utah Department of Natural Resources, Division of Water Resources, shows that much of the water-related land use is located along valley floors and major stream corridors (Fig 2-7, Table 2-5).

Fish and Wildlife

Over 350 species of fish and wildlife live in the basin for all or a portion of their lives. Big game species, such as deer and elk, are important from a recreational (hunting) aspect, and also serve as management indicator species within the Dixie National Forest. Other wildlife, including wild turkey, goshawk, flicker and cutthroat trout may serve as Management Indicator Species (MIS) for state and federal agencies like the Division of Wildlife Resources, Dixie National Forest and Bureau of Land Management.

Detailed descriptions of wildlife species evaluated as part of the Upper Sevier Management Plan are contained in Chapter 3.

Fish native to the Upper Sevier River Basin include Bonneville cutthroat trout, leatherside chub,

Vegetation Type	Acres	%
Agriculture	31,316	2%
Aspen	51,843	4%
Grass/Forb	73,824	6%
Limber/Bristlecone Pine	321	0%
Mixed Conifer	102,723	8%
Mountain Shrub	25,883	2%
Pinyon/Juniper	409,256	31%
Ponderosa Pine	128,416	10%
Sagebrush/Grass	285,471	22%
Spruce/Fir	104,808	8%
Urban	1,480	0%
Other	109,558	8%
Total	1,324,899	100%

Table 2-4. Together, pinyon-juniper and sagebrush/grass cover more than 50 percent of the watershed.

mountain sucker, speckled dace, and mottled sculpin. Non-native species such as cutthroat, brook, rainbow and brown trout have established within the basin or have been stocked as part of the Utah Division of Wildlife Resources sport fishery program.

Social and Economic Settings

Settlement History

Paleoindians (12,000-5,000 B.C.) were the first inhabitants to roam the land within the Upper Sevier River basin.

Remains and artifacts from this culture can be found within the basin from Garfield County north into Piute County. Evidence suggests that these Indians traveled in small groups, depending on large game and to some degree, small game and fish as a food source. However, there is no evidence to suggest that this group participated in any form of agriculture (Hinton, 1997).

Archaic people entered the basin about 9000 B.C. and migrated with the seasons, utilizing berries, seeds, badger, beaver, deer, sheep, small rodents and different types of vegetation as food. The highly mobile Archaic people were more advanced than their predecessors, utilizing animal bones for needles and constructing clothing, footwear and shelter. Most remnants of this population disappeared around 1500 B.C.

Fremont Indians lived along the Sevier River from about 800 to 1200 A.D. Within the basin, the Fremont Cultures were the first to have a strong agricultural base, growing such crops as beans, corn, and squash. Distinctive pictographs of triangular-shaped humans, wearing extravagant necklaces and clothing alongside pictographs of deer, sheep, rattlesnakes and other animals they may have harvested, suggest this group placed importance on big game harvest. The Fremont disappeared from the basin between 1200 and 1300 A.D, possibly fleeing because of drought or just evolving into other tribes within the area.

The Numic people composed of the Ute and Southern Piute Indians made the basin their home from 1300 A.D. to present. Both Utes and Piutes took advantage of what the land had to offer by hunting a lot of small game, including rodents, rabbits, squirrels, prairie dogs, and beaver. Trout from the river supplemented a large portion of their diet, while pinenuts were gathered and stored for use in winter

