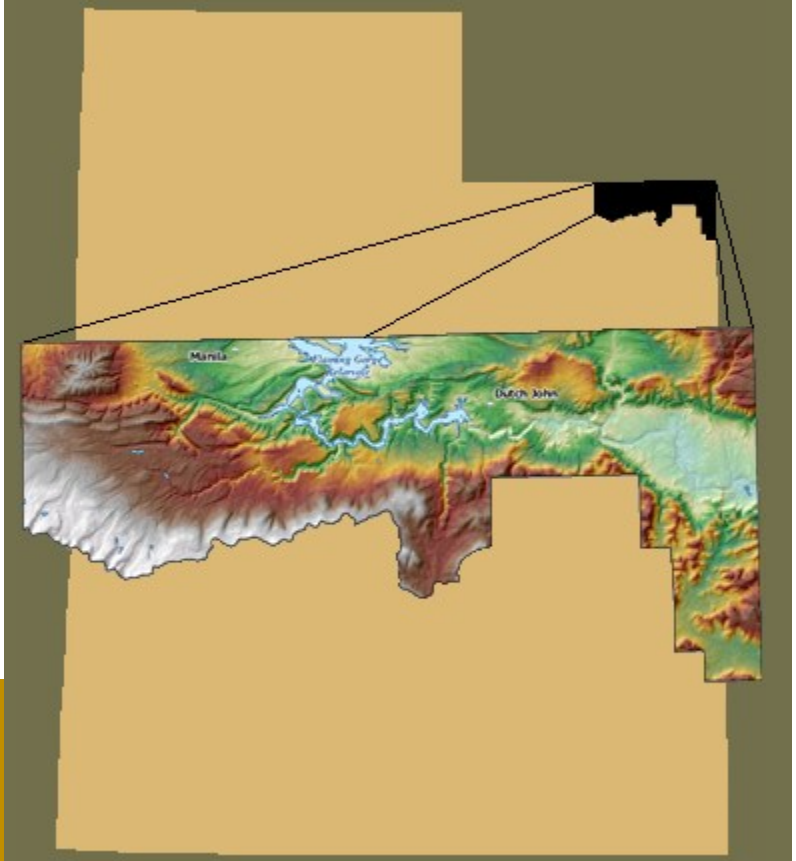
# Daggett County Resource Assessment

March 2025




*Conserving Natural Resources For Our Future*

Daggett Conservation District

UACD
Utah Association of Conservation Districts

UDAF
Utah Department of Agriculture and Food

USDA NRCS Natural Resources Conservation Service

## Acknowledgments

### Daggett Conservation District

with the:

Utah Association of Conservation Districts
Utah Department of Agriculture and Food
Natural Resources Conservation Service

In partnership with the:

### Utah Conservation Commission

Utah Conservation Districts Zone 6
Utah Association of Conservation Districts
Utah Department of Agriculture and Food
Utah Department of Environmental Quality
Utah Department of Natural Resources
Utah School and Institutional Trust Lands Administration
Utah State University Extension
Utah Weed Supervisor Association

### UtahPCD

**State Agencies and Organizations:**

Utah Association of Conservation Districts
Utah Department of Agriculture and Food
Utah Department of Environmental Quality
Utah Department of Natural Resources
Utah School and Institutional Trust Lands Administration
Utah State University Cooperative Extension Service
Utah Energy Office

**Federal Agencies:**

U.S. Department of Interior
- Bureau of Land Management
- U.S. Fish and Wildlife Service
- Bureau of Reclamation

U.S. Department of Agriculture
- U.S. Forest Service
- Natural Resources Conservation Service
- Agriculture Research Service
- Farm Service Agency

### Other

State Historical Preservation Office
Governor's Office of Planning and Budget
Daggett County Commission

## Credits

Julia Gillespie – Writer/Document Compilation, Zone 6
Brandi Percival – Writer/Document Compilation, Zone 6
Evan Guymon – Writer/Document Compilation, Zone 6
Tonia Steffey – Writer/Document Compilation, Zone 6
Darrell Gillman – Writer/Document Compilation, Zone 6
Anne Johnson – GIS Specialist/Maps/Illustrations, UDAF
Patti Sutton – GIS Specialist, NRCS
Cherie Quincieu – Document Design, UACD

## Contributors/Specialists

**Many thanks to all those that have made comments and suggestions for this project.**

# Table of Contents

# Executive Summary

## Why a Resource Assessment?

The Daggett Conservation District has developed this resource assessment with the goal that conservation efforts in the county address the most important local resource needs. This report identifies natural and social resources present in Daggett County and details specific areas of concern. Local, state, and regional entities can use this assessment to develop county resource management plans or to target conservation assistance needs.

We recognize that all who could have provided information may not have had the opportunity. This document is dynamic and will be updated as additional information is available.

Your comments are requested:

Daggett Conservation District
PO Box 386
95 North 1st West
Manila, UT 84046

## Natural Resource Priorities and Concerns

The Daggett Conservation District has identified five natural resource priorities and concerns. These priorities receive special emphasis because of their immediate significance to Daggett County.

1. **Water Quality and Quantity:** High salinity, sediment
2. **Pasture/ Rangeland Health:** Weeds, monitoring
3. **Noxious Weeds:** Daggett County Noxious Weed List
4. **Wildlife Management:** Wildlife encroachment, turkey/ sage-grouse
5. **Forest Health:** Beetle-kill, multiple use forestland

## General Resource Observations

Natural and social resources are categorized as Soil, Water, Air, Plants, Animals, and Humans (SWAPA + H). This assessment describes the general condition of these resources and highlights additional concerns in each category. As opportunities become available to address these issues, and as circumstances change, their emphasis should be elevated accordingly.

**Soil:** Area significant farmland, Daggett County soils

**Water:** Water quality and uses, Flaming Gorge

**Air/Climate:** Air quality, climate, NRCS Snow Survey, SCAN program

**Plants:** Crops and pasture, rangeland, forestland

**Animals:** Sensitive/endangered species, game, aquatic species, greater sage-grouse

**Humans:** Labor force, recreation, economy, population

# Introduction

## The Conservation District Movement

The Dust Bowl of the 1930's brought the beginning of national programs for conserving soil and water resources in the United States. On April 27, 1935, Congress declared soil erosion "a national menace" and established the Soil Erosion Service. Since then, the agency was changed to the Natural Resources Conservation Service (NRCS). In May of 1936 farmers were allowed to set up their own districts to direct soil conservation practices. Today, Utah has 38 conservation districts, which are divided into seven zones.

## Conservation Progress

Since the organization of the Daggett Conservation District in 1952, great strides have been made toward increasing and sustaining natural resources in Daggett County. This 2025 resource assessment provides an opportunity to evaluate the progress made during the last five years and to set new goals to address the highest priority conservation needs in Daggett County.

