

Twin Falls Soil and Water Conservation District

Resource Conservation Business Plan

2022-2027

March 8, 2022

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FOREWORD

Conservation districts are subdivisions of state government charged the conservation of soil, water and related natural resources. The Twin Falls Soil and Water Conservation District is one of three conservation districts in Twin Falls County. A total of 51 conservation districts, encompassing 99 percent of the state, are working to protect Idaho's soil and water resources.

It is the goal of the Twin Falls Soil and Water Conservation District elected supervisors to set high standards for the conservation of natural resources. This document identifies needs within the Twin Falls SWCD and presents a resource conservation action plan for meeting these needs.

The Twin Falls SWCD operates on a philosophy that conservation begins in the minds of farmers and ranchers who see a need for conservation on their land. Conservation can succeed only as landowners and users take responsibility for maintaining a conservation program on every acre.

The Twin Falls SWCD is the primary entity that provides assistance to private landowners and users in southern Twin Falls County. District supervisors coordinate non-regulatory conservation programs, provide science-based technical assistance, implement incentive-based financial programs, and offer informational and educational programs at the local level.

Through both legislation and agreement, the USDA-Natural Resources Conservation Service provides technical assistance to landowners and land users through conservation districts. Twin Falls SWCD, like every other conservation district in the state, has a signed mutual agreement with the Agriculture Secretary and the Governor of Idaho that establishes a framework for cooperation.

This plan was developed to not only guide the Twin Falls SWCD, but also to encourage cooperation among landowners, government agencies, private organizations and elected officials. Through knowledge and cooperation, all concerned can ensure a sustainable natural resource base for present and future generations in the Twin Falls Soil and Water Conservation District.

TWIN FALLS SOIL AND WATER CONSERVATION DISTRICT

HISTORY

Water shortages and noxious weeds headed the list of problems that led farmers south of the Twin Falls Canal Company's High Line Canal to petition for a soil conservation district in 1950. A public hearing was held October 12. On November 21, farmers voted 157 to 32 to form the Twin Falls Soil Conservation District. The SCD held its first regular meeting on August 5, 1951. Founding supervisors were: W.A. Loughmiller and Glenn J. Nelson, Twin Falls; Ralph Schnell, Rogerson; Orion S. Butler, Kimberly; and Truman Clark, Roseworth.

People in the Twin Falls SCD hauled domestic water about six months out of each year in 1950. Water shortages left many fertile fields uncultivated and rangeland undeveloped. Farmers and ranchers faced other problems: soil erosion off irrigated fields; wind erosion on cultivated fields; water losses in canals and laterals; reduced yields; loss of organic matter; destructive rodent pests; and uncontrolled range fires. The new SCD set forth a simple goal — to promote conservation farming on every acre in the District and thereby build a more stable and prosperous agricultural community.

The SCD pursued this goal through land leveling, reorganizing irrigation systems, designing irrigation structures and pipelines, developing ponds for stock water and irrigation storages, providing seeding mixtures of irrigated pastures and alfalfa grass hay, and conducting range improvement programs.

On September 17, 1953, the District sponsored a "Conservation Day" on the Buddy Rayl and Glenn Nelson farms in cooperation with the Twin Falls County Farm Bureau and 21 local equipment dealers. The day-long demonstration of sprinkler irrigation systems, pumps, gated pipe and backhoe ditchers, rock pickers, bushbeaters, heavy disk plows, soil surveys, engineering surveys and stubble mulching equipment drew 1,500 people.

SCD supervisors harvested 40 acres of crested wheatgrass seed at the Twin Falls City airport in 1953. They got 1,500 pounds of clean seed for their work, which they sold to cooperators for 25 cents a pound. The District began buying equipment in 1954, which it leased to cooperators for a small fee.

Measuring and forecasting water supplies has been a primary responsibility of the District since it began gathering snow data in 1954. Thirteen snow-measuring courses help the Salmon River Canal Company gather needed data to set water allocations for the upcoming year. An annual water forecast meeting, sponsored by the District, is held each April.