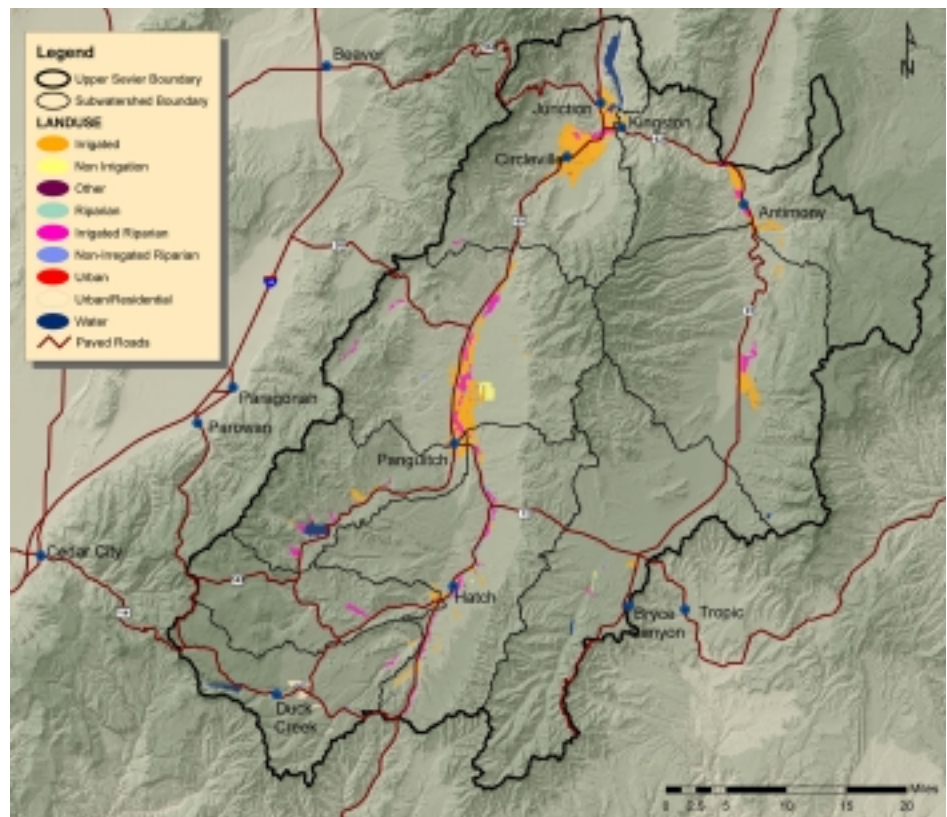


Fig. 2-7. Most of the basin-related land use occurs directly along the Upper Sevier River and Upper East Fork.

months.

In the 1500’s Spanish conquistadors began to visit areas within the southwestern United States, and most likely the Upper Sevier River basin. Spanish explorers and traders introduced horses to the Ute Indians, making big game easier to obtain. In addition, Spanish traders kidnapped Ute women and children and sold them into slavery back in the New Mexico Territory. In turn, Ute Indians kidnapped Paiute Indians, creating hostile conditions within the basin.

The greatest force in non-Indian settlement of the Sevier River drainage was Mormon Church colonization. Mormon settlement along the Sevier River drainage during the late 1840’s to early 1860’s was based on agriculture, with dairy and open-range beef cattle within co-operative herds. From the early 1850’s to mid-1870’s dairy and open cattle ranging practices were disrupted by Indian conflicts and settlers lost considerable livestock.

Cattle numbers remained low until the late 1860’s and early 1870’s when settlers realized the profits available within the cattle industry. Railroad transportation arrival in 1869 heralded an era of rapid expansion within the cattle industry and prior community co-operative holdings were superseded by individual holdings.

Areas within the basin continue to be shaped by agriculture and livestock industries today, and many families continue to make a living in the same manner as their ancestors. Because agriculture and ranching plays a large role within the basin, number of farms and agriculture economic information is provided in Table 2-6. Information available from the U.S. Department of Agriculture (1997) classifies information by county, and not by specific watershed, but can be used as a guide to land and water use within the specific areas of the basin.

Current Population

While Utah continues to be the 4th fastest growing state in the nation, county populations within the basin have remained fairly stable over the past Century further emphasizing the cultural, economic and social values tied to resources within the basin.(U.S. Census Bureau, 1995, 2001, 2003) (Fig. 2-8).

While established towns such as Panguitch, Circleville and Junction may be considered “urban” by definition (established city), they maintain rural lifestyles because of small town size and way of living (Table 2-7).

The total population of the basin is not readily available, however, this figure can be inferred by

	County					
	Beaver	Garfield	Iron	Kane	Piute	Wayne
Farms (Number)	219	285	375	143	106	191
Land in Farms (Acres)	130994	121381	404574	175384	44504	59593
Average Size of Farm	598	426	1079	1226	420	312
Market Value of Ag Products Sold (\$000s)	58525	7583	42126	3230	7216	11,200
Operators by Principal Occupation-Farming	124	116	156	66	79	100
Operators by Principal Occupation-Other	95	169	219	77	27	91

Table 2-6. Number of farms and farmland acres for counties in which portions of the Upper Sevier River Basin are located.

using 2000 U.S. Census data. Total populations for cities located within the basin, and the additional county population multiplied by the percent of the county within the basin, give a fairly accurate picture of total basin population. It is assumed that the additional county population figure represents an equal distribution of population throughout non-city areas (Table 2-7). Approximately 3,704 people reside within the Upper Sevier River Basin.