## Public Outreach

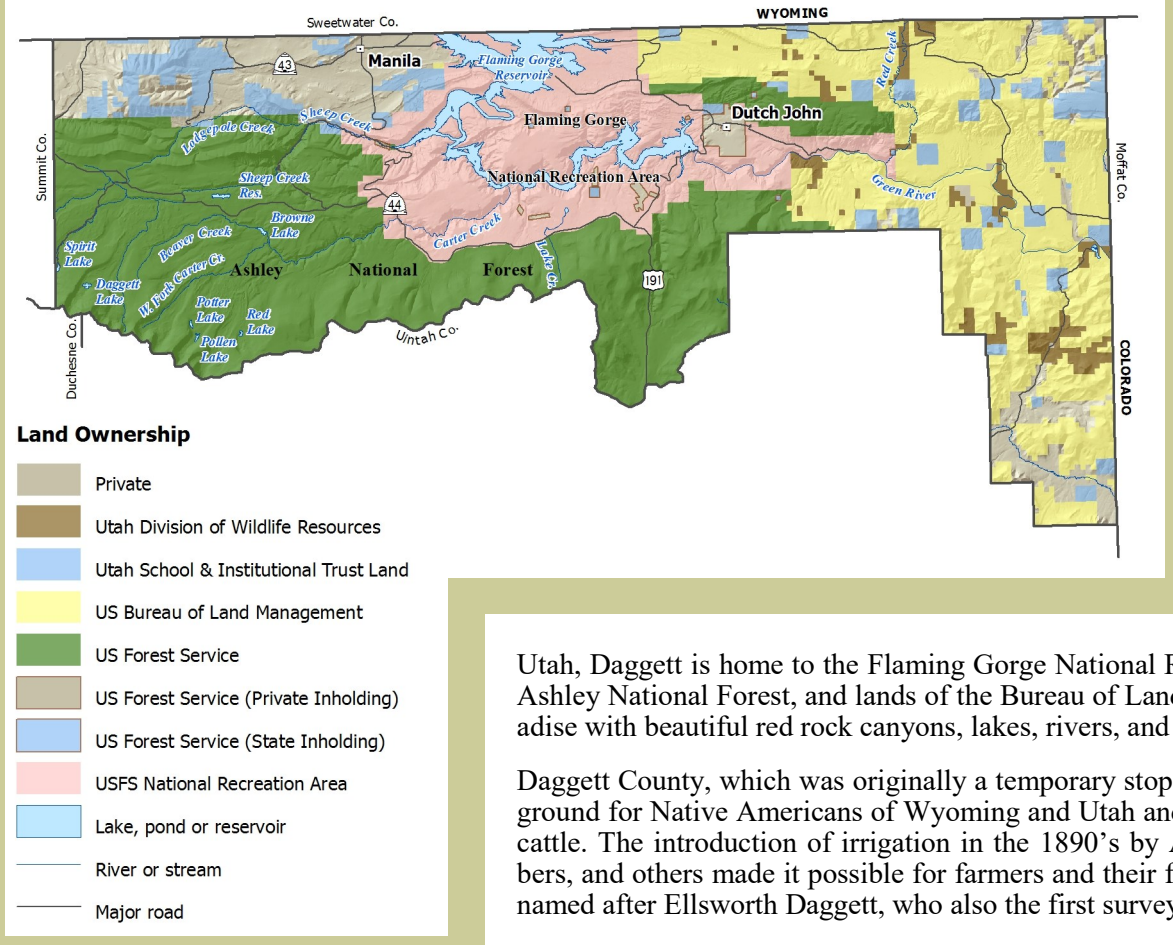
The Daggett Conservation District provides outreach to the public by holding meetings and workshops. In February 2024, the Daggett Conservation District also conducted a survey to find out how they the public views the county's natural resources and what conservation issues were most pressing. Respondents indicated that water quantity and quality are still major concerns as well as properly managing grazing land to maintain a sustainable agricultural industry.

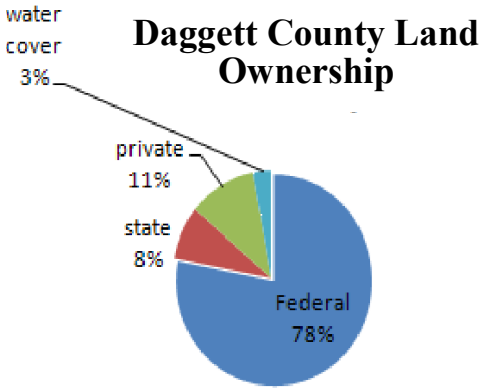
*Conservation districts provide local leadership and education to connect private property owners with state and federal assistance to improve, protect, and sustain Utah's soil, water, and related natural resources.*


Photo courtesy of NRCS

A great "roller" moves across the land during the Dust Bowl.

# Daggett County Overview




## Background

Daggett County is Utah's youngest and least populated county (2020 population: 1,059). The land ownership is 81% federal, 8% state, and 11% private. There is one incorporated town in the County, Manila (the County Seat) and one unincorporated community, Dutch John.

Located in mountainous northeastern Utah, Daggett is home to the Flaming Gorge National Recreation Area, Flaming Gorge Scenic Byway, Ashley National Forest, and lands of the Bureau of Land Management. It is a recreation and scenic paradise with beautiful red rock canyons, lakes, rivers, and forests.

Daggett County, which was originally a temporary stop for trappers and traders, was a summer hunting ground for Native Americans of Wyoming and Utah and, later, a summer grazing ground for sheep and cattle. The introduction of irrigation in the 1890's by Adolph Jessen, Ellsworth Daggett, R.C. Chambers, and others made it possible for farmers and their families to live in the area. The county was later named after Ellsworth Daggett, who also the first surveyor-general of the area.

The median family income in the county was $46,500 in 2022, over 10% below the state average of $49,019. Daggett County's racial makeup is primarily white, 92.5% of the population, but also has a 2.82% Hispanic/Latino population.

The Daggett County economy includes electric power generation, lumbering, production of grass hay and alfalfa, livestock, and recreation, as there are many beautiful attractions to see.

The average growing season in Daggett County averages about three months. The frost-free period varies between 91 to 118 days, depending on the location in the county.

Elevation levels vary greatly in the county, with the lowest being 5,370 ft. and the highest being 12,276 ft., but most of the area is around 6,400 ft.


11/07/2009

# Water Quality and Quantity

Agriculture and ranching is both a user and a custodian of two of the county's most important resources, soil and water. As a result, it has the responsibility to protect and enhance the quality of the environment. Most of the irrigated land is used to produce forage crops. Yields have been limited by inefficient irrigation systems, excess soil salinity, and a short growing season.

The two main issues that adversely affect the water quality in Daggett County are salinity and sediment. With the inclusion of Daggett to the salinity control programs, progress has been made in these areas. Pipelines and sprinkler systems are being used to improve water quality and quantity. Water storage for some areas is also an important issue. Most of the canal systems have now been piped for improved water distribution and delivery.

## Challenges

- High sediment and salt load from spring water and irrigation runoff creating water quality problems in the Green River.
- Deep percolation of salt saturated water from wild flood irrigation into underground water basins.
- Reduced capacity of conveyances by sediment deposition.
- Inefficient irrigation systems.
- Flash flooding by intense storm events.
- High loss of nutrients from agriculture land and sediment from rangelands.