GEOLOGY AND TOPOGRAPHY

The geology of the Twin Falls Soil and Water Conservation District evolved during the Mesozoic and Cenozoic periods. Shield volcano lava flows from buttes such as Salmon Butte blocked stream channels. Gravel and gravelly alluvium were deposited in areas east of Salmon Butte, in the Deep Creek area north and west of Hollister, in the Desert Creek area north and east of Hollister and in the Rock Creek area.

The bedrock consists of basalt lava flows underlain by rhyolite at shallow depths. These lava flows intermittently blocked the Snake River drainage, creating lakes which filled with sediments, glacial debris and wind-blown soil particles.

The silty soils that were formed in the lake deposits (lacustrine deposits) are generally described as thin, dark-colored, medium-textured surface soils with very strong calcareous silty

subsoils. These soils vary in total depth from 10 inches to greater than 60 inches to bedrock, were formed under arid conditions, and are low in organic matter.,

After irrigation water became available in the early 1900s, the hydrology of the area changed. Once irrigation came to the area, the groundwater table rose so that domestic wells could be used instead of hauling water in.

Through the 15 miles just north of the Nevada line, Highway 93 crosses rhyolite that belongs to the Snake River Plain. Most are as flows that were still hot enough when they finally settled to weld themselves into more or less solid rock. They vary in color from white through shades of red to almost black.

A rhyolite ash flow (about 1 acre in size) exposed along the road about 5 miles north of the state line contains Thunder Eggs, color concoctions of chaledony and quartz crystals about the size of eggs. A few rhyolite flows contain such lumps, though most do not. A convincing explanation of how Thunder Eggs form has not yet been advanced.

Except for the rhyolites found from Rogerson south, the rocks in the Twin Falls SWCD are primarily basalt lava flows of various ages, that generally tend to get younger as you go north.

The topography of this part of Twin Falls County varies from very steep to level. Elevations vary from 3500 feet in Salmon Falls Canyon to 7500 feet near Magic Mountain Ski Resort. The landscape appears mostly flat, with scattered buttes which mark the locations of ancient shield volcanoes and volcanic tents.

CLIMATE

Climate within the Twin Falls Soil and Water Conservation District is semi-arid with moderately cold winters and warm summers. Temperature extremes can range from a maximum of 107 degrees F and a minimum of -30 degrees F. Average precipitation is 10.5 inches per year. However, the period from 1999 to 2004 has been the longest dry period on record.

A 10-year, 24-hour storm within the area can generate 1.6 inches of precipitation.

While the area generally has 120 frost-free days, the National Weather Service data indicates there is a 50 percent chance of having 138 frost-free days. Prevailing winds are west-southwest, moderately strong winds are common especially in spring and early summer.

There is a pattern of downslope winds from the higher valleys east of this area occurring in the mornings, and upslope winds coming from the west in the afternoon. March and April typically record the highest wind speeds, with an average wind speed of 8.7 mph in March and 9.3 mph in April.

Snow depth at Magic Mountain averages 70 inches per season, which provides spring runoff for Rock Creek and Shoshone Creek. The normal peak snow water equivalent at Magic Mountain is 19.6 inches.

AUTHORITY

The Legislature of Idaho has placed certain responsibilities upon the supervisors of soil conservation districts. This Declaration of Policy is found in Paragraph D of Idaho Code 22-2716. It is hereby declared to be the policy of the Legislature to:

- a) provide for the conservation of the soil and soil resources of this state;
- b) provide for the control and prevention of soil erosion;
- c) and for the prevention of floodwater and sediment damages;

- d) and for furthering the conservation, development, utilization and disposal of water, and thereby to prevent impairment of dams and preserve wildlife;
- e) to protect the tax base and public land; and
- f) promote the health, safety and general welfare of the people of this state.

The Idaho Department of Environmental Quality gives responsibility to soil conservation districts for nonpoint source pollution control.

FUNCTION

The Twin Falls Soil and Water Conservation District recognizes its role in land use and takes an active role in determining land use policy by working with planning officials and county commissioners. The District has established guidelines in a written memo of understanding with city and county commissioners, to be reflected in their program and annual work plan.