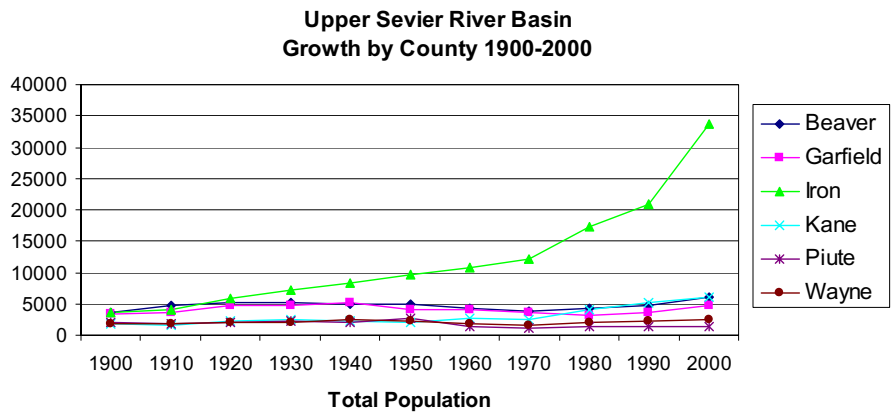


Fig. 2-8. Populations for counties in which the Upper Sevier River Basin resides, have changed little since the first of the Century, except for Iron County. Most of the growth within Iron County has occurred in urban areas, such as Cedar City, which is located outside of the basin boundaries.

Income and Employment

Garfield County, in which most of the basin resides, depends largely on tourism. With Bryce Canyon and Lake Powell, and close proximity to many other parks/attractions, the county attracts many seasonal visitors each year. The travel/hospitality industry accounts for 30.85 percent of the work force, while government at 22.45 percent and farming/ranching at 19.83 serve as the other two major work sectors. Additional employment information for Garfield County, as well as information for Beaver, Garfield, Iron, Piute and Wayne Counties are summarized in Table 2-8 and Fig. 2-9. This data is presented for informational purposes only, and is taken from actual county statistics and not weighted to conform with percent of basin located within each county.

County	Communities within Basin City	Population	Other County Population	%County w/in Basin	Inferred additional Population	Total County Population
Beaver			1283	0.04%	0.49	1283.49
Garfield	Antimony	122	1050	28.68%	301.09	2173.09
	Hatch	127				
	Panguitch	1623				
Iron			6321	5.33%	337.11	17.98
Kane			980	4.19%	41.10	1.72
Piute	Circleville	492	267	26.29%	70.19	228.19
	Junction	149				
	Kingston	158				
Wayne			1226	0.05%	0.56	0.58
Total Population						3704.48

Table 2-7. The total population of the watershed is estimated at 3,704 people or .56 person per square mile of the watershed.

Labor Force	County (# workers)					
	Beaver	Garfield	Iron	Kane	Piute	Wayne
Mining	38	12	58	0	0	0
Construction	109	70	882	136	3	95
Manufacturing	97	127	1743	385	2	44
TrandTrans/Utilities	455	215	2484	372	58	144
Information	0	100	127	5	0	0
Financial Activities	37	21	496	58	8	9
Profess/Business Svcs	17	15	1745	27	2	1
Ed/Health/Social Svcs	37	149	989	49	3	304
Leisure/Hospitality	388	837	1500	858	26	181
Other Services	35	20	258	220	2	20
Government	673	609	3788	698	138	293
Farm	441	538	835	69	264	461
Total Nonfarm	1886	2175	14070	2808	242	1091
Total Labor Force	2327	2713	14905	2877	506	1552

Table 2-8. Total labor force (number of workers) for Beaver, Garfield, Iron, Kane, Piute and Wayne Counties. Figures represent county totals and are not weighted by percent of basin within each respective county.