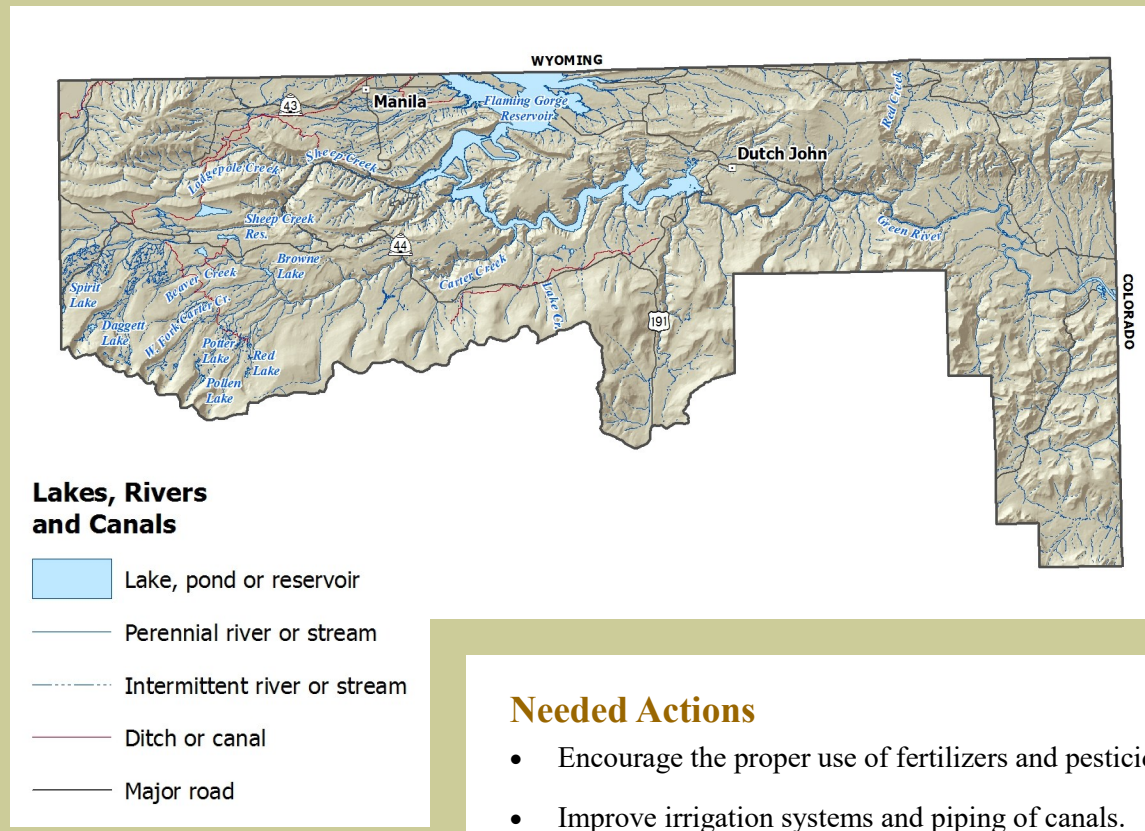
## Water Quality

Daggett County, situated in the Upper Green – Flaming Gorge Watershed, has been under scrutiny by the Utah Division of Water Quality (UDWQ). The UDWQ has classified certain sections of the Upper Green Watershed as impaired due to their failure to meet state standards for dissolved oxygen. Furthermore, nutrient and sediment levels have also raised concerns. Sheep Creek Lake has been classified as impaired due to pH levels, although no rivers or streams within Daggett County have been listed as impaired.

Currently, there is one Total Maximum Daily Load (TMDL) established for water bodies in Daggett County. Specifically, Browne Lake has a TMDL for dissolved oxygen and total phosphorus.

Given the frequent correlation between phosphorus and dissolved oxygen, it is presumed that sources contributing to low dissolved oxygen levels are also responsible for elevated phosphorus levels. Additionally, in certain areas, naturally occurring geologic formations with high background levels of phosphorus can contribute to the eutrophication of downstream reservoirs.

Improving grazing management on riparian areas is a significant priority in Daggett County. Livestock in direct contact with streams can contribute to stream bank erosion, as well as nutrient and bacteria loading.




## Needed Actions

- Encourage the proper use of fertilizers and pesticides.
- Improve irrigation systems and piping of canals.
- Develop sediment control structures.
- Encourage funding for canal pipe lines.
- Encourage irrigation water management.
- Encourage improved grazing management in riparian areas.

# Pasture/Rangeland Health

Rangelands are an integral part of the economy and the landscape of Daggett County. A comprehensive range management program cannot be overemphasized. The majority of the livestock operators in the county are dependent upon rangelands for their forage base, and large portions of livestock are grazed on public lands. Numerous wildlife species also use these same public and private lands. This area's agriculture production is based mainly on the rearing of livestock and pasture, hay land, and rangeland to support the livestock industry. Therefore, the use of pastures and rangelands are an important tool used in this area. Pasture and rangeland health is key to long-term watershed health and profitability. Drought years limit available water for irrigation and stock. Inadequate water developments create management challenges that limit livestock distribution. Since becoming a salinity area, funding for improved irrigation systems and pipelines has become available and yields and management have increased.

## Challenges

- Inefficient irrigation systems cause excessive seepage of water and ponding.
- Conflicts between permitees and special interest groups concerning management and use of public lands.
- Weeds and invasive plants. Developing a weed management plan for federal, state, and private landowners has been a challenge that needs continued emphasis.
- Urban encroachment. Many smaller parcels are already subdivided into recreational building lots for fishermen and boating on the Flaming Gorge Reservoir.
- Due to inadequate water developments, some federal grazing lands are underutilized, thus creating management challenges.
- Pasture and hay lands are heavily used in the spring and winter, as cattle are held until they can go onto public grazing areas.

## Needed Actions

- More cooperation between federal, state, and private land-owners on grazing management issues.
- Encourage monitoring on rangeland to insure proper use of livestock and wildlife.
- Encourage ranchers to have a coordinated conservation plan on their operation by coordinating between private, state, and federal lands.
- Encourage conservation practices that improve pasture, rangeland, and watershed health.
- Education of grazing management.
- Irrigation system improvements.

## Livestock

Livestock are the number one cash crop in Daggett County, contributing 2.5 million dollars to the county's economy. Beef cattle are wintered on the private lands and fed the native hay harvested on private lands. Ranchers typically have summer livestock grazing permits, administered by the Bureau of Land Management (BLM) and the Forest Service, or graze their cattle on private lands.

Ranching is the most common economic activity in Daggett County. Since settlement, the local economy has been dependent on livestock production. Cattle is the main livestock raised, with some horses that are used on ranches. Sheep numbers have declined dramatically to farm flocks.

# Noxious Weeds

The Utah Department of Agriculture and Food defines a noxious weed as "any plant the Commissioner [of Agriculture] determines to be especially injurious to public health, crops, livestock, land, or other property."

Most noxious weeds are non-native plants that have been intentionally or accidentally introduced into the United States. Some of the main problems caused by noxious weeds are reducing crop yields, reducing livestock forage, limiting recreational opportunities, reducing wildlife habitat, displacing native vegetation, increasing soil erosion, and altering soil and water quality.

In an attempt to get weed control underway, Daggett has been making efforts to complete mapping for the noxious weeds in the county and then develop a plan to address weed infestations.

Once treated, the most effective way to keep the weeds from returning is planting desirable plants and managing to promote beneficial plants.

## Challenges

- Invasive weeds such as tamarisk, perennial pepper weed, and Russian knapweed are moving into the county at an alarming rate.
- Increase of noxious and invasive weeds due to lack of coordination between federal, state, and private landowners.
- Noxious weeds can reduce the productivity of the land, exposing soils and displacing the vegetation that supports wildlife and livestock grazing.
- Wildlife and livestock, as well as harvesting hay, can transport weed seeds to new areas.