The Twin Falls Soil and Water Conservation District provides assistance to all landowners and operators by:

- ▶ Assuring cooperators of needed technical assistance in preparing their conservation plans.
- ▶ Taking an active part in sponsoring group projects.
- ▶ Promoting better understanding between contractors and others.
- ▶ Providing SWCD equipment as available and necessary.
- ▶ Providing follow-up with cooperators and/or training to individuals, where necessary.
- ▶ Prioritizing technical assistance to landowners, public and private organizations, and other district cooperators.
- ▶ Obtaining needed plant materials for wind breaks, critical area seedings and other conservation practices.

All owners and operators of agricultural lands within the District are eligible to become district cooperators, without restriction. Requests for assistance are prioritized according to resource problems and needs.

Public participation in Twin Falls SWCD meetings, tours, demonstrations, conferences and all other activities are strongly encouraged. Assistance is provided to all cooperators without regard to race, color, sex, age, handicap, marital status, religion or national origin.

WHO WE SERVE AND WHY

The Twin Falls Soil and Water Conservation District is a legal subdivision of state government organized by local people, responsible by law for the conservation of soil, water and other natural resources. Each district coordinates conservation activities within the boundaries of that district.

District supervisors manage the SWCD programs with guidance from the Idaho Soil Conservation Commission.

Supervisor elections are held every two years. Seven supervisors are elected, with four vacancies filled one year and three filled two years later. Elections are held on the first Tuesday after the first Monday in November of even-numbered years.

Supervisors serve four years and hold office until a qualified successor is elected or appointed. Candidates receiving the most votes are elected to office.

The Twin Falls SWCD meets the second Wednesday of each month at the soil conservation district office (1441 Fillmore St. #A, Twin Falls). Meetings are held during the day during the winter months and in the evening during the growing season.

Each spring the Twin Falls SWCD reviews its work plan, reviews its accomplishments from the previous year and sets out goals for the coming year. These plans are sent to local county commissioners, legislative and congressional representatives and cooperating agencies. Locally led conservation planning meetings are called as needed.

NATURAL RESOURCE PRIORITIES AND GOALS

The following five items are the highest priorities for the Twin Falls SWCD:

- 1) Soil Health
- 2) Invasive Species
- 3) Education
- 4) Range Conservation
- 5) Water Conservation

Trends Impacting Natural Resources

HEL EXPOSED

A change in farm policy from direct farm payments to an increased reliance on risk management has brought attention to a little discussed conservation issue on the Salmon Tract — the potential for wind erosion. Over 90 percent of cropland in Twin Falls County is classified as HEL or highly erodible. Following passage of the 2013 Farm Bill that tied conservation measures more closely to crop insurance, the USDA Farm Service Agency and USDA Natural Resources Conservation Service were directed to be more thorough in checking that approved conservation plans were being followed. It took just one season for the ramifications of that new policy to be felt on the Salmon Tract.

Due to the lack of irrigation water in 2013, many producers left fields fallow and chose to take the preventative planting option on their federal crop insurance policies. Those policies specified that fields must be left “one step from planting.”

According to an interpretation of those policies by local insurance agents, farmers were required to plow or disk out existing hay stands or grain stubble to ensure the fields were one step from planting (and to be sure no tried to take one cutting of hay from a field that had already received an indemnity payment). However, that left fragile soils bare and exposed, a direct violation of the conservation plans on file with the USDA Farm Service Agency. Farmers who were found to be in violation of the 1985 Food Security Act by leaving HEL unprotected, were subject to repaying any farm payments they had received plus fines. Several farmers in Twin Falls County were found to be in violation during the spot check process and were fined.

The Twin Falls SWCD has worked with its USDA NRCS partners to develop a more user-friendly wind erosion worksheet to supplement the wind erosion model used by NRCS. The hope is to develop a quick method for farmers to evaluate potential harm even if they are not participating in USDA programs.