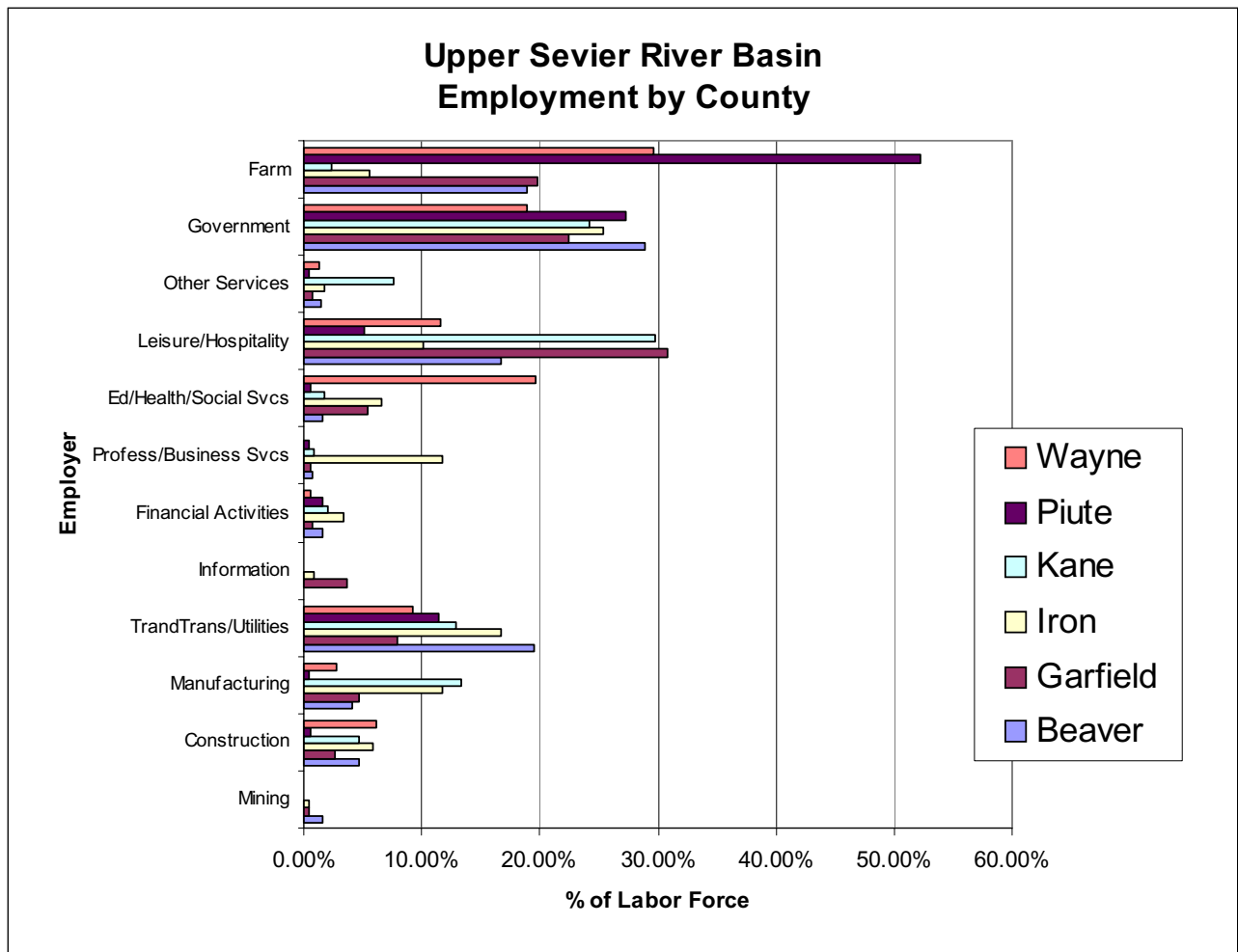


Fig. 2-9. Employers in Wayne, Piute, Kane, Iron, Garfield and Beaver Counties and percent labor force. Totals for each county equal 100 percent of labor force.