## Needed Actions

- Remove noxious and invasive vegetation followed by re-vegetation.
- Continue mapping noxious weeds.
- Coordination of weed control efforts from federal, state, and private landowners. Encourage federal, state, and county governments to budget for weed control programs
- Educate landowners, land users, and recreational visitors about the impacts of noxious and invasive weeds.
- Look for conservation practices that could include the use prescribed fire to avoid catastrophic fire, encourage aspen regeneration, and promote other forest vegetation regeneration.
- Look for opportunities to continue to fund a county weed manager.

**Russian Knapweed**
***Centaurea repens***
**Utah Class B**

**Background**: Russian knapweed is native to Eurasia. It infests rangelands, field edges, pasture, roadsides, and other disturbed soils. Knapweeds release chemical substances into the soil that inhibit the growth of competing vegetation. It can cause "chewing disease" in horses that consume it.

**Description**: A perennial, Russian knapweed grows 2 to 3 feet tall. Roots may go 8 feet deep or more. Basal leaves are lobed and are 2 to 4 inches in length. It has pinkish flowers. Flower bracts have membranous cream-colored tips. Bloom is early summer through late summer.

**Control**: Biocontrol is available, but limited. Select herbicides can offer good to excellent control when applied between pre-bloom to the killing frost. Contact your state or county weed specialist for specific, updated information.

http://extension.usu.edu/files/publications/publication/pub__8746541.pdf

**Perennial Pepperweed**
***Lepidium latifolium***
**Utah Class B**

**Other Common Names:** Tall whitetop, broad-leaved peppergrass

**Background:** Native to southern Europe and western Asia, perennial pepperweed is commonly found in wet drainage areas of waste areas, ditches, roadsides, and crop lands.

**Description:** Perennial pepperweed grows from one to six feet high. It has spreading lateral rootstocks. Leaves have smooth to lightly toothed margins. Stems and leaves are waxy. White flowers form dense clusters at the end of branches. Flowering takes place from summer into early fall.

**Control:** Biocontrol research is in early stages. Select herbicides can offer fair to good control when applied to actively growing plants to pre-bloom. Contact your local state or county weed specialist for specific updated information.

http://uintahweeds.org/weedID.html

## Daggett County Noxious Weeds Priority Classification

| | |
|---|---|
| **CLASS A WEEDS** | |
| **Black Henbane** | ***Hyoscayamus niger*** |
| **Canada Thistle** | ***Cirsium arvense*** |
| **Dalmation Toadflax** | ***Linaria dalmatica*** |
| **Dyers Woad** | ***Isatis tinctoria L.*** |
| **Leafy Spurge** | ***Euphorbia esula*** |
| **Mountain Thermopsis (mountain pea)** | ***Thermopsis rhombifolia*** |
| **Musk Thistle** | ***Carduus nutans*** |
| **Purple Loosestrife** | ***Lythrum salicaria L.*** |
| **Perennial Pepperweed** | ***Lepidium latifolium*** |
| **Russian Knapweed** | ***Centaurea repens*** |
| **Scotch Thistle** | ***Onopordum acanthium*** |
| **Yellow Starthistle** | ***Centaurea solstitialis*** |
| **Yellow Toadflax** | ***Linaria vulgarais*** |
| **CLASS B WEEDS** | |
| **Common Burdock** | ***Arctium minus*** |
| **Diffused Knapweed** | ***Centaurea diffusa*** |
| **Hoary Cress (short whitetop)** | ***Cardaria Spp.*** |
| **Houndstounge** | ***Cynoglossum officinale*** |
| **Saltcedar** | ***Tamarix ramosissima*** |
| **Spotted Knapweed** | ***Centaurea maculosa*** |
| **CLASS C WEEDS** | |
| **Field Bindweed (Wild Morning Glory)** | ***Convolvulus arvensis*** |

***"Class A" weeds have a relatively low population Early Detection Rapid Response (EDRR)***

***"Class B" weeds have a moderate population***

***"Class C" weeds are found extensively***

# Wildlife Management

Daggett Conservation District and partners recognize the need for improved management of wildlife and habitat to minimize negative impacts and maximize positive impacts to both private and public lands. Collaboration of private, federal, state, local, and other groups is needed in order to maintain healthy populations as well as to protect the local agriculture economy and watershed health.

Because Daggett is basically surrounded by public lands, wildlife management becomes a critical issue to watershed health, recreation, and agriculture sustainability. Invasive species, threatened and endangered species, and big game encroachment are important issues for Daggett. Sitting on the south side of the Uinta Mountains, the area is a key part of the habitat for many big game species and grazing lands for livestock.

Flaming Gorge has been rated as providing some of the best fishing in North America. The Green River below the dam is a world-class Blue Ribbon Fishery. At one seven-mile stretch below the dam there are 11,000 to 15,000 fish per mile. This is a major fly fishing spot. Rainbow and cutthroat trout are very numerous in the reservoir and the river below. Trophy lake trout can be caught there, as well as Kokannee salmon, brown trout, small mouth bass, channel catfish, and burbot.[2]

Invasive quagga and zebra mussels are a major threat to the quality of life in the county. They are small, clam-like creatures that reproduce rapidly and deplete nutrients in the water. As such, they jeopardize power and water infrastructures, damage ecosystems, and destroy recreation.

## Challenges

- Inadequate water developments often cause animals to congregate in certain areas and underutilize other areas.
- Keeping invasive aquatic species from being introduced into Flaming Gorge.

## Needed Actions

- Increase partnerships with private, federal, state, local, and wildlife interest groups.
- Protect and enhance critical habitat for potential endangered species.
- Encourage cooperation between wildlife management and landowners concerning damages caused by big game species, which could include compensation for losses.
- Maintain education of users of the lake to avoid introduction of invasive aquatic species.

**Invasive quagga and zebra mussels—UDWR**


Wildlife photos courtesy of Carol Gardner and UDWR.
http://wildlife.utah.gov/

Far left: mule deer
Top middle: big horn sheep
Top right: Rocky Mountain elk
Bottom right: moose

# Forest Health

Forest lands, which constitute a major part of Daggett County, are vital to watershed health. The county is deeply concerned about the beetle infestation and the resulting dead trees. The Ashley National Forest manages over 245,000 acres of Daggett County, which accounts for approximately 55% of the county's land. Residents are worried about additional land being designated as wilderness and current wilderness areas becoming more restricted.

**Mountain Pine Beetle**

Management practices, such as silviculture, can be a substantial source of phosphorus and sediments in water bodies. Major wildfires and beetle infestation can lead to increased erosion in the watershed due to land disturbance and lack of ground cover. Consequently, forest management practices should include re-vegetating disturbed areas, preventing erosion from timber harvesting activities, protecting stream channels, and designating riparian areas. Forest health is essential to overall watershed health and the lifestyle and economy of Daggett County residents and recreational users.

## Challenges

- Forest health has become an issue due to the infestation of beetles and the resulting tree die-off that it causes.
- With the increase of dead timber, the risk of wild fires also increases.
- Wilderness land, land that is designated and protected by the federal government, is highly restricted in management and use. These restrictions affect recreation as well as livestock.
- Lack of education that multiple use can and should include the use of livestock as a management tool to improve and protect natural resources.

## Needed Actions

- Education that multiple use can and should include the use of livestock as a management tool to improve and protect natural resources.
- Encourage legislation and management that allows for timber removal on a timely basis to increase economic returns as well as control wildfires.
- Work with the Forest Service in management planning and include tools such as livestock.
- Encourage range trend monitoring as a tool in grazing management.