SOIL HEALTH GROWS DEEP

Twin Falls SWCD sponsored a two-year multi-species cover crop demonstration project to help identify species that will both grow well across a variety of soil types and climates and also provide soil health and/or livestock feed benefits for growers. Based on those results, the district also applied for EQIP special projects funding to extend cost-share opportunities for cooperators.

The Twin Falls SWCD nominated Lance Griff to the NACD National Soil Health Champion network in recognition of his efforts to use cover crops and direct seed technology to improve both soil health and water holding capacity. A field day was held on the Griff farm in June 2018 which allowed participants to compare a conventionally farmed field with one farmed using soil health practices. Both farms are owned by the Griff family and are conveniently located across the road.

In 2019, the Twin Falls SWCD spearheaded an effort to develop a 5-year soil health testing program across the entire Magic Valley. Each conservation district was encouraged to enroll fields that will be tested annually through cooperative efforts with the University of Idaho, USDA NRCS and Idaho Soil & Water Conservation Commission. Soil biological activity tests will be done every other year with conventional soil testing done on the off years. The hope is to identify trends over time and to help producers identify how soil health practices may impact nutrient availability.

The District also partnered with the Nature Conservancy to sponsor a soil health workshop in January 2020 to share results from the first year of testing and discuss soil health practices. Over 100 people attended that conference. Unfortunately the COVID-19 pandemic erupted shortly after that meeting and so the Twin Falls SWCD pivoted to virtual soil health tours. Videos were made on three individual farms by the soil health specialist hired jointly by the USDA NRCS and University of Idaho. After the videos were posted, the Twin Falls SWCD hosted a panel discussion on Zoom. The discussions were also recorded and posted online. These virtual soil health events garnered over 1,000 views and opened up possibilities for future events.

ADAPTING TO NEW TECHNOLOGY

The Twin Falls SWCD also used its Zoom account to host the 2020 annual water forecast meeting virtually. The video and powerpoint presentation were both posted to the Salmon River Canal Company's website for shareholders to access after the event. A similar format is planned for the 2021 annual water forecast meeting.

In addition, Twin Falls SWCD has used its Zoom account to hold monthly board meetings and has made the account available to the Snake River SWCD to use also. Division IV used the account to hold planning meetings for the 2020 IASCD conference (ultimately canceled due to COVID) as well as the Fall 2020 and Spring 2021 division meetings.

NITRATE TREND DECLINING

Some progress has been made on another priority resource concern. Twin Falls County dropped from number one on the state's 2008 nitrate priority list to number 21 on the 2014 list by the Idaho Department of Environmental Quality in the fall of 2008. The downgrade was largely due to a slight declining trend in nitrate levels among the 618 wells tested by the State of Idaho.

Well sampling shows nitrate is coming from commercial fertilizers as well as decaying organic material from green manure crops and livestock waste. Legumes that fix nitrogen can also lead to

increased nitrate levels. Septic systems are another potential source.

According to the IDEQ data, the average nitrate level in Twin Falls County was 5.18 mg/L in 2014, down from an average of 5.2 mg/L in 2008 (when Twin Falls County was the number one nitrate high priority area) and 5.3 mg/L in 2002 (#2 on the list). The maximum nitrate reading in 2014 and 2008 was 41 mg/L compared to 30.5 mg/L in 2002. This indicates that while the overall trend is heading in the right direction, some wells are well over drinking water standards indicating that more work is needed. Just over 300 wells were tested in 2002, twice that many were tested in both 2008 and 2014.

In addition to nitrate, sampling has also detected low levels of pesticides, pharmaceuticals and even caffeine. That indicates all human activities — from farming to flushing toilets — can impact drinking water quality.

While nitrates can come from many sources, better irrigation and nutrient management can help stem the increase. Overall nitrogen efficiency in the U.S. is 40 percent meaning that 60 percent of the nitrogen applied as commercial fertilizer or manure is not necessarily utilized for its intended purpose. Utilizing conservation practices such as applying only the amount of fertilizer needed to reach a yield goal and managing irrigation water to keep those nutrients within the crop root zone have been proven to be beneficial. Well sampling shows nitrate is coming from commercial fertilizers as well as decaying organic material from green manure crops and livestock waste. Legumes that fix nitrogen can also lead to increased nitrate levels. Septic systems are another potential source.