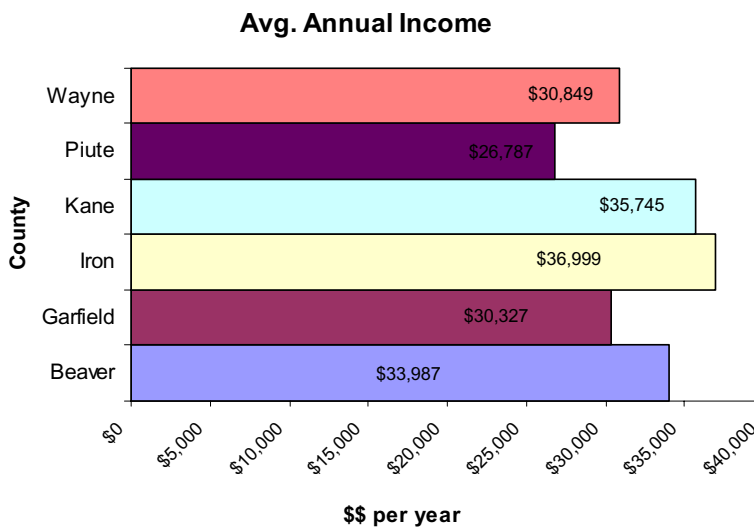


Fig. 2-10. Average annual income for Wayne, Piute, Kane, Iron, Garfield, and Beaver Counties in which the Upper Sevier River Basin resides.

Average salaries for counties located within the basin are presented in Fig. 2-10 .

Land Ownership/Use

U.S. Forest Service lands make up 61 percent of the basin (810,136 acres). Bureau of Land Management lands account for 19 percent (251,822 acres), private lands 13 percent (168371 acres), State lands 6 percent (84446 acres) and National Park Service lands, approximately 1 percent (10,478 acres) (Fig. 2-1, Fig. 2-11).

Federal lands, as well as state and private lands are utilized extensively for grazing. Federal lands are governed by the Taylor Grazing Act of 1934, and although overgrazing threatened to reduce Western rangelands to a dust bowl at the turn of the previous Century, today, use of grazing permits on public lands has allowed rangelands to recover to a more healthy condition.

Recreation

The basin is a popular destination place for those residing in the area and in communities surrounding the watershed. Much of the private land within the basin has been developed and is utilized as summer home property by numerous local residents as well as residents from as far away as Las Vegas, Nevada and southern California.

Recreational opportunities throughout the basin include camping, hunting, wildlife viewing, fishing, bicycling, ATV riding, horse-back riding and snowmobiling in winter months. The proximity of the basin to several national parks and monuments also brings visitors for picnicking, lodging, and general sight-seeing.

Upper Sevier River Basin Land Ownership

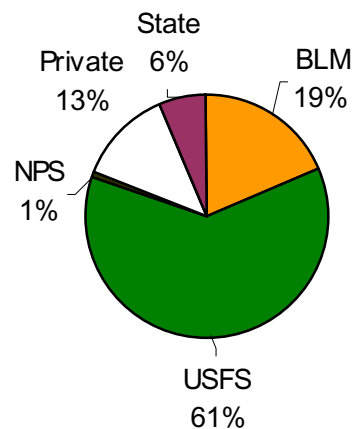


Fig. 2-11. Land ownership within the basin is diverse, with private, state, National Park Service, U.S. Forest Service and Bureau of Land Management lands represented.

Roads and Trails

Approximately 3,991 miles of paved, improved gravel and other type of roads

and travel ways are found throughout the basin (Fig 2-12, Fig 2-5). Although current U.S. Forest Land and Resource Management Plan, standards and guidelines call for road densities not to exceed 2 miles per square mile of wildlife habitat, recent on-the-ground evaluations in forested areas suggest that in some areas this number may be higher. Total road miles does not take into consideration non-classified or user-created roads.

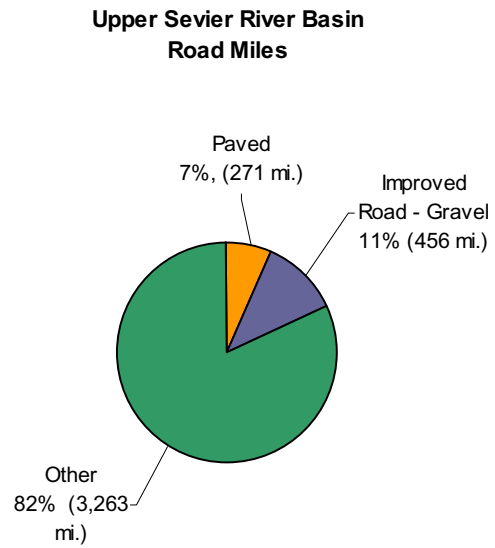


Fig. 2-12. The 3,991 total miles of road represent an average of 1.93 roads per square mile of the Upper Sevier River Basin.