## Forestland

Pinyon pine and juniper trees are the most prevalent species in the lowest elevation forests. Although pinyon pine has been affected by the pinyon engraver beetle, increased precipitation over the past two years has helped the forest recover and better withstand these attacks.

At higher elevations, Douglas-fir trees dominate the landscape. In recent years, the Douglas-fir beetle has caused significant tree mortality. However, field observations show that beetle populations and attacks are decreasing, likely due to increased precipitation.

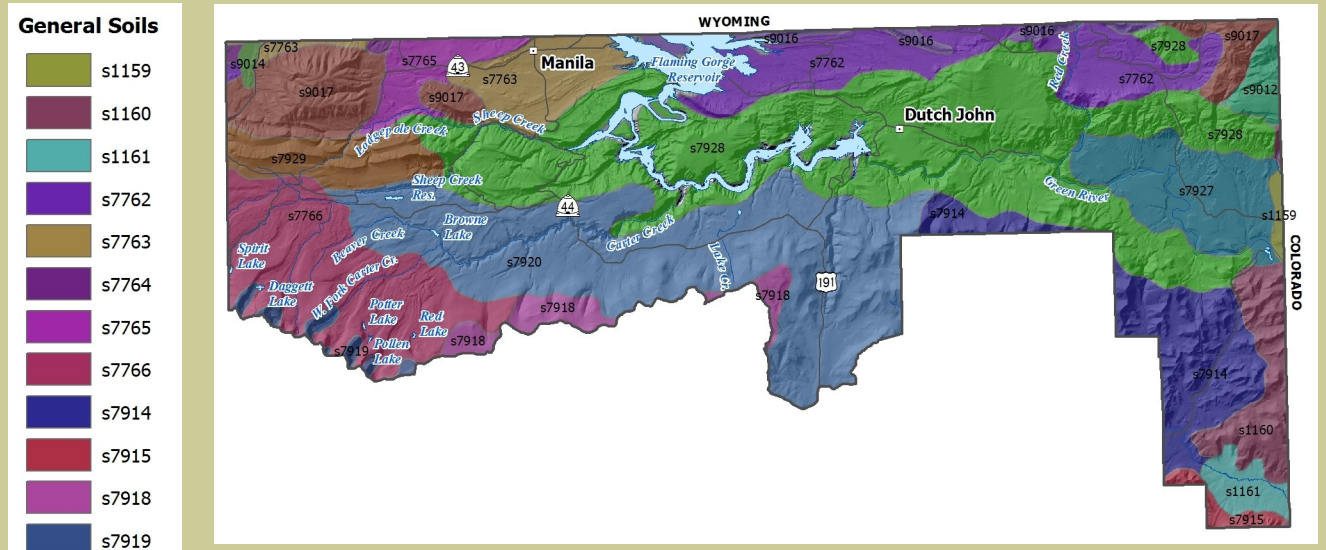
Other tree species found at mid-elevations (8,000 to 9,500 feet) include white-fir, ponderosa pine, limber pine, and lodgepole pine. Although less common, these species are important for wildlife habitat and tree diversity.

Engelmann spruce and Subalpine fir are found at the highest elevations. The spruce beetle is moving northward, causing high mortality rates in some spruce areas.

Quaking aspen can be found at various elevations. Its health depends on stand age, disease, and the recruitment of aspen and aspen suckers in the understory. The decline of aspen in the western United States is linked to a lack of natural disturbances, like wildfire, and the encroachment of an understory conifer.

Blue spruce is typically found in riparian areas or areas with moist, rich soil.

# Soil




As typical of the soils in the intermountain west, Daggett County soils are comprised of such variety to make it difficult to generalize characteristics.

Information on the soils in Daggett County can be obtained from the Web Soil Survey at websoilsurvey.nrcs.usda.gov. The soil provides data and information produced by the National Cooperative Soil Survey, a nationwide partnership of federal, regional, state, and local agencies and private entities and institutions. The Web Soil Survey (WSS) allows a user to 1) define an area, 2) view the survey boundaries and soil type over laid on a photo, 3) explore various interpretations, and 4) print maps and descriptive information.

The soil survey delineates and describes large areas of similar soils. Common uses are evaluating soil suitability for dwellings with basements, landscaping, roads, and septic systems and measuring for vegetative productivity and chemical and physical properties. Using this information, agriculture producers, agencies, counties, and municipalities know the various soil suitability's and are alerted to soil limitations. This basic resource information is critical when making land-use and management decisions.

When limitations are identified, on-site investigations should be conducted by a soil scientist or soil engineer.


Soil limitations identified in soil surveys include, but are not limited to, frequent flooding, ponding or standing water, shrink/swell properties, settling after saturated with water, high erosion properties, potential excavation difficulties, subsidence properties, and danger of sliding on slopes.

Agriculture in Daggett County is primarily dedicated to livestock feed production, with pasture and hayland being the principal land uses. Due to the climate, soil conditions (naturally high salt and selenium content), and sloping terrain, agricultural expansion is limited and conservation practices are essential for protecting soil resources.

# Water

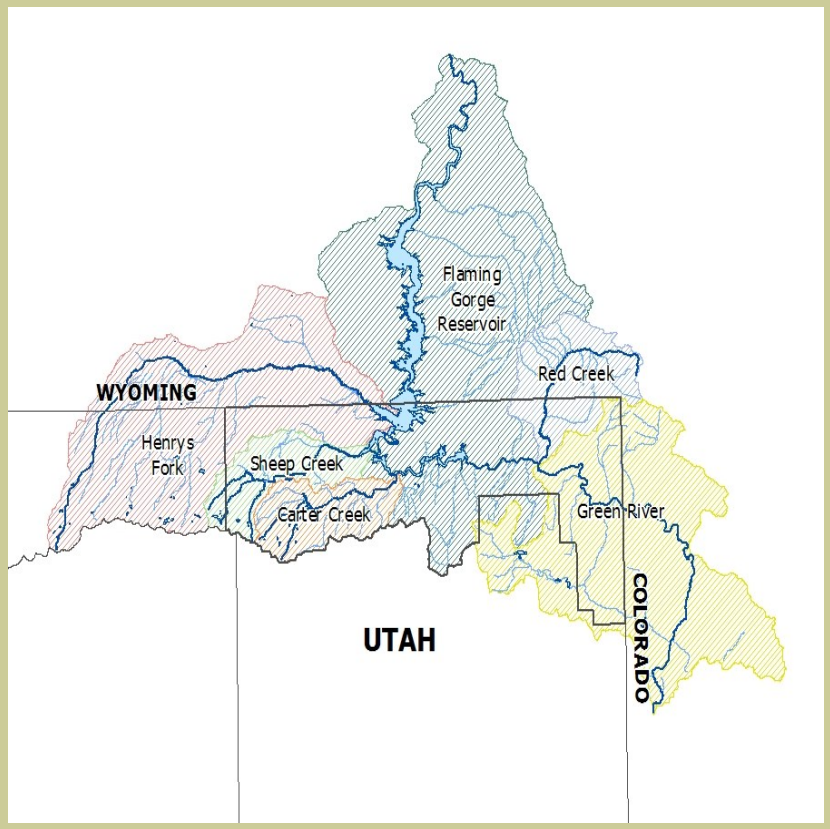
## Water Quantity and Storage

Most of the water storage in Daggett County is held in Flaming Gorge. Recreation and power generation are the primary uses of the reservoir, and it has little agriculture storage benefit. Long Park Reservoir, Sheep Creek Lake, and the Green River and its tributaries are important for agricultural use in Daggett County.

## Irrigation Water

Sheep Creek Irrigation, Peoples Canal, and Interstate are the three irrigation companies that provide water to approximately 11,000 acres in Daggett County.

**County Sub Watershed**



## Flaming Gorge

Flaming Gorge Dam is used for water storage, hydroelectricity, and recreational activities such as boating and fishing. John Wesley Powell forged the first recorded venture through this area in the 1870's. He saw the red rocks cliffs of the canyons and gave it the name Flaming Gorge. In 1959, dam construction began. During construction, the Green River had to be diverted to keep the construction site dry, so a tunnel was installed under the present day visitors' center. The first bucket of concrete was poured on September 18, 1960. Around 133,000 buckets were poured, the last bucket finally being poured on November 15, 1962. Each bucket contained sixteen tons of concrete. The mass of concrete in this dam is still not fully cured and will not be until the year 2067. On September 27, 1963, President Kennedy threw the switch in Salt Lake City to start the first power generation. The dam was dedicated by Mrs. Lyndon B. Johnson on August 17, 1964. The dam extends 502 feet above the bedrock and 455 feet high above the original river channel. The total cost of the dam and reservoir was $49,600,000, while the cost of the power plant and switchyard was $65,300,000.

Flaming Gorge Reservoir is 91 miles long and has over 360 miles of shoreline. At full capacity, the reservoir holds 3,788,700 acre-feet.

The Flaming Gorge Powerplant has three generating units. Each unit is rated for a capability of 50,500 kW. The turbines of the power plant were originally made of carbon steel, but because of corrosion, the turbines were later changed to stainless steel.

The Flaming Gorge Dam and Recreation Area is a popular destination for many outdoor adventurers and also for people who just love the beautiful scenery of the area. The visitor center at the dam sees approximately 30,000 people in the summer months and 30,000 people in the winter months, for a total of over 60,000 people annually. Flaming Gorge Dam is also a popular field trip destination for many schools in the counties surrounding Daggett.


Information Pamphlets; [2]Ashley National Forest Visitor Guide; Reclamation –Managing Water in the West

# Air and Climate

## Air Quality

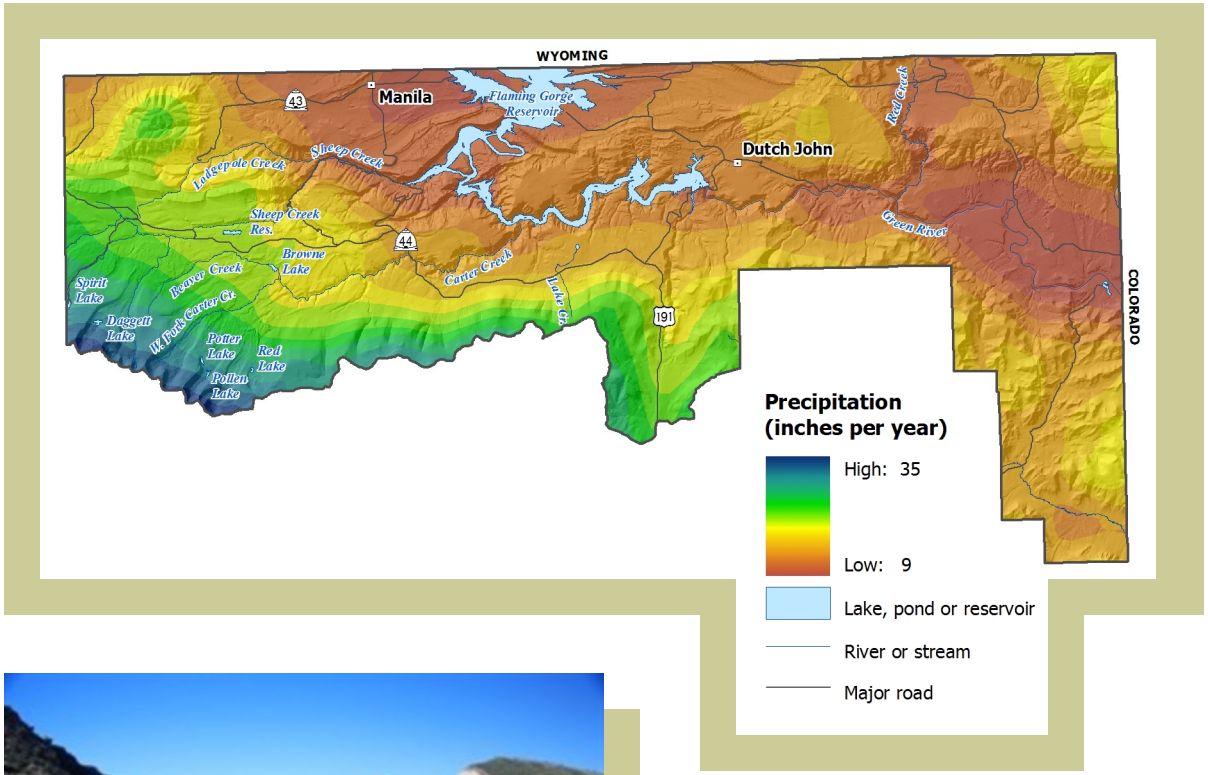
Daggett County air quality is generally very good with minimal negative auto or industrial emissions. Air quality may be slightly decreased during wildland fires. The county has a few very small confined animal feeding operations and limited complaints of odors. In the winter months, temperature inversions can cause air quality issues for short periods of time.

## Climate

In Daggett County, summers are mild with an average high temperature of 84.8°F in July. Precipitation ranges annually from 12.32 inches in the Flaming George area to 9.16 inches in Manila to 8.97 inches in the Brown's Park area. During the winter, Daggett County has an average low temperature of 13°F in January.

The frost-free growing season ranges from 91 to 118 days. However, historically, frost has been recorded in every month of the year.

### Average Annual Precipitation




http://www.homefacts.com/weather/Utah/Daggett-County/Manila.html

## NRCS Snow Survey and SCAN Programs

The NRCS Snow Survey and SCAN Programs provides mountain snowpack data and stream flow forecasts for the western United States. Common applications of snow survey products include water supply management, flood control, climate modeling, recreation, and conservation planning. NRCS SNOTEL (SNOwpack TELemetery) sites monitor mountain snowpack and climate to forecast water supplies. Daggett County has two SNOTEL sites located at Hickerson Park (9,145') and Spirit Lake (10,223').

Timing and amount of snowpack, along with temperature fluctuations throughout the spring and summer months, impact the amount of water available for irrigation throughout the growing season. The Utah Snow Survey provides valuable data that is used to help manage water usage to maximize that water that is available. During dry years, it become very challenging to provide adequate water to landowners. As a result, it is common to have inadequate water resources available to sufficiently supply the land with irrigation needs for maximum crop growth.

The amount of moisture within the soil profile is an important factor in determining the amount of forage and water runoff that will occur during a given season. The NRCS Soil Climate Analysis Network (SCAN) sites monitor soil moisture and assess drought risk. Daggett County has no sites located within its boundaries at this time. The SCAN sites provide valuable information relating to available information relating to soil moisture.

For additional information, contact the Natural Resources Conservation Service.

Information about the Utah Snow Survey Program is located at http://www.ut.nrcs.usda.gov/snow.

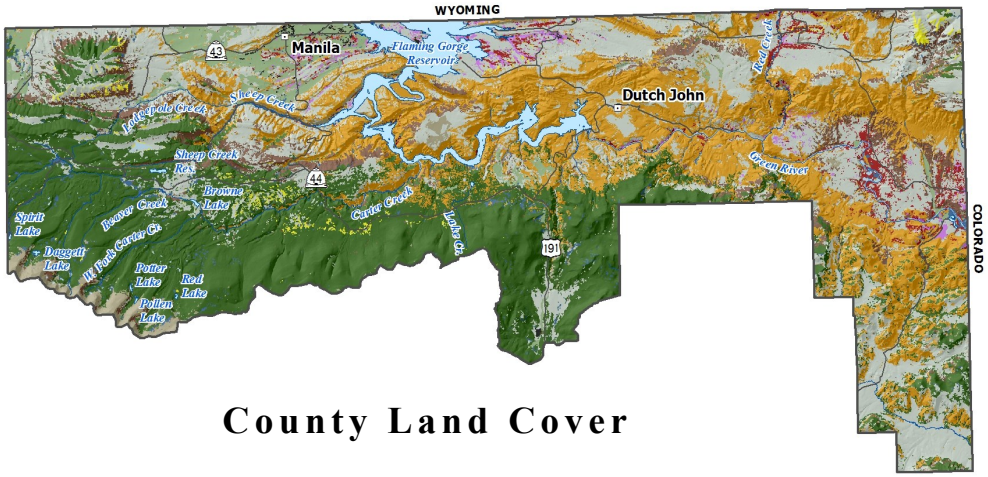
**Spirit Lake**

**Hickerson Park**

# Plants

**Land Cover**

- Forestland - 143,923 acres
- Sagebrush - 117,072 acres
- Pinyon-Juniper Woodland - 112,157 acres
- Other Shrublands - 26,188 acres
- Agriculture - 17,005 acres
- Open Water - 14,905 acres
- Rock\Barren\Sand Dune - 10,829 acres
- Salt Desert Shrubland - 6,668 acres
- Riparian Area - 6,245 acres
- Invasives - 3,466 acres
- Grassland - 2,798 acres
- Developed - 946 acres
- Lake, pond or reservoir
- River or stream
- Major road




County Land Cover

## Threatened and Endangered Plants

The Ute Ladies'-tresses is listed as threatened and Gibbens' beardtongue is listed as petitioned in Daggett County.

## Crops and Pasture

The primary crops in Daggett County are grass, grass/alfalfa hay, and pasture. The majority of the lower quality soils, which are not suitable for alfalfa, are used for native pasture. Most landowners produce hay by planting a grass/alfalfa mix. Small grains, such as oats, are primarily used for hay and/or as a nurse crop for new grass and alfalfa plantings. Very few fields are solely dedicated to pure alfalfa.

## Rangeland

Today's rangeland in Utah provides feed for domestic livestock, forage and habitat for wildlife, and outdoor recreation. The various demands on this resource makes grazing on public lands a delicate balance. Most of the grazing occurs in the summers in the forests, with some winter grazing occurring in the desert lowlands. Federal and state rangelands have been an important source of livestock grazing, while private lands provide feed for use in the winter season.

## Forest Land

"Forests in Daggett County are generally composed of lodgepole pine, Engelmann spruce, Douglas-fir, subalpine fir, ponderosa pine, and aspen. At lower elevations, species of mountain mahogany, juniper, and pinyon pine are common. Within the last decade, the mountain pine beetle has impacted the older tree classes of the lodgepole pine type across Daggett County. Past clear-cut harvest and fire (including wildfire and wildland fire use) have created younger tree classes that offer some age class diversity and forest resiliency for this type. The mountain pine beetle is currently making its way east into the ponderosa pine belt of Daggett County. Much of the ponderosa pine type is at risk of beetle attack. Within the last decade, Douglas-fir has also been severely impacted by Douglas-fir beetle in all three counties.

Aspen stands at higher elevations are at risk of displacement due to conifer encroachment. At lower elevations, conifer is generally absent from aspen stands. However, aerial surveys have detected some dieback and decline at these elevations within the last several years. Drought was probably a main contributor. Ground surveys have indicated that much of this type has since regenerated where dieback has occurred. Still, a few areas continue to exhibit signs of Sudden Aspen Decline (SAD), a phenomenon where the overstory dies quickly without a regeneration response." [Dustin Bambrough]

# Animals

## Sensitive/Endangered Species

The Utah Division of Wildlife Resources maintains information on Utah plants and animals classified as at-risk. The state's objective is to prevent at-risk species from being listed by the federal U.S. Fish and Wildlife Service as threatened, endangered, or candidate species under the Endangered Species Act. In March 2010, the greater sage grouse was listed as a candidate species. A candidate species does not receive statutory protection, though it increases the urgency for state and federal agencies to give priority to and manage to improve habitat and mitigate impacts.

## Game

Utah statewide management plans for mule deer, elk, mountain goat, moose, bighorn sheep, and pronghorn can be found at http://wildlife.utah.gov/hunting/biggame/. Various other upland game species including rabbits (cottontail, blacktail, jack, etc), turkeys, and grouse occur throughout the county. Waterfowl species also frequently use the lakes and rivers and uplands in Daggett County.

## Human/Wildlife Interactions

Wildlife can conflict with private land and/or livestock. Private lands in some locations see increasing use from pronghorn, deer, and elk. Predation from coyote, bears, mountain lions, and wolves can be localized concerns.

## Aquatic Species

Rainbow, brook, and cutthroat trout are numerous in most mountain lakes and streams, the Green River, and Flaming Gorge Reservoir. The reservoir also holds trophy lake trout, kokanee salmon, brown trout, small mouth bass, channel catfish, burbot, and many other non-game fish.

### At-Risk Species

Included on Utah's State Listed Conservation Species Agreement with the U.S. Fish and Wildlife Service and Species of Concern in Daggett County:

- **Greater Sage-Grouse***
- **Humpback Chub**
- **Colorado Pikeminnow**
- **Razorback Sucker**
- **Black-footed Ferret**
- **Brown (Grizzly) Bear**
- **Canada Lynx**

This list was compiled using known species observations from the Utah Natural Heritage Program within the last 20 years. A comprehensive species list, which is updated quarterly, can be obtained from the Utah Division of Wildlife Resources website at: http://dwrcdc.nr.utah.gov/ucdc/.

*The greater sage-grouse's status as a candidate species has been verified and confirmed from the U.S. Fish & Wildlife Service News Release *Interior Expands Common-Sense Efforts to Conserve Sage Grouse Habitat in the West*, dated 3/5/10, available at: http://www.fws.gov/news/NewsReleases/.

## Greater Sage-Grouse

The greater sage-grouse inhabits sagebrush plains, foothills, and mountain valleys. Sagebrush is the predominant plant of quality habitat. A good mosaic of understory of grasses, forbs, and associated wet meadow areas are essential for optimum habitat.

Greater sage-grouse are native to Utah and are listed as a candidate species by the Utah Division of Wildlife Resources.

*Sources: Utah Conservation Data Center source data from Biotics Database, 2005. Utah Division of Wildlife Resources, NatureServe, and the network of Natural Heritage Programs and Conservation Data Centers.*

## Greater Sage-Grouse

The greater sage-grouse, North America's largest grouse species, is often referred to as a "sage chicken" in Utah. Adult males can weigh over seven pounds with wingspans of 2.5 feet, while females are half their size. Both sexes are brownish-gray with black belly patches and long pointed tails, but males have distinctive white breast and neck feathers. Sage-grouse are upland game birds with relatively long lifespans, often living five or more years once they reach adulthood.

In March 2010, the U.S. Fish and Wildlife Service determined that the greater sage-grouse warranted protection under the Endangered Species Act, but listing it was precluded by higher priority species. States retained responsibility for managing the bird, with support from voluntary conservation agreements, federal financial and technical assistance, and other partnership incentives. The BLM collaborated with state fish and wildlife agencies to develop a range-wide habitat map, which identifies priority sage-grouse habitat within each western state.

Research has identified several factors contributing to the decline in greater sage-grouse populations, including predation, weeds, and human disturbances.

# Humans: Social and Economic Considerations

## Labor Force

Daggett County's economy is dominated by government services of federal lands and the operation of Flaming Gorge Dam. Growth in tourism has expanded recreation and allied services-based businesses. These activities now form a major component of the county's economy. Agriculture also plays an important role in the lifestyle of Daggett County.

## Recreation

Many residents see tourism as the most promising economic resource. Flaming Gorge, Green River, and the High Uintah's are popular recreation areas in Daggett County. Fishing, hunting, river rafting, hiking, and camping are common recreational activities.

## Economy

Daggett County's economy is based primarily on the raising of livestock, hay, and alfalfa. Daggett is also an important producer of electric power for Utah and surrounding states. Timber sales have also contributed to the economy of the county, but with increased regulations, the sales are no longer being realized to their full potential. The tourism and recreation industry also adds to the economy.

## Population

### Daggett County Population Data

| | | | |
|---|---|---|---|
| Period Year | 2023 | Natural Increase | 6 |
| Population | 992 | Net Migration | 18 |
| Births | 11 | Annual Change | 24 |
| Deaths | 5 | Annual Rate of Change | ⇧ 2.5% |

Source: Utah Population Estimates
http://www.census.gov

Although Daggett is the least populated county in the state, it continues to rise in population every year, just passing the 1,000 mark. The population is primarily white but also has a Hispanic/Latino population. Also, much of Daggett County's population is comprised of part-time residents, which only stay for the summer months when tourism is at its highest point.

**Virtual Utah**
**www.earth.gis.usu.edu/utah/**

*Virtual Utah* offers aerial imagery (photography) for most of the state from 1993/97, 2003, 2004, and 2006. Using aerial images from multiple dates allows you to see how land use has changed over the years. Other geographic datasets include land cover, hillshade (shaded relief), elevation data, and other satellite images.

# Appendices

## References

**Soil Survey of Daggett County, Utah.** Created by the U.S. Dept. of Ag., Soil Conservation Service, Forest Service, Dept. of Interior and Bureau of Land Management in cooperation with the Utah Agricultural Experiment Station. A pdf of the report can be accessed at the NRCS website at http://soildatamart.nrcs.usda.gov.

**State of Utah Geographic Databases.** Obtained from the Automated Geographical Reference Center (AGRC), a Utah State Division of Information Technology. The AGRC website can be accessed at http://agrc.utah.gov/.

**Daggett County Land Ownership.** Data from the Utah School and Institutional Trust Lands Administration and the U.S. Bureau of Land Management, April 2020.

**2023 Noxious Weed List.** Obtained from the State of Utah Department of Food and Agriculture (UDAF). For more information contact Steve Burningham, 801-538-7181, or visit their website at http://ag.utah.gov/plantind/noxious_weeds.htm.

**Soil Survey Maps.** Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. The Web Soil Survey is available online at http://websoilsurvey.nrcs.usda.gov/.

**Landcover/Vegetation Map.** Data from the USGS National Gap Analysis Program. 2004. Provisional Digital Land Cover Map for the Southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University. Published 9/15/2004. Multi-season satellite imagery from 1999-2001 were used in conjunction with digital elevation model derived datasets to model natural and semi-natural vegetation.

**Precipitation Map.** Data from the U.S. Department of Agriculture, Natural Resources Conservation Service – National Cartography & Geospatial Center. Vector dataset provides derived average annual precipitation according to a model using point precipitation and elevation data for the 30-year period of 1990 – 2020.

## Credits

Thayne Mickelson – Program Coordinator, UCC, UDAF
Evan Guymon – Technical Writer/Review
Julia Gillespie – Technical Writer
Brandi Percival – Technical Writer
Anne Johnson – GIS Specialist/Maps/Illustrations, UDAF
Patti Sutton – GIS Specialist, NRCS

## Contributors/Specialists

**Water Quality and Quantity**
Darrell Gillman – UACD
Sandra Wingert - Utah Division of Water Quality

**Pasture/Rangeland Health**
Terrell Thayne – UACD, GIP
Jim Brown – UACD, GIP

**Noxious Weeds**
Boyd Kitchen – Utah State University Cooperative Extension Service

**Wildlife Management**
Jim Spencer – NRCS

**Forest Health**
PJ Abraham – Utah Division of Forestry, Fire, and State Lands

**Soils**
Darrell Gillman – UACD
Gary McRae – Natural Resources Conservation Service

**Water**
Sandra Wingert – Utah Division of Water Quality
Gary McRae– NRCS
Gary Wieser – Watershed Coordinator

**Air and Climate**
Gary McRae– Utah State NRCS
Thayne Mickelson – UDAF

**Plants**
PJ Abraham – Utah Division of Forestry, Fire, and State Lands

**Animals**
Jim Spenser – NRCSs

**Social and Economic Considerations**
John Bennett – Utah Governor's Office of Planning and Budget
Evan Curtis – Utah Governors' Office of Planning and Budget PJ Abraham – Utah State Dept. of Natural Resources, Division of Forestry, Fire and State Lands

## Acknowledgments

**Daggett Conservation District**
*with the:*
Utah Association of Conservation Districts
Utah Department of Agriculture and Food
Natural Resources Conservation Service

*in partnership with the:*
**Utah Conservation Commission**
Utah Conservation Districts Zone's 1 through 7
Utah Department of Agriculture and Food
Utah Department of Environmental Quality
Utah Department of Natural Resources
Utah Grazing Board (Chair and Vice-Chair)
Utah School and Institutional Trust Lands Administration
Utah State University Extension
Utah Weed Supervisor Association

**UtahPCD**
**State Agencies and Organizations:**
Utah Association of Conservation Districts
Utah Department of Agriculture and Food
Utah Department of Environmental Quality
Utah Department of Natural Resources
Utah School and Institutional Trust Lands Administration
Utah State University College of Natural Resources
Utah State University Cooperative Extension Service
Utah Energy Office

**Federal Agencies:**
U.S. Department of Interior
Bureau of Land Management
U.S. Fish and Wildlife Service
Bureau of Reclamation
U.S. Department of Agriculture
U.S. Forest Service
Natural Resources Conservation Service
Agriculture Research Service
Farm Service Agency

**Other**
State Historical Preservation Office
Governor's Office of Planning and Budget
Daggett County Commission

## List of Maps & Tables