

DAVIS COUNTY RESOURCE ASSESSMENT

2012

Conserving Natural Resources For Our Future

DAVIS CONSERVATION DISTRICT



Utah Association of
Conservation Districts



Utah Department of
Agriculture and Food



Credits

Davis Conservation District Board

Jeremy East, Chair
Bill Rigby, Vice Chair
Nile Carlson, Supervisor
Gary Jacketta, Supervisor
Tyson Roberts, Treasurer
Jake Jacobson, Associate Supervisor

Authors

Desiree Van Dyke, Resource Coordinator, UACD
Lindsey Brooker, Resource Coordinator, UACD
Hannah Freeze, Conservation Planner, Morgan Conservation District

Contributors and Specialists

Stacee E. Adams, Utah DEQ
Patrick Barickman, Utah DEQ
Steve Gallenson, Utah Westerners
Anne Johnson, UDAF
Kari Lundeen, Division of Water Quality
Eric McCulley, SWCA Environmental Consultants
Shawn Olsen, Davis County
Scott Paxman, Weber Basin Water Conservancy District
Mark Petersen, Utah Farm Bureau
Ivan Ray, Davis and Weber Canal Company
Jolene Rose, Antelope Island State Park
Kent Sutcliffe, NRCS
Howard Thompson, Utah Farm Bureau

Reviewed By:

Craig Allen, Back Country Horseman Association of Utah
Liz Barney, UACD
Sabrina Benally, UACD
George S. Burbidge, Ph.D., Stormwater Consultant
Loralie Cox, UACD
Paul Grossel, USU
Danny McBride, NRCS
Cherie Quincieu, UACD
Kandice Johnson, UACD
Melissa Swasey, UACD
Gordon Younker, UACD

Acknowledgements

Davis Conservation District with the:

Utah Association of Conservation Districts (UACD)
Utah Department of Agriculture and Food (UDAF)
Natural Resources Conservation Service (NRCS)

In partnership with the:

Utah Conservation Commission

Utah Conservation Districts Zones 1 - 7
Utah Association of Conservation Districts
Utah Department of Agriculture and Food
Utah Department of Environmental Quality
Utah Department of Natural Resources
Utah Grazing Board
Utah School and Institutional Trust Lands Administration
Utah State University Cooperative Extension Service (USU Extension)
Utah Weed Supervisor Association

Utah Partners for Conservation and Development

Other

Governor's Office of Planning and Budget

Table of Contents

• Executive Summary	ii
Why a Resource Assessment? · Natural Resource Priorities and Concerns · General Resource Summary	
• Introduction	I
The Conservation Movement · Davis Conservation District History · Resource Assessment Outreach	
• County Overview	2
Geography · Land Ownership · County History · Population	
• Natural Resources Priorities and Concerns	4
Agricultural Land Preservation and Sustainability · Irrigation Infrastructure, Water Quality and Quantity · Noxious and Invasive Weeds · Air Quality	
• General Resource Summary	12
Soil · Water · Air and Climate · Plants · Animals · Humans	
• References and Appendices	16
References · Map Data Sources · Soil Map · Water Bodies · Watershed Boundaries · County Canal Companies · Century Farms · County Sensitive Species	

Executive Summary



Davis Conservation District Supervisors (L-R): Jake Jacobson, Jeremy East, Tyson Roberts, Bill Rigby, and Gary Jacketta.

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.

Why a Resource Assessment?

The Davis Conservation District has developed this resource assessment with the goal that conservation efforts in Davis County address the most important local resource needs. This report identifies natural and social resources present in the 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:

Davis Conservation District
350 North Redwood Road
P.O. Box 146500
Salt Lake City, UT 84114-6500
801/538.7100

Natural Resource Priorities and Concerns

The Davis Conservation District has identified four natural resource priority concerns:

1. Agricultural Land Preservation & Sustainability.
2. Irrigation Infrastructure, Water Quality & Quantity.
3. Noxious & Invasive Weeds.
4. Air Quality.

General Resource Summary

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 within Davis County. As opportunities become available to address these issues, and as circumstances change, their emphasis should be elevated accordingly.

Soil: Prime farmland and farmland of statewide importance .

Water: Water supply, irrigation water, water quality, and the Great Salt Lake.

Air and Climate: Climate overview.

Plants: Crops, rangeland, forestland, and woodland.

Animals: Livestock, endangered and at-risk species, aquatic life, and game.

Humans: Population, labor market, economy, and recreation.

Introduction

The Conservation 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 has changed to the Natural Resources Conservation Service (NRCS). In May of 1936, farmers were allowed to set-up districts to direct soil conservation practices. Today, Utah has 38 Conservation Districts (CDs).

Conservation Progress

The Davis CD is a unit of state government created under Utah state law in 1952 to administer and promote conservation activities in Davis County. The CD provides guidance to county land managers in identifying and solving specific conservation problems in cooperation with the NRCS, Farm Services Agency (FSA), Utah State University Extension Service (USU Extension), and other federal, state, and local agencies. A five-member board of supervisors directs and adapts these activities to meet local needs.

Early conservation projects addressed a critical county-wide problem. Large irrigation water distribution ditches along nearly every section-line road had eroded into deep, wide chasms that narrowed road widths. These chasms were both a safety and an erosion problem. By 1981, over 261 miles of open ditch had been enclosed in underground concrete pipes, which are now largely unseen and unnoticed by the county's exploding urban population.

Early projects also addressed areas where irrigation wastewater had eroded topsoil from steep and uneven farm fields. Over ten square miles of land-leveling greatly conserved irrigation water and reduced topsoil loss. Fifty-one miles of lined ditches and hundreds of water control structures, coupled with farm conservation plans and sprinkler systems on steep slopes, have improved irrigation efficiency and runoff water quality.

As urban development has replaced county farmland, the Davis CD's efforts have shifted from land judging contests and farm conservation tours to education. The CD's educational efforts include scholarships, hosting field trips, classroom visits, sponsoring camps, etc. Education is the first step in effective conservation.

The CD also encourages farmland preservation and improvement to retain a balanced quality of life for all Davis County residents.

Resource Assessment Outreach

The Davis CD invited stakeholders, including government officials and conservation and natural resource oriented partners, to meetings to learn how they viewed the county's natural resources and what conservation issues were most pressing. Those who could not attend were invited to provide input via email, attend a Davis CD meeting, or talk directly with a board supervisor or staff member.

Local resource professionals were consulted for the priority natural resource concerns addressed in this assessment. Furthermore, a review committee was formed to critique each priority resource concern. This committee consisted of resource professionals, elected officials, and stakeholders who volunteered to take part in the assessment.



Photo courtesy of NRCS

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



Photo courtesy of NRCS

Diamond Ranches, West Syracuse.

The Conservation District's education efforts strive to inform teachers, students, landowners, and residents about local conservation issues and empower them to take ownership and make a difference in our community.

Davis County Overview

Background

Davis County is bordered by Weber County on the north, Salt Lake County on the south, the Wasatch Mountains on the east, and the Great Salt Lake (which covers 365 square miles of the county) on the west. Although Davis County consists of 634 square miles, it has the smallest land area of Utah's 29 counties, as only 223 square miles is actually usable land. Antelope Island adds 42 square miles to the land area.

Private ground makes up 58% of the land in Davis County. Approximately 25% of the land is owned by the federal government, and 16% is owned by the state.