Twin Falls SWCD has participated, intermittently, with the Twin Falls Groundwater Committee and its public outreach efforts. The District has also jointly administered the Twin Falls Nitrate Priority Area CCPI (Cooperative Conservation Priority Initiative) beginning in 2011. Through this project, seven cooperators across the county have enrolled nearly 1,800 acres in three-year contracts. Cooperators receive cost-share to use enhanced nutrient management and irrigation water managed practices on these acres. One cooperator says the soil mapping and testing components have saved him \$20 to \$25 per acre in fertilizer costs. Using the system of soil meters and irrigation scheduling has allowed him to reduce water application while maintaining — and even improving — crop yields. While he has seen benefits from the project, he is concerned about the cost of maintaining the system once the cost-share has been exhausted.

Several large dairies have been built within the Twin Falls SWCD boundaries, but new construction has slowed. The District continue to encourage both dairies and crop farmers who accept dairy waste utilize nutrient management practices that will maximize the benefit of using manure while protecting soil and water resources is a high priority for the District.

Utilizing cover crops can help mine nutrients from the soil during the shoulders of the conventional growing season and convert those nutrients to a form that will be released later to the commercial crop. This may allow growers to reduce the amount of synthetic fertilizer applied. Better irrigation water management practices can also help reduce the amount of nitrogen pushed past by the root zone. The District is partnering with the Twin Falls NRCS Field Office to evaluate irrigation system efficiency and develop better irrigation water management strategies.

CLEAN STREAMS KEY

Most of the soil erosion within the District occurs on the surface-irrigated cropland on the Clover Tract. The 3,800-acre Clover Tract, located on the northern end of the District, is irri-

gated using Twin Falls Canal Company water. The Twin Falls Canal Company adopted a by-law change at its January 2000 annual meeting that requires stockholders to meet certain water quality standards in irrigation return flow. This action is intended to provide another incentive to help landowners and operators keep the soil on their fields and out of the canal system, and ultimately, the Snake River.

Because of higher pumping costs (\$54 per acre plus the \$25 per acre TFCC share) associated with irrigating the Clover Tract, it has a shorter irrigation season than the Twin Falls Canal Company (from April 20 to October 1 compared to mid-April to late October). Aging pipelines are leaking and contributing to the inefficiencies of the system. Clover Tract stockholders are exploring the feasibility of replacing the mainline but the anticipated cost of \$500,000 is an impediment.

If necessity is the mother of invention, then chronic short water situations make Twin Falls SWCD farmers the father of minimal irrigation return flow. The less water that runs off the end of a field, the less soil that can potentially be carried off the field.

Farmers in the Twin Falls Soil and Water Conservation District get most of their irrigation water from surface sources: the Salmon Falls Reservoir on the Salmon Tract and the Snake River on the Clover Tract. Between 5 and 10 percent of the farms on the Salmon Tract (about 5,000 acres) have supplemental irrigation wells (many are at least 600-feet deep), but the moratorium on drilling new wells has limited groundwater irrigation sources.

Water in Twin Falls County is a precious, limited commodity and nowhere is that more true than in southern Twin Falls County. After the astounding success early irrigation developers had with the Twin Falls and North Side canal companies, those developers set their sights on the Salmon River, a creek that winds its way up from Nevada. A 200-foot high dam was built on the Salmon River, west of Rogerson, between 1908 and 1911. Backers hoped to develop 150,000 acres, but the Salmon River did not live up to their expectation and the tract consists of only about 38,500 irrigated acres today. In fact, the reservoir has only filled a fistful of years in its 90-year history.

Even though the conversion to sprinklers and the decision to pipe laterals in the last few years has improved the overall system efficiency, prolonged drought makes it difficult to run the SRCC system effectively. Approximately 25 miles of inefficient laterals have been piped during the last decade which has boosted system efficiency from around 50 percent to nearly 70 percent.

Flooding is a rare occurrence in the Twin Falls SWCD, occurring mainly in years with abnormally high spring runoff. The District provided technical assistance to the Salmon River Canal Company to help develop and test a reservoir management plan in response to potential flooding concerns.

Streams that are listed as water-quality impaired are primarily found on rangeland in the District. Two-thirds of the water in the Upper Salmon River Drainage (above Salmon Falls Reservoir) comes from Nevada and is exempt from Idaho's pollution loading requirements. The remaining one-third comes from the Shoshone Basin.

Water quality impaired stream segments are identified and monitored by the Idaho Department of Environmental Quality, and their findings are compiled in an Integrated Report, which is submitted to the federal Environmental Protection Agency. The Salmon Falls Creek Sub-basin Agriculture TMDL Implementation Plan was completed in February 2009.

CHANGING CLIMATE PATTERNS

Water quantity continues to be the top priority for this chronically water short region. Irrigation water supplies are expected to be short again for the 2015 irrigation season after a short year in 2014. The Twin Falls SWCD has established a revolving loan fund that the Salmon River Canal Co. uses to help explore and develop water delivery system upgrades. SRCC is investigating the feasibility of piping sections of the main canal that have been historically leaky and subject to erosion.

One concern that supervisors are watching closely is how projected changes in climate will impact total precipitation and when that precipitation falls. Many climatologists now predict that southern Idaho will experience warmer temperatures that will shift precipitation in lower elevations from snow to rain. If this prediction comes true, it will further constrain water supplies for the Salmon River Canal Company. Twin Fall SWCD would like to see more of the low elevation SNOTEL sites automated to provide more up-do-date information to better estimate water supply. Automating a manual snow course is estimated to cost \$25,000 to \$30,000.

SAGE GROUSE HABITAT

Sage grouse habitat, in the face of a potential endangered listing of the bird, is another resource concern. Several large wildfires have decimated leks. The proposed Gateway Transmission Line may also cross critical sage grouse habitat.

Even the federal government did not list sage grouse as an endangered species in 2015, the District continues to emphasize the need to protect valuable sage grouse habitat in the Shoshone Basin.

In 2018, the District entered into a cooperative agreement with the U.S. Fish and Wildlife Service to administer a \$20,000 pot of money to be used for sage grouse habitat projects on private ground. District supervisors have developed relationships within USFWS, the Governor's Office on Species Conservation and the Bureau of Land Management as a result of this partnership. Preventing fires from igniting in the Basin is seen as the key to protecting key sage grouse habitat in the Shoshone Basin.

A Shoshone Basin range tour was held in May 2018 to identify potential fire break lines and also springs that could be developed to provide both livestock water and sources of water for BLM fire crews should a fire ignite. It can take several hours for a tender to drive from a fire to the Shoshone Dam to refill and back to the fire. Putting fittings on water storage tanks that allow the tenders to connect would drastically reduce travel time.

A fire awareness field day was held in June 2019 at the Twin Falls Airport that focused on BLM fire efforts and how those efforts affect both wildlife habitat and livestock grazing. The District hopes to complete a spring development in 2020 that will benefit livestock and wildlife as well as providing a source of water to BLM crews.

POPULATION AND EMPLOYMENT

Twin Falls County, located in southern Idaho, is the sixth-largest population center in the state and the thirteenth largest county in terms of size. About 52 percent of the county is federal land.

Twin Falls is the retail and service hub of south-central Idaho, boasting a market of nearly 200,000 people. Twin Falls County itself is home to an estimated 82,248 residents in 2017, up from 67,722 residents in 2009. Over two-thirds of the population is considered urban.

Idaho's annual population growth from 2020 to 2021 at 2.9 percent led the other 49 states and Washington, D.C., in percent increase for the fifth consecutive year. The state gained 53,151 new residents – the ninth largest numeric change in the nation – for a new population estimate of 1.9 million, according to U.S. Census Bureau population estimates.

The City of Twin Falls has seen the greatest growth increasing from about 35,000 people in 2002 to 49,202 residents according to 2018 estimates from the U.S. Census Bureau. It is now the eighth largest city in Idaho. Hollister's population has more than quadrupled from 57 people in 1970 to 272 in the 2010 Census.

Twin Falls City had the largest commercial construction year in history during fiscal year 2019 (October 2018 to September 2019). The city issued 78 commercial permits, up 32 percent from 2018's 59. That's a huge turnaround from fiscal year 2011 when just 18 permits were issued.

Despite strong employment growth, Twin Falls County wages remain relatively low. The average income of a Twin Falls resident is \$19,552 a year compared to the U.S. average is \$28,555 a year. The median household income of a Twin Falls resident is \$41,880 a year.

The Twin Falls Building Department issued more permits for single-family homes in the 2018 fiscal year than it had in any year since 2007. Here's how many home permits the city issued in recent fiscal years: 2018 — 243. 2017 — 224. The median home value was \$199,300 in 2018, up from \$93,800 in 2000.

A tremendous amount of agricultural land has already been developed and the continued population boom is gobbling up more land. According to Twin Falls County Commissioner Brent Reinke in March 2022, Filer is slated for an additional 240 homes with Twin Falls planning for another 1,400 to 1,600 homes.

Twin Falls County had a unemployment rate of 1.9 percent in February 2022, less than the previous year at 3.9 percent and the long-term average of 4.73 percent. Idaho's unemployment rate was 2.4 percent in December 2021, which was 0.1 percent below the previous low set in December 2019. The national unemployment rate also dropped to 3.8 percent in February 2022, the lowest level since February 2022. At the peak in 2009, unemployment reached 8.9 percent in Twin Falls County.

Top employing industries are: State and local government, manufacturing, farm, business and profession services, construction, transportation/communication/public utilities, leisure and hospitality and education and health.

Agricultural Economy

Even though an ever-increasing urban area is sprawling into valuable irrigation land, agriculture is still an important industry and that industry has been suffering from low prices and tight water supplies for much of the last decade. According to the 2017 Agricultural Census, the total number of farms in Twin Falls County fell slightly to 1,211 farms compared to 1,294 in 2007; but down significantly from 1,439 in 1997. Farm size is down from 458 acres in 2012 to 387 in 2017.

The largest number of farms in the county are those that range in size from 1 to 9 acres (338 operations) followed by 10 to 49 acres (287 farms). The bulk of farms are in the middle group with 241 farms between 50 and 179 acres and another 200 between 500 and 499 acres. Of the

largest farm classification, 74 are between 500 and 999 acres with another 71 greater than 71. The large number of tiny farms accounts for why the average farm size is 387 acres but the median farm is just 40 acres.

Large farms and small farms are equally represented on a percentage basis. About 30 percent (358) of the farms reported sales above \$100,000 with 28 percent reporting sales below \$2,500. Crops accounted for 25 percent of sales with livestock accounting for 75 percent.

The number of irrigated acres in Twin Falls County fell to 241,479 acres on 1,052 acres in 2017 from 256,974 acres in 2012 on 1,142 farms. In comparison, 1,294 farms were irrigating 244,520 acres in the county in 2007 and 1,243 farms were irrigating a total of 231,351 acres in 1997.

A period of sharply higher land values has pushed the value of farmland and buildings up significantly. The average value of land and buildings in 2017 was \$1,718,569 in 2017 with an average of \$4,439 per farm. That's up from 2012 with a total value of \$1,155,801 and an average of \$3,090 per acre compared to \$840,386 per farm in 2007 with an average of \$2,479 per acre. In comparison, those same values were \$614,239 and an average of \$1,946 per acre in 2002.

A prolonged period of low commodity prices has hurt farm income. The average value of products sold per farm was \$561,716 in 2017 down from \$599,581 in 2012. In comparison, the value was \$364,090 in 2007 and \$225,021 in 2002. Net cash farm income averaged \$119,676 in 2017. Government payments were received by 360 farms for a total of \$4,456,000.

Crop rotations within the Twin Falls SWCD generally last about eight years and include: alfalfa hay two or three years, beans one or two years, small grains one year, beans one year and peas with new alfalfa seeding one year. Field corn, silage corn or potatoes may be included in the rotation instead of beans. A few farmers include sugar beets in the rotation, and most alfalfa is planted with a cover crop like peas or grain. Enough flexibility exists within the rotations to allow for market fluctuations and climate changes.

The following comparison of acres and farms growing selected row crops also shows the influence the dairy industry continues to have on crop rotations. As a general rule of thumb, 2 acres of corn are needed to feed every 3 new cows added to the state's herd.

Crop	2017 farms	2017 acres	2012 farms	2012 acres
Forage	668	84,037	739	72,812
Barley	170	24,825	56	30,616
Dry edible beans	206	20,794	308	27,885
Corn for silage	209	41,625	200	33,885
Wheat (all)	180	19,359	243	26,415
Corn for grain	159	13,151	225	20,828
Sugar beets	32	7,165	42	8,755

Livestock continues to be an important part of the Twin Falls agricultural economy. Beef cow numbers are holding relatively steady at 27,319 head on 452 farms compared to 26,762 in 2012 and 25,898 in 2007. Sheep and lamb numbers continued to fall and have fallen below the previous low of 9,68 head in 1997. Just 8,473 head were on 62 farms in 2017 after reaching 14,000 head in 2007.

The unprecedented slump in milk prices combined with extremely high feed costs between 2008 and 2010 continues to impact the dairy industry leaving fewer but larger operations in its

wake. Milk cow inventory was just 89,876 head on 59 farms in 2017 compared to 63,960 on 73 dairies in 2012.

Even though the number of dairy cows in the county has stabilized, efficiently storing and using the manure produced remains a challenge. According to an analysis done by the Agricultural Research Service's laboratory in Kimberly, the eight counties that make up the Magic Valley are home to 475,000 dairy cows and approximately 1 million acres of cropland. Soil scientists have calculated a nitrogen balance for the Magic Valley that includes both the nitrogen coming in as feed to a dairy and the manure produced, along with commercial fertilizer applied to cropland and nitrogen uptake of those crops. That works out to an excess of 105 million pounds of nitrogen annually or enough to apply 100 pounds of nitrogen per acre.

Organic production is becoming more prevalent in the area and the Idaho Agricultural Statistics Service began reporting census data for organic production in 2007. Twin Falls County was home to 26 organic farms in 2017, up from 14 in 2012. The value of sales \$35,072,000 in 2017 compared to \$2,044,00 in 2012. Although many conventional agricultural producers are adopting some practices from their organic neighbors such as planting cover crops to improve soil health or treating cows with herbs rather than drugs; organic production is still viewed as suspect. The Twin Falls SWCD is particularly concerned about weed control on organic farms and the spread of weeds from untreated border areas.

The 2017 Ag Census confirms that more farmers across Twin Falls County are experimenting with soil health practices such as conservation tillage and cover crop usage.

Soil health practice	2017 farms	2017 acres	2012 farms	2012 acres
No-till	63	3,886	62	7,765
Reduce tillage	197	44,815	138	26,382
Cover crops	93	10,336	80	6,669

CRITICAL GEOGRAPHIC AREAS

Shoshone Basin Sage Grouse Habitat
Shoshone Basin Cooperative Weed Management Area
Twin Falls County Highly Erodible Cropland
Nitrate priority area

STRATEGIES TO ADDRESS TRENDS

- Continue to work with the University of Idaho to explore cover crops that can be successfully grown on the Salmon Tract to reduce the potential for wind erosion and improve soil health, even in water short years.
- Encourage more cooperators on both the Salmon and Clover tracts to manage residue to reduce potential wind erosion utilizing both cover crops and conservation tillage practices.
- Work with the Agricultural Research Service to better understand the nitrate mineralization and develop management practices farmers can use to improve nitrogen efficiency. This is becoming more critical as growers include more cover crops in their rotation and must account for nitrogen that is released during the growing season.
- Work with the