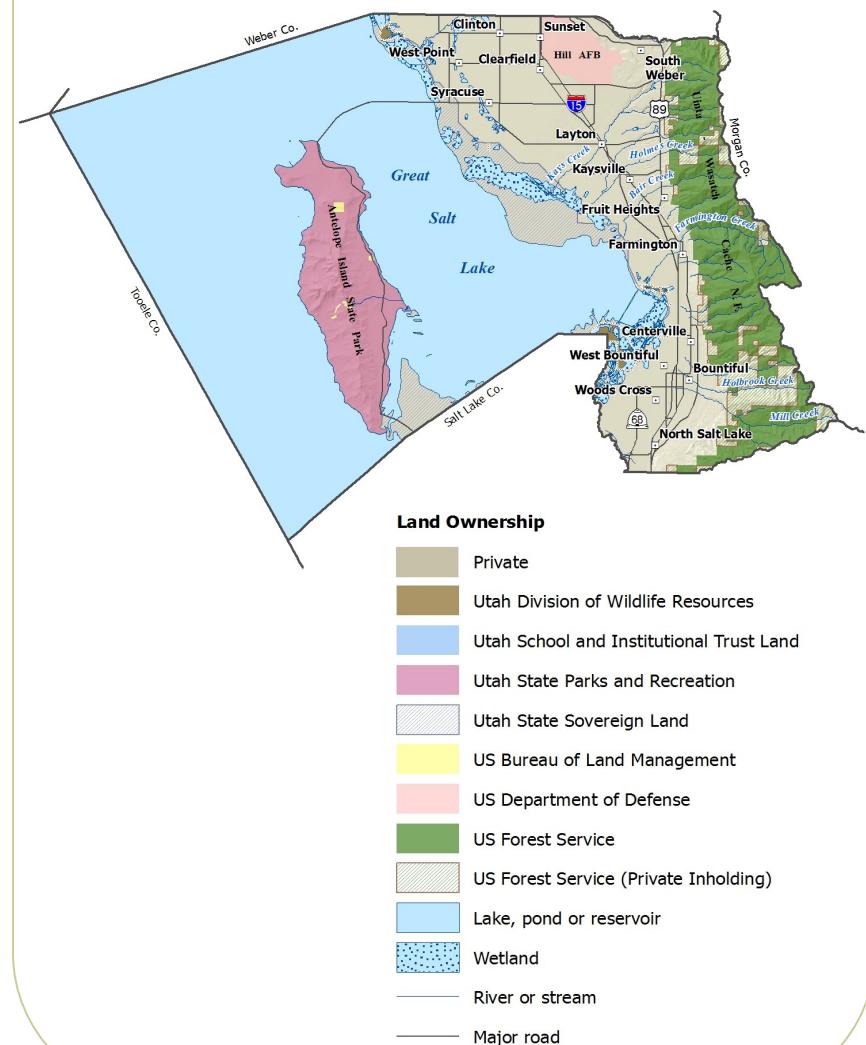
The original residents of the county included members of the Paiute, Ute, and Shoshone tribes. Among the first white explorers to visit the area, while it was still Mexico, were William Ashly, Jedediah S. Smith, Ettian Provo, Osborne Russell, and Jim Bridger. The county was one of the first regions to be settled in both the Territory and the State of Utah. It was named for Captain Daniel C. Davis of the Mormon Battalion, a pioneer leader and early settler.

Native Americans, trappers, and explorers were only temporary visitors. The Mormon pioneers were permanent settlers who stayed to work the land and build cities. They set up a campsite in Bountiful, and soon other families came into the area and settled in Bountiful, Centerville, and Woods Cross.

Davis County was created on October 5, 1850 and grew slowly for 50 years. The population increased with the advent of the Utah Central Railroad, the transition to mechanized agriculture, a surge in commerce, and improved residential infrastructure. Another surge in population occurred with the establishment of Hill Air Force Base following World War II.

The 2010 U.S. Census estimated the population of Davis County as 306,479, a 28.2% increase over the 2000 census estimate of 238,994. According to the U.S. Census Bureau's 2004 American Community Survey, 42.3% of the people work outside the county; therefore, the county is often characterized as a bedroom community.

Davis County Land Ownership



Davis County boasts a diversified landscape, as well as diversified agriculture.



Photo Credits (left to right, top to bottom): USU Extension, NRCS, NRCS, Jeremy East (top), NRCS (bottom), USU Extension.

Natural Resource Priorities and Concerns

AGRICULTURAL LAND PRESERVATION & SUSTAINABILITY

The preservation of agricultural lands and agricultural sustainability go hand-in-hand. Davis County was once a thriving agricultural community. It is now highly urbanized, with much of the best soil and agricultural lands taken out of production. Although the primary cause of the decline is urban encroachment, other contributing factors include increased land values, aging farmers, high production costs, invasive weeds, and increased government regulations. When farmers are not profitable, or are unable to run their businesses, they are often forced to sell their land for development. Once land is developed, the benefit it once provided is lost.

Davis County's predictable weather, lengthy growing season, high quality soil, and excellent micro climate make it among the best suited locations for agriculture in the state. Davis County ranks first in Utah for sweet corn, second in both vegetable and greenhouse crops, and fourth in fruit production. The county ranks ninth in the state based on total agricultural cash receipts. *See page 14, under Plants, for detailed breakdown of agricultural crops in Davis County.*

Davis County agriculture is located in the heart of the Wasatch Front. The close proximity to market outlets creates a unique benefit to both the farmers and the community. Producers are able to make a higher profit by skipping wholesale and out-of-state markets and selling directly to consumers. Local specialized markets include grocery stores and restaurants, community supported agriculture, farmers markets, agro-tourism, and roadside stands. The community enjoys a sustainable fresh local food source and a connection to their food that many urban areas are lacking.

Davis County's 49,279 acres of farmland produces \$37,246,000 in market value annually. Economists estimate that for every \$1 million of agricultural product output, an additional \$830,000 worth of seeds, feed, chemical supplies, equipment, fuel, etc. will be required for production. Further, for every new agricultural job, 2.03 additional jobs are created in the sectors that supply inputs to agricultural produc-

Benefits of local agriculture include:

- Food and fiber
- Economic contributions
- Open space and wetland habitat for migratory birds, upland game, and local deer populations
- Buffer from development for the important migratory bird area adjacent to the Great Salt Lake

According to the U.S. Department of Agriculture, Utah lost over 636,528 acres of agricultural land between 2002 and 2007. Davis County alone lost 86 farms, equaling 16,578 acres of farmland, during that same time period.

Sustainable agriculture can have numerous goals and facets, but it ultimately strives to bring increased profits, sound stewardship of air, water, and soil, and improved quality of life for farming communities. Most agricultural producers want to continue farming, but they are concerned about the future of their profession and family operations. Sustainable agriculture is a priority concern because of the important role of agriculture in Davis County's economy, healthy lands, and way of life.

The West Davis Corridor Expansion project is a serious threat to Davis County agriculture. As of December 2011, the two route alternatives cut through vast tracts of prime farmland, unique farmland, and agricultural protection areas.



WEST DAVIS CORRIDOR

The Davis Conservation District joined forces with the Weber Conservation District, the local farming community, the Utah Farm Bureau, and the Utah Department of Agriculture and Food to help the Utah Department of Transportation understand the impact the proposed routes would have on agriculture. These efforts will continue until the Environmental Impact Statement is complete in the Fall of 2012.

The Davis Conservation District recognizes that determining the future location of the highway is a difficult task and that it is impossible not to impact homes, agricultural lands, and wetlands. All are very important and all impacts should be minimized as much as possible.

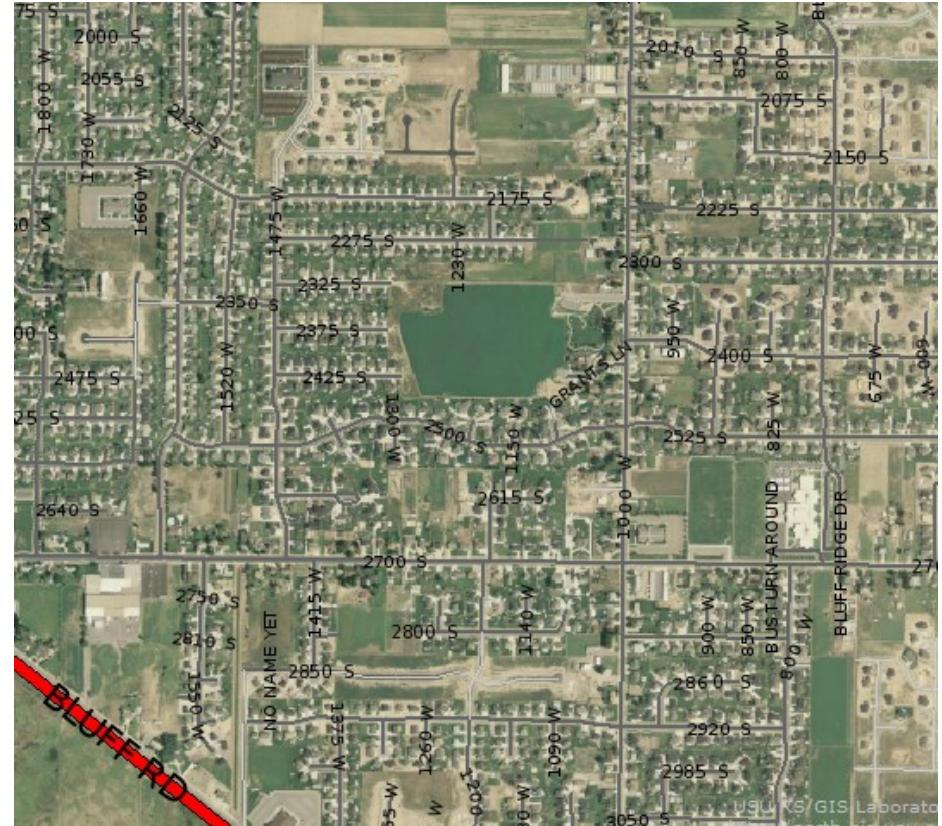
The highway has the potential to devastate agriculture and threaten the county's local food supply. The preservation of agriculture along the route must be of top concern.

Loss of Agricultural Lands in Syracuse City

Aerial photos taken in the mid 1990s and again in 2007 illustrate the intensity of urban development in Davis County. These contrasting photos were both taken at the intersection of 2700 South and 1000 West in Syracuse City.



USU RS/GIS Laboratory
<http://earth.gis.usu.edu>



The Utah Agriculture Sustainability Task Force was created to address popular interest in agricultural land preservation and sustainability. The Task Force is offering 29 recommendations that are expected to protect and enhance Utah agriculture. The recommendations generally call for the creation of new laws and policies at the federal, state, and local levels that remove obstacles for safe and modern farming and ranching. The full report can be found at: www.ag.utah.gov/divisions/conservation/documents/TaskForceSummaryNov162011.pdf.

Natural Resource Priorities and Concerns

IRRIGATION INFRASTRUCTURE, WATER QUALITY & QUANTITY

Rainfall in Davis County is not adequate to supply agricultural and municipal and industrial (M&I) users with supplemental water. Therefore, early settlers developed an extensive canal system to provide irrigation water for agricultural use. Today, the canals are also used to supply water to the increasing urban population. Many of these delivery systems are private, non-profit shareholder owned companies.

Irrigation Infrastructure

As time has passed and technology has improved, many of the irrigation canals within the county have become outdated or are in a state of disrepair. While many have been converted to pressurized pipe, open canals and ditches are the source of many issues. Open systems are subject to erosion, and water loss from seepage and evaporation and can be safety hazards. Repairs and improvements are expensive, yet critical, to maximize water availability, water conservation, and safety.

The price of water in Davis County is among the highest in the state. Agriculture is dependent upon affordable water. When canal companies make major improvements or have to pay legal expenses, those costs are passed on to the users. Many canal companies cannot afford to make major improvements and are forced to upgrade systems only after a major problem occurs.

Current funding programs are inadequate to deal with the magnitude of needed canal improvements. They have strict limitations and are not set up in a way that is practical. It would be extremely beneficial for both agricultural and M&I users if funding mechanisms were in place that could be easily applied for and implemented. It would enable delivery system companies to improve and upgrade their systems before a catastrophe or break occurs.

Funding sources for water delivery systems to make post break repairs, perform maintenance, or make capital upgrades are too few and inadequate to address the need. Irrigation and ditch companies also carry expensive insurance that does not always come through in times of need. These costs are often unavoidable and are ultimately paid for by the end users.

For example, Davis and Weber Canal Company's water pricing has increased dramatically due to its 1999 Riverdale breach that flooded a neighborhood and the subsequent mandatory capital improvements.

The breach was proven to be an act of nature and was not due to lack of maintenance. Regardless, the repairs had to be made and funding sources were not available to help. The governor stated that shareholders should borrow money and fix the canal.

As a result of the repairs and subsequent lawsuits, the annual assessment was raised to \$34 per share to cover the cost of the Riverdale breach. After the breach was repaired, additional capital improvements were mandated. These improvements raised assessments to their current \$260 per share, to cover the cost.

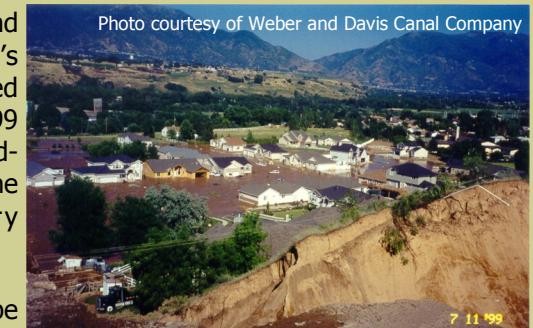


Photo courtesy of Weber and Davis Canal Company

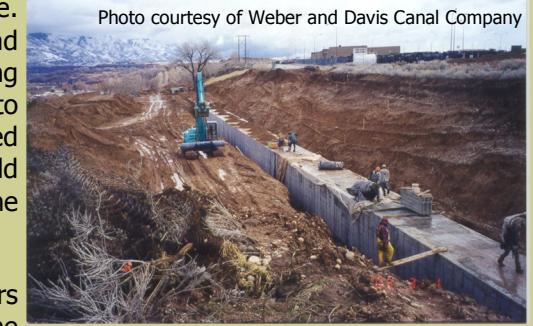


Photo courtesy of Weber and Davis Canal Company

Water Quality and Urban Encroachment

Urban encroachment and improper development are additional issues that greatly affect canals in the county. As subdivisions expand into farmland they are often built over irrigation infrastructure and field drains, as well as directly over and up to critical right-of-ways. When development does not take agricultural infrastructure into account, problems such as flooding and maintenance issues commonly disrupt both home owners and agricultural users.

When land is developed, it is important to ensure that water continues to be delivered to the agricultural users. Storm water, tail water, and effluent water must be properly managed and comply with Utah State Water Law under Utah Code, Title 73.

Urban development can introduce storm water and pollution into irrigation infrastructure. **Unauthorized** storm drain discharge increases the stress on already dilapidating systems and is also a source of pollution. Contaminants such as oil, fertilizer, chemicals (residential herbicides and pesticides), and other debris from urban areas enter the storm drain systems that empty into irrigation water. These pollutants are extremely problematic to farmers who are working to comply with food safety and water quality regulations.

Canals are often used for unauthorized recreation. This is both a safety and a liability issue. Canals are not meant for recreation, but it inevitably happens. The canal companies are forced to implement security measures and carry insurance coverage, further adding to the high price of water.

Water Quantity

Similar to many areas in Utah, Davis County is experiencing a decline in agricultural water use, corresponding to increasing M&I needs. This trend is expected to continue over the next twenty years as the population grows. Agricultural users are often negatively impacted during peak residential irrigation hours as the water level in the system drops. When this occurs, farmers, especially those at the end of the ditch, miss water turns on their crops. When farmers miss their water turns, the local food supply can be significantly stressed and damaged; therefore, a balance needs to be established.

Not all secondary systems are metered, and those that are do not always receive

accurate metering. Dependable metering could reduce residential overwatering and improve the dependability of the agricultural supply. Davis and Weber Canal Company (DWCC) and Weber Basin Water Conservancy District (WBWCD) are both examples of companies working to meter their users. The DWCC has installed meters on all new secondary pressure users with connections of two inches in diameter or larger. The WBWCD has a ten year goal to have all secondary users metered. Weber Basin is optimistic that this will help with monitoring and supply issues.

Water is critical for agriculture, which provides a significant food supply to Davis County. Agricultural water users need to maximize their irrigation efficiency by implementing the most water efficient irrigation technology. These projects are costly and often require grants and loans to implement. Likewise, M&I users need to implement both indoor and outdoor water conservation measures to ensure that all the water in the county is being put to the best use.

There is not enough supplemental water in Davis County to support the expected population increase. Future options to import water into the county from the Bear River and Flaming George Reservoir, as well as aquifer recharge projects, are being explored. These options are extremely costly and will significantly raise the price of water for all users. It is important that conservation measures in the county be maximized in order to stretch the limited water supply and to avoid, if possible, costly water projects.

**Davis County is growing rapidly,
and unless all water users maximize efficiency,
the cost of water will continue to
increase dramatically.**

Natural Resource Priorities and Concerns

NOXIOUS AND INVASIVE WEEDS

Noxious and invasive weeds are one of the most serious problems that threaten healthy lands in Utah. Both noxious and invasive weeds are competitive non-native species that are introduced into environments where they readily adapt and reproduce prolifically. They negatively affect agricultural lands, forests, nature preserves, stream banks, private lands, and parks. If left unmanaged, weeds can quickly dominate a landscape, crowding out native plants, reducing forage for animals, and increasing the risk of wildfire.

Noxious weeds, such as purple loosestrife and non-native phragmites, have infested many irrigation delivery systems, create difficulties with conveyance, and reduce the amount of available water.

Noxious and invasive weed infestations in Davis County tend to be concentrated near roads, highway corridors, railroad lines, recreational trails, grazing areas, canals, fence lines, dormant and stalled construction sites, and in privately owned ranchettes. These areas are not always adequately maintained and are problematic sources of weed infestations.

It is critical to keep potential invaders, such as myrtle spurge, out of the county. Once a noxious or invasive weed is established, it becomes extremely difficult to manage. Control measures may be unavailable, inadequate, or simply uneconomical, thus frequently forcing land managers to try and stop the weed from spreading rather

than eradicating it. Weeds with extensive distributions in the county include: bindweed, common purslane, dyer's woad, hoary cress, poison hemlock, phragmites, and puncture vine.

Land managers should strive to keep potential invaders out and ensure that newly detected weeds be treated before they become prolific.

Small contained populations of noxious and invasive weeds that are detected early have a high probability of being effectively controlled. High priority weeds in this category, within Davis County, are black henbane, Canada thistle, dalmatian toadflax, goatsrue, Japanese knotweed, jointed goatgrass, leafy spurge, medusahead rye, purple loosestrife, Russian olive, Scotch thistle, St. Johns wort, silver nightshade, tamarisk, yellow nutsedge, and yellow star thistle. It is critical to remain vigilant and treat these populations before they become too widespread. Eliminating these weeds before they cause damage to the landscape will save the county from losing biological resources and lessen the financial burden it takes to control them once they spread out of control.

Weeds of Top Concern in Davis County, by Category



Crop Land: **Yellow nutsedge** is one of the world's worst weeds. It is highly adaptable to irrigated agricultural areas and competes with crops for water, light, and nutrients, thus reducing yield.



Waterways: Non-native **phragmites** chokes out native plants and changes water's movement, often creating drier conditions. Its dense growth reduces habitat for native animal species such as waterfowl.



Rangeland: **Cheatgrass** is highly flammable and spreads prolifically. Its dense growth increases fire intensity and decreases the intervals between fires.

Hundreds of thousands of dollars and countless hours of manual labor are necessary to manage and prevent the spread of noxious and invasive weeds each year. If not controlled, these weeds can quickly dominate a landscape and reduce forage for animals and soil health, as well as increase fire risk, resulting in destroyed ecosystems.

Current Weed Control Efforts

Davis County Weed Department

The weed department focuses primarily on spraying and mowing right-of-ways and controlling weeds on county land. They track infestations and advise landowners on proper maintenance. The Weed Supervisor actively collects, releases, and monitors biological controls (living predators to noxious and invasive weeds), which includes insects and fungi, throughout the county and state.

Davis County Weed Board

County weed boards are responsible for the formulation and implementation of county-wide coordinated noxious weed control programs designed to prevent and control noxious weeds within its county. The Davis County Weed Board meets periodically to create policies to control weeds in unincorporated areas of the county.

Weber River Cooperative Weed Management Area (WRCWMA)

The WRCWMA is composed of land managers in Box Elder, Davis, Morgan, and Weber Counties who work together to promote an integrated weed management program that includes public relations, education, training, resource sharing, and coordination of weed control efforts.

South Shores Cooperative Weed Management Area (South Shores CWMA)

The South Shores CWMA works with a wide variety of land owners from Antelope Island to Farmington Peak and into northern Salt Lake County. Partners include the Forest Service, private duck clubs, FBWMA, the Nature Conservancy, South Davis Sewer District, Utah FFSL, private land owners, Davis County Weed Supervisor, UDOT, and the Legacy Nature Preserve. The CWMA is working on a comprehensive strategy to eliminate early and small populations of noxious and invasive plants and contain larger infestations across political boundaries.

State and County 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. **State noxious weeds present in Davis County are shown in bold.**

- Black henbane (*Hyoscyamus niger*)
- Bermuda grass (*Cynodon dactylon*)
- Canada thistle (*Cirsium arvense*)
- Dalmatian toadflax (*Linaria genistifolia*)
- Diffuse knapweed (*Centaurea diffusa*)
- Dyer's woad (*Isatis tinctoria*)
- Field bindweed (*Convolvulus arvensis*)
- Hoary cress (*Cardaria draba*)
- Houndstongue (*Cynoglossum officinale*)
- Johnsongrass (*Sorghum halepense*)
- Leafy spurge (*Euphorbia esula*)
- Medusahead (*Taeniatherum caput-medusae*)
- Musk thistle (*Carduus nutans*)
- Ox-eye daisy (*Leucanthemum vulgare*)
- Perennial pepperweed (*Lepidium latifolium*)
- Poison hemlock (*Conium maculatum*)
- Purple loosestrife (*Lythrum salicaria*)
- Quackgrass (*Elytrigia repens*)
- Russian knapweed (*Centaurea repens*)
- Scotch thistle (*Onopordum acanthium*)
- Spotted knapweed (*Centaurea maculosa*)
- Squarrose knapweed (*Centaurea virgata*)
- St. Johnswort (*Hypericum perforatum*)
- Sulfur cinquefoil (*Potentilla recta*)
- Yellow starthistle (*Centaurea solstitialis*)
- Yellow toadflax (*Linaria vulgaris*)
- Salt cedar (*Tamarix ramosissima*)

Additional noxious weeds declared by Davis County:

- Buffalobur (*Solanum rostratum*)
- Yellow nutsedge (*Cyperus esculentus L.*)

Natural Resource Priorities and Concerns

AIR QUALITY

Poor air quality is a significant concern to public health in Davis County. Pollution levels peak during the summer and winter months. Inversions are common and are exacerbated by the local topography and regional stagnant high pressure systems.

The Environmental Protection Agency (EPA) designates a locale as a nonattainment area if it exceeds the health base standards for a given pollutant. This designation process plays an important role in whether the air quality in a given area is healthy. Davis County is designated as a nonattainment area for both particulate matter and ozone. The county is considered an attainment area for carbon monoxide, lead, and sulfur dioxide.

Ground-level ozone is formed when volatile organic compounds (VOCs), also known as hydrocarbons, and nitrogen oxides (NOx) interact in the presence of sunlight. Sources of VOC and NOx emissions include:

- Large industries, such as chemical manufacturers, and combustion sources, such as power plants burning fossil fuels.
- Small industries, such as gasoline-dispensing facilities, auto body paint shops, and print shops.
- Automobiles, trucks, and buses.
- Off-road engines, such as aircraft, locomotives, construction equipment, and gasoline-powered lawn and garden equipment.

Ozone concentrations typically peak between 2 p.m. and 8 p.m. from May to September. It is primarily a summer issue, but it may also have implications for winter particulate problems.

Particulate matter (PM2.5) is a mixture of extremely small particles and liquid droplets that measure 2.5 micrometers or less. PM2.5 forms when volatile organic compounds (VOCs) and ammonia combine with nitrogen oxides (NO and NO₂) in the atmosphere. The county's leading source of nitrogen oxides is combustion from vehicles. Other major contributors include refineries, construction, and soot. The agricultural source of ammonia in Davis County originates outside of the county.

Ozone and fine particle matter

can increase susceptibility to respiratory infections and can aggravate existing heart and lung diseases.

The county is prone to prolonged inversions during stagnant winter conditions of calm winds, clear skies, and long nights. The inversions trap PM2.5 and other pollutants in the valley. They peak November through March.

Once an area is designated as a nonattainment area for a pollutant, the state is required to write a State Implementation Plan (SIP) that details how that pollutant will be controlled. As a part of the Wasatch Front nonattainment area, Davis County is tied into the PM2.5 SIP that also includes Box Elder, Weber, Tooele, and Salt Lake Counties. Utah and Cache counties are part of the collective area, but have separate SIPs. The Utah Division of Air Quality has developed a Davis County specific working group that is collaborating on emission reduction strategies to bring the air back into attainment.

Although the SIP is not completed, the state is making efforts to reduce air pollution through programs such as Choose Clean Air (www.cleanair.utah.gov) and residential wood burn control where individuals can sign-up to receive emails informing them on days it is not recommended to drive or burn wood. There are also rebate programs such as the Utah Clean Fuels Program which can be found at www.cleangas.utah.gov.

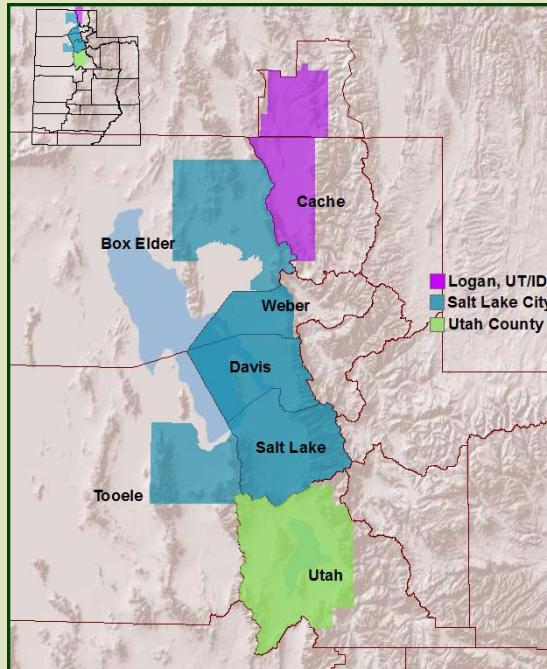
Photo: Brian Nicholson, Deseret News



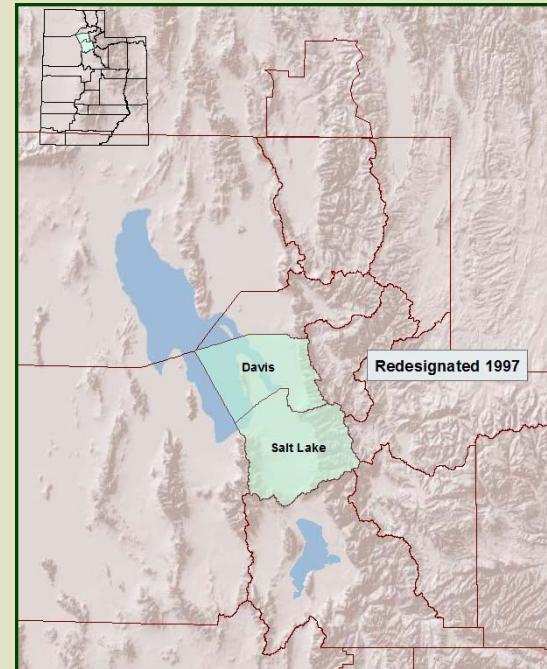
January 2011—Thrill rides are seen through a cloud of haze and smog hanging over Davis County in Farmington.

Davis County is Classified as a Nonattainment Area for:

PM 2.5



Ozone



Vehicles account
for 50% of
pollution.



Photo: Brian Nicholson, Deseret News



A cloud of haze
and smog hangs
over Davis County
in Bountiful,
Thursday,
January 6, 2011.

General Resource Summary

SOIL • WATER • AIR AND CLIMATE • PLANTS • ANIMALS • HUMANS

The NRCS conducts resource inventories to help resource managers make land use decisions. The reports evaluate the soil, water, air, plants, and animals and are discussed below. The Davis Conservation District used these inventories to determine its priority concerns for this assessment and in its long range planning process.

Soil

Most of the soils in Davis County formed in parent material either deposited by streams in ancient Lake Bonneville, sorted by the action of lake water, or deposited during the post-Bonneville period as alluvium on flood plains of the major streams, as alluvial fans.

The significant population increase in Davis County has limited the amount of soil available for agricultural production and has placed a high demand on the remaining soil. Other causes for soil loss in the county include erosion, compaction, and contamination.

There are approximately 155 different soil types within Davis County, much of which is designated prime, unique, and farmland of statewide importance.*

- Prime farmland is a national designation for land that has the best combination of physical and chemical soil characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor without intolerable soil erosion.
- Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops.
- Farmland of statewide importance is identified as important for agricultural use in the state but is not of national significance. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops.

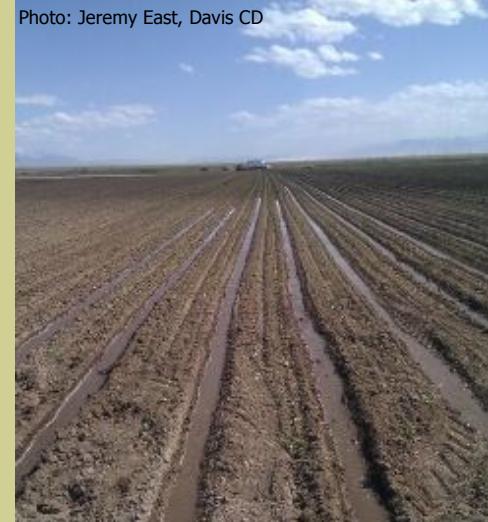
Davis County's rich soil and moderate climate makes it one of the best suited areas for agriculture in Utah. It is critical to ensure that the remaining high quality soil remains available for agricultural production. Food and fiber crops are renewable resources, but the soil it takes to grow them is not.

Specific Davis County soil data can be obtained from the Web Soil Survey at:

websoilsurvey.usda.gov

Common uses for the soil survey include evaluating soil suitability for dwellings with basements, landscaping, roads, and septic systems measures.

Photo: Jeremy East, Davis CD



Watering in cabbage transplants at East Farms. Sandy loam soil is utilized primarily for vegetable production in Layton.

Soil Designation	Acres in Davis County
Prime Farmland if Irrigated	27,965
Prime Farmland if Irrigated and Drained	10,543
Farmland of Unique Importance	7,981
Farmland of Statewide Importance	4,892
TOTAL	51,481

Water

Davis County is located in the Lower Weber Watershed. It is unique because 52% of the county is covered by water, the vast majority of which is the Great Salt Lake.* Low average rainfall leaves crop production dependent almost entirely on irrigation from fresh water sources. Competition between agricultural and urban water users is increasing and is discussed in the Water Priority Concern section on page 6.

Approximately 65% of Davis County irrigation water is supplied by the Ogden and Weber Rivers and the Pineview, East Canyon, Echo, and Rockport Reservoirs. The remaining 35% of fresh water comes from an abundance of high-mountain, fresh-water streams that run from the Wasatch Mountains into the valley.

There are numerous irrigation canals that run throughout the county.⁺ The most prevalent are the Layton Canal, Davis and Weber Canal Company, and Haight Bench Canal. These canals and intricate network of ditches supply irrigation water throughout the county.

There are currently no water bodies listed as impaired in Davis County.

The Great Salt Lake is the largest salt water lake in the western hemisphere and the fourth-largest terminal lake in the world. The Jordan, Weber, and Bear Rivers are the lake's three major tributaries. They deposit around 1.1 million tons of minerals in the lake each year. Since water but not minerals is evaporated, the concentration of minerals increases further. The salinity of the water averages about 12%, making it significantly saltier than the ocean. Although it has been called "America's Dead Sea", the lake provides habitat for millions of native birds, brine shrimp, shorebirds, and waterfowl, including the largest staging population of Wilson's phalarope (a salt-loving bird that is rapidly losing habitat) in the world.

Air and Climate

Davis County is a cold, semi-arid climate. It has warm to hot summers and cold winters, as well as major temperature swings between day and night. The coldest temperatures in Davis County occur in January, with an average low of 20°F. The hottest temperatures occur in July, and the average high is 89°F.

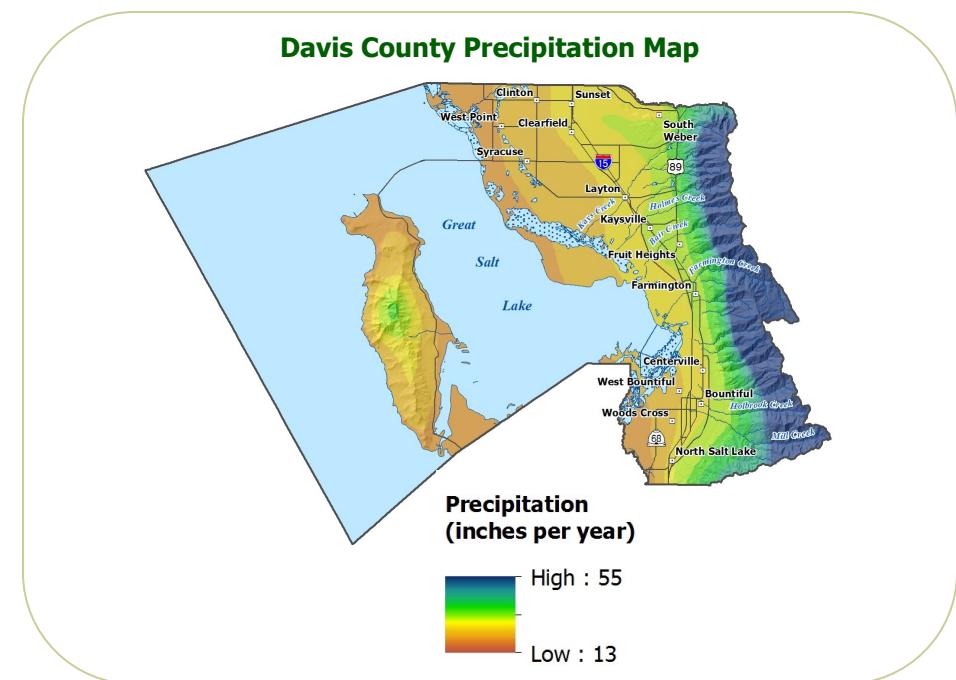
*See Appendix B for map of watershed and water bodies.

⁺See Appendix C for a complete list of canals in Davis County.

Annual precipitation averages between 18 and 25 inches. Snow is frequent during the winter, with up to 90 inches falling annually on the benches and 60 inches on the valley floor. Due to Davis County's bordering relationship with the Great Salt Lake, an occurrence called "lake-effect snow" can produce above average snowfalls. Cold winds from the west move across the long expanse of the Great Salt Lake's warmer water, providing energy and picking up water vapor, which freezes and is deposited onto the relatively narrow section of Davis County that is sandwiched between the Great Salt Lake to the west and the Wasatch Mountain Range to the east.

The growing season is long enough for most crops, especially fruit. Canyon winds from the east can cause devastating wind damage, with wind gusts recorded above 100 mph. Extreme wind events have declined in frequency in recent years.

Davis County air is discussed in detail in the Air Quality section on page 10.



General Resource Summary

SOIL • WATER • AIR AND CLIMATE • PLANTS • ANIMALS • HUMANS

Plants

The majority of farming and ranching occurs in the northern part of the county in Layton, Syracuse, and West Point. In recent years there has been an increase in small-acreage production agriculture and a surge in locally supplied farmers' markets dispersed throughout the county.

As stated earlier in this assessment, Davis County ranks first in Utah in sweet corn, second in both vegetable and greenhouse crops, and fourth in fruit production. The county is ninth in the state based on total agricultural cash receipts. **Vegetable** crops are extensive and include onions and sweet corn, with pumpkins making up the majority. The **orchards** throughout the county produce a variety of crops including apples, pears, peaches, apricots, and grapes.

Alfalfa hay, other hay, corn silage, corn grain, barley, and wheat are also grown in the county. The most prevalent large-acre crop rotation is seven to eight years in alfalfa followed by two years in small grain before it is replanted in alfalfa. Producers typically get three to four alfalfa cuttings, resulting in a county average of 17,000 tons of alfalfa hay annually, as well as 1,100 acres of grain corn and 500 acres of sweet corn.

Rangeland and forest land are present in small percentages along the east portion of the county. Frequent small wildfires burn in these areas, which reduce dense vegetation, renew soil nutrients, and regenerate plant species. The increasing number of homes built in the foothills present a tremendous challenge for these fire-prone ecosystems.

Noxious weeds continue to be a major resource concern in Davis County and are addressed in detail on page 8 of this resource assessment.

Animals

Wildlife: Davis County boasts large expanses of beneficial bird habitat including the Legacy Nature Preserve, numerous private duck clubs, agricultural lands, upland areas, and four Waterfowl Management Areas (WMAs): Farmington Bay, Rouche Lane, Layton Marsh, and Howard Slough. These areas are home to over 200 bird species, which include hundreds of thousands of water fowl, shorebirds, waterbirds, songbirds, and raptors from all over the world.

Most WMAs, and other open waters, support significant populations of migratory waterfowl and waterbirds in the winter, as well as shorebirds in early spring. There are significant populations of wintering bald eagles that nest in Farmington Bay WMA. The rich diversity of birds attracts many people and provides tourism dollars to the local economy.

Photo: Jeremy East, Davis CD



Cabbage grown in West Layton is sold in grocery stores along the Wasatch Front, Idaho, and Nevada and restaurants in Canada and Utah.

Animals (continued)

According to the Utah Division of Wildlife Resources, Davis County has eighteen state recognized and sensitive species.* Many of these are water fowl that utilize the WMAs as part of their critical habitat. Agricultural and upland habitat is used extensively for state sensitive species.

Aquatic life is abundant due to many fresh water streams and ponds and fresh and brackish wetland areas. Conversely, the only aquatic life present in the Great Salt Lake is brine shrimp and brine flies.

Other wildlife present in Davis County include mule deer, pronghorn antelope, coyotes, bobcats, badgers, porcupines, jackrabbits, and several species of rodents. A large portion of these animals are located on Antelope Island and in the eastern foothills.

Domestic: Historically, dairy farms were prevalent in the county, but today, only one dairy farm with approximately 300 cows remains. On average, Davis County produces 2,000 beef cattle and 500 sheep and lambs each year. There is an increase in popular small acreage farming operations that produce chickens, goats, horses, and other livestock.

Despite the reduction in production agriculture, Davis County boasts 49 Century Farms.⁺ These are farms or ranches that have been in continuous ownership by a family for at least 100 years.

Humans

Population: The 2010 census recorded a county population of 306,479, a 28.2% increase from 2000. Being the fastest growing of the four major urban communities along the Wasatch Front, Davis County is expected to reach full build-out, with a population near 390,000, by 2030. Accompanying this growth has been a diversification of population. Davis County enjoys a wide mix of people representing many ethnic, cultural, and religious backgrounds.

Economy: Davis County citizens are part of an economic and social pattern that reaches far beyond the county's geographical limits. Many nationally known commercial, industrial, recreational, and service companies provide diversified employment opportunities. The Freeport Center, located in Clearfield, is the largest distribution center in the state of Utah. It has more than seven million square feet of covered storage and five million square feet of open storage. The center is occupied by more than 70 renowned companies and employs some 7,000 employees.

Recreation: Davis County is one of Utah's most exciting destinations. Within minutes, you can enjoy a round of golf, hike in the mountains, ski world-class downhill slopes, participate in a sightseeing ride on Antelope Island, or go sailing on the Great Salt Lake.

*See Appendix D for a complete list of sensitive and endangered species.

⁺A complete list of these Century Farms is located in Appendix C.



The islands that dot the Great Salt Lake contain one of the three largest American white pelican breeding colonies in western North America.

Year	Population	Housing Units	Farms
2000	238,994	74,114	582 (2002)
2010	306,479	97,570	496 (2007)

Utah Population Estimates Committee
www.governor.state.ut.us/dea/UPEC.html

References and Credits

References

County Overview

1. Davis County. (2011). *History and Student Information, Davis County History*. Retrieved from www.co.davis.ut.us/discoverdavis/county_info/history.cfm. [Accessed 08 January 2012].
2. Wikipedia. (2011). *Davis County, Utah*. Retrieved from www.en.wikipedia.org/wiki/Davis_County,_Utah. [Accessed 08 January 2012].
3. Gallenson, S. (2011, December 5). Telephone interview.

PRIORITY CONCERNS

Agricultural Land Preservation and Sustainability

1. Davis CD Board. (Multiple 2010, December 05 - 2012, January 6). Board Meetings and Telephone Interviews.
2. Utah Department of Agriculture and Food. (2011 November). Retrieved from www.ag.utah.gov. [Accessed 08 January 2012].
3. USDA. (2002). 2002 Census of Agriculture. Retrieved from www.agcensus.usda.gov/. [Accessed 08 January 2012].
4. USDA. (2007). 2007 Census of Agriculture. Retrieved from www.agcensus.usda.gov/. [Accessed 08 January 2012].
5. Davis County Extension. (2011). Retrieved from www.extension.usu.edu/davis/htm/agriculture/. [Accessed 08 January 2012].
6. Dougherty, J. (2007). *Davis Ranch Seeks Protection*. Retrieved from Lands of utah.com at www.landsofutah.com/resources/articles.cfm/News/Utah/Davis-ranch-seeks-protection/. [Accessed 08 January 2012].
7. Utah Department of Agriculture and Food. (2011). *2011 Utah Agriculture Statistics*.
8. Cache Conservation District. (2011). *Cache County Resource Assessment*. Retrieved from uacd.org at [www.uacd.org/County Resource Assessments.html](http://www.uacd.org/County%20Resource%20Assessments.html). [Accessed 08 January 2012].

Irrigation Infrastructure, Water Quality & Quantity

1. Davis CD Board. (Multiple 2011). Board meetings, personal interviews, telephone interviews.
2. Paxman, S. (2011). Personal and email interviews.
3. Ray, I. (2011). Email and telephone interviews.

Noxious and Invasive Weeds

1. Davis CD Board. (Multiple 2011). Board meetings, personal interviews, telephone interviews.
2. Rose, J. (2011). Email interviews.
3. Olsen, S. (Multiple 2011). Email interviews.
4. Cache Conservation District. (2011). *Cache County Resource Assessment*. Retrieved from uacd.org at [www.uacd.org/County Resource Assessments.html](http://www.uacd.org/County%20Resource%20Assessments.html). [Accessed 08 January 2012].

AIR

1. Davis CD Board. (Multiple 2011). Board meetings, personal interviews, telephone interviews.
2. Peterson, M. (2011 December). Telephone Interview.
3. U.S. Environmental Protection Agency. (2010). *What Are the Six Common Air Pollutants?* Retrieved from www.epa.gov/air/urbanair/. [Accessed 08 January 2012].
4. State of Utah. (2011). Choose Clean Air. Retrieved from www.cleanair.utah.gov. [Accessed 08 January 2012].

GENERAL RESOURCE SUMMARY

Soil

1. United States Department of Agriculture Soil Conservation Service. (1968). *Davis -Weber Soil Survey*.
2. Grand Conservation District. (2011). *Grand County Resource Assessment*. Retrieved from uacd.org at [www.uacd.org/County Resource Assessments.html](http://www.uacd.org/County%20Resource%20Assessments.html). [Accessed 08 January 2012].
3. Troeh, F., Hobbs, R., and Donahue, R. (2003). *Soil and Water Conservation for Productivity and Environmental Protection 4th Edition*.
4. Soil Science Society of America. (2012). Retrieved from <https://www.soils.org/> [Accessed 19 January 2012].

Water

1. Utah.com. *Great Salt Lake*. Retrieved from www.utah.com/stateparks/great_salt_lake.htm. [Accessed 08 January 2012].
2. Wikipedia. (2011). *Great Salt Lake*. Retrieved from en.wikipedia.org/wiki/Great_Salt_Lake. [Accessed 08 January 2012].
3. Audubon. *Wilson's Phalarope*. Retrieved from birds.audubon.org/species/wilpha#. [Accessed 08 January 2012].
4. USU Extension. *Davis County Agricultural Profile*. Retrieved from <http://extension.usu.edu/davis/htm/agriculture/davis-county-agriculture-profile/>. [Accessed 19 January 2012].

Air and Climate

1. Davis Chamber of Commerce. *Climate*. Retrieved from www.davischamberofcommerce.com/davis-county/about.aspx#rp-heading-climate. [Accessed 08 January 2012].
2. Wikipedia. (2011). *Davis Count*. Retrieved from http://en.wikipedia.org/wiki/Davis_County,_Utah. [Accessed 08 January 2012].
3. Davis County. (2011). *Climate*. Retrieved from www.co.davis.ut.us/discoverdavis/county_info/climate.cfm. [Accessed 08 January 2012].

Plants

1. Utah State Extension. (2011). *Davis County Agriculture Profile 2005*. Retrieved from [www.extension.usu.edu/davis/htm/agriculture/davis-county-agriculture-profile/](http://extension.usu.edu/davis/htm/agriculture/davis-county-agriculture-profile/). [Accessed 08 January 2012].

References (continued)

Plants (continued)

2. Utah State Extension. (2011). *Century Farms in Davis County*. Retrieved from <http://extension.usu.edu/davis/htm/agriculture/century-farms-in-davis-county>. [Accessed 08 January 2012].
3. Utah Department of Agriculture and Food. (2011). *2011 Utah Agriculture Statistics*.

Animals

1. Utah's State Listed Species by County. (2011). Retrieved from www.dwrcdc.nr.utah.gov/ucdc/ViewReports/sscounty.pdf. [Accessed 19 January, 2012].
2. Utah Division of Wildlife Resources. Retrieved from <http://wildlife.utah.gov/dwr/>. [Accessed 19 January, 2012].
3. Davis County Website. (2012). Retrieved from www.co.davis.ut.us/default.cfm. [Accessed 19 January 2012].
4. Utah Department of Agriculture and Food. (2010). *2010 Utah Agriculture Statistics*.
5. U.S. Department of Agricultural Natural Resource Conservation Service. (2010). *Farmland Protection Policy Act Annual Report for FY 2010*.

Humans

1. Davis County Website. (2012). Retrieved from www.co.davis.ut.us/default.cfm. [Accessed 19 January 2012].
2. United States Census Bureau. (2012). <http://www.census.gov/>. [Accessed 19 January 2012].
3. Utah.com. *Great Salt Lake*. Retrieved from www.utah.com/stateparks/great_salt_lake.htm. [Accessed 19 January 2012].
4. USDA. (2007). *2007 Census of Agriculture*. Retrieved from www.agcensus.usda.gov/. [Accessed 08 January 2012].
5. Davis County. (2011). *Tourism*. Retrieved from www.co.davis.ut.us/discoverdavis/tourism/. [Accessed 08 January 2012].

Map Data Sources

County Boundaries: This data set represents county boundaries in Utah at 1:24,000 scale.
Last updated 2/9/2011.

Available for download from the Utah Automated Geographic Reference Center at: <http://gis.utah.gov/sgid-vector-download/utah-sgid-vector-gis-data-layer-download-index?fc=Counties>

Land Ownership/Overview: Land ownership status and areas of responsibility for the State of Utah. The Utah School and Institutional Trust Lands Administration (SITLA) and the Bureau of Land Management revise this data regularly to reflect changes in ownership.

Available for download from the Utah Automated Geographic Reference Center at: <http://gis.utah.gov/sgid-vector-download/utah-sgid-vector-gis-data-layer-download-index?fc=LandOwnership>

Map Data Sources (Continued)

Davis County Ag Land Conversion/Farmland Loss: This map shows loss of farmland in Davis County between the early 1990s and 2007. Photos were taken from Virtual Utah at <http://earth.gis.usu.edu/utah/advanced.phtml>.

Davis County Nonattainment Areas: This map was obtained from www.airquality.utah.gov/images/Maps/NONATTAINMENT_MAP.pdf.

Davis County Average Annual Precipitation: Produced by U.S. Department of Agriculture Natural Resources Conservation Service – National Cartography and Geospatial Center. This vector data set provides derived average annual precipitation according to a model using point precipitation and elevation data for the 30-year period of 1971 – 2000.

Davis County Important Farmland: Prime, Statewide, and Uniquely Important Farmland derived from the following SSURGO soil survey: UT607 – Davis-Weber Area, Utah – using Soil Data Viewer, a tool created by USDA Natural Resources Conservation Service as an extension to ArcMap that allows users to create soil-based thematic maps.

SSURGO Soil Surveys are available for download from the NRCS Soil Data Mart: <http://soildatamart.nrcs.usda.gov/>

Davis County Water Bodies: A subset of the National Hydrography Dataset (NHD). The National Hydrography Dataset (NHD) is a comprehensive set of digital spatial data that contains information about naturally occurring and constructed bodies of water, paths through which water flows, and related entities. The NHD was developed by U.S. Geological Survey (USGS) in cooperation with U.S. Environmental Protection Agency, USDA Forest Service, and other Federal, State, and local partners.

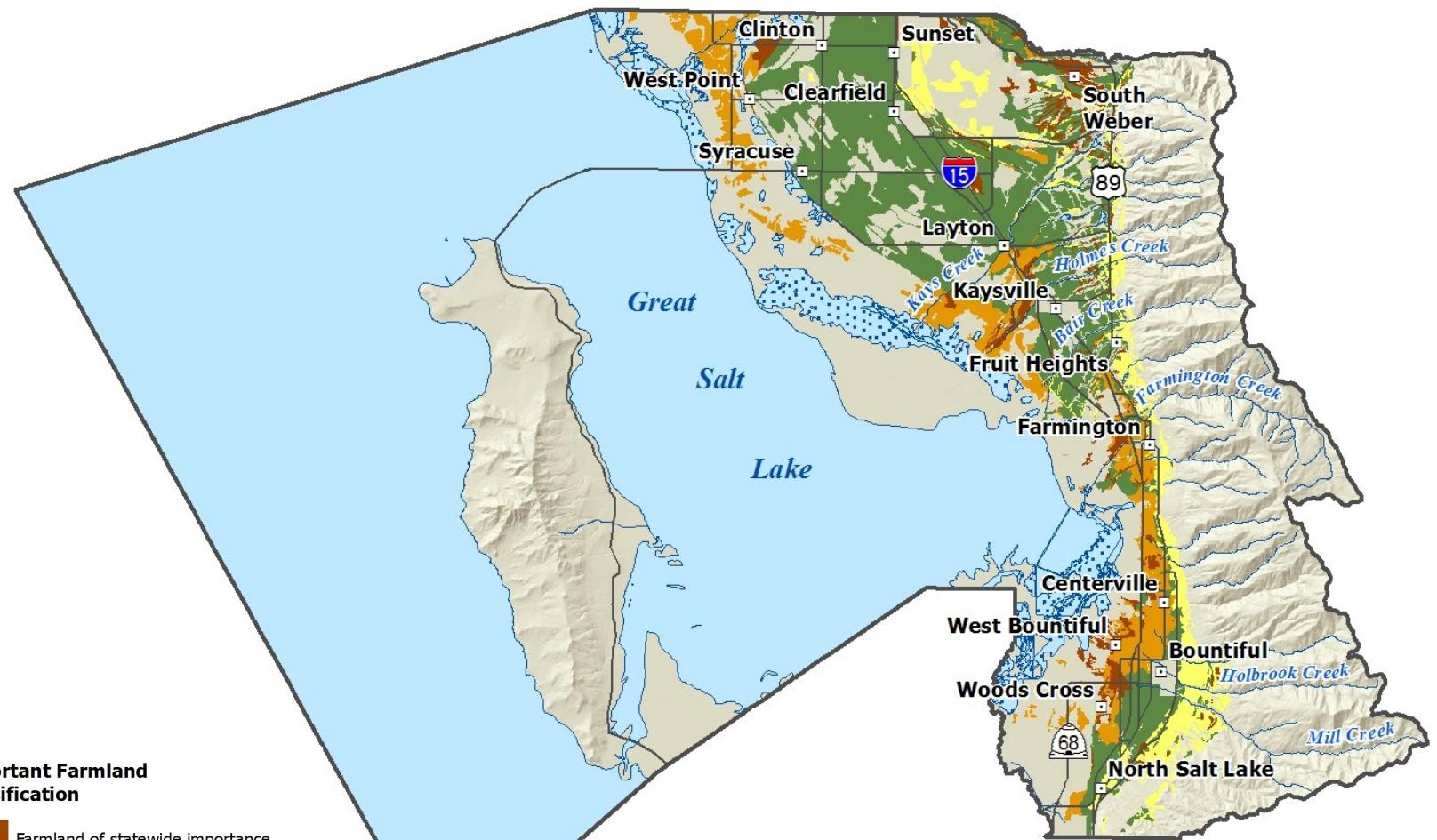
Available for download from the Utah Automated Geographic Reference Center at: <http://gis.utah.gov/sgid-vector-download/utah-sgid-vector-gis-data-layer-download-index?fc=StreamsNHDHighRes> and <http://gis.utah.gov/sgid-vector-download/utah-sgid-vector-gis-data-layer-download-index?fc=LakesNHDHighRes>

Davis County Watershed Boundaries: A subset of the National Hydrography Dataset (NHD). The National Hydrography Dataset (NHD) is a comprehensive set of digital spatial data that contains information about naturally occurring and constructed bodies of water, paths through which water flows, and related entities. The NHD was developed by U.S. Geological Survey (USGS) in cooperation with U.S. Environmental Protection Agency, USDA Forest Service, and other Federal, State, and local partners.

Available for download from the USGS National Map website at: <http://nationalmap.gov/index.html>

Appendix A

Important Farmland Soil Classification Map



Important Farmland Classification

- Farmland of statewide importance
- Farmland of unique importance
- Prime farmland if irrigated
- Prime farmland if irrigated and drained
- Lake, pond or reservoir
- Wetland
- River or stream
- Major road

Appendix B

Davis County Water Bodies and Watershed Boundary Maps

Davis County Water Bodies



Lakes, Rivers and Canals

- Lake, pond or reservoir
- Wetland
- River or stream
- Canal or ditch
- Major road

Davis County Watershed Boundaries



Appendix C

Davis County Century Farm List

Bavelas Farms Centerville, UT 84014	Rigby Farms Centerville, UT 84014	Rockwood Farm Centerville, UT 84014
Truman Leonard Farm Farmington, UT 84025	Miller Farm Farmington, UT 84025	Rice Farm Farmington, UT 84025
Don Butcher Orchards Fruit Heights, UT 84037	Green's Farms & Orchards Fruit Heights, UT 84037	Manning Orchards Fruit Heights, UT 84037
William Sterling Farm Fruit Heights, UT 84037	Hill Brothers Kaysville, UT 84037	Hyde Family Farm Kaysville, UT 84037
Robins Farm Kaysville, UT 84037	Wilford Smith Family Farms Kaysville, UT 84037	Dean Egbert Angus Layton, UT 84041
Call Farms Layton, UT 84041	Robert Call & Sons, Inc. Layton, UT 84041	James Day Farm Layton, UT 84041
Evans Family Farm Layton, UT 84041	Green Farms Layton, UT 84041	Junior Green Farm Layton, UT 84040
J & J Produce Layton, UT 84041	Layton Farms Layton, UT 84041	Dan & Ann Layton Farm Layton, UT 84041
Lionel Layton Farms Layton, UT 84040	Vivien Nalder Farm Layton, UT 84040	Page Farm Layton, UT 84041
Roberts Farms Layton, UT 84041	Levi Roberts Farm Layton, UT 84041	Sandy Slope-Dibble Farms Layton, UT 84041
Section 16 Homestead Layton, UT 84040	Stevenson Farms Layton, UT 84041	Stevenson Farm Layton, UT 84041
Robert Wall Farm Layton, UT 84040	Charles Parker Clearfield, UT 84015	Briggs Dairy Syracuse, UT 84075
Lawrence Briggs Syracuse, UT 84075	Christensen Farm Syracuse, UT 84075	Cook Farm Syracuse, UT 84075
Hamblin Dairy Syracuse, UT 84075	Stanley & Connie Manning West Point, UT 84015	Leo Layton Warren Es- tate Syracuse, UT 84075
Edna Stoddard Jones West Point, UT 84015	Allen Bennett West Point, UT 84015	Robert Byram & Sons South Weber, UT 84405
Lyle Johnston Hooper, UT 84315	Carol Parker Jones Hooper, UT 84315	Floyd & Dale Fowers Hooper, UT 84315
Johnny Smith Hooper, UT 84315		

Appendix D

Davis County Sensitive Species List

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLUMBIA SPOTTED FROG	RANA LUTEVENTRIS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	S-ESA, CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWSENDII	SPC
WESTERN PEARL SHELL	MARGARITIFERA FALCATA	SPC
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Symbol Definition

- S-ESA Federally-listed or candidate species under the Endangered Species Act
SPC Wildlife species of concern
CS Species receiving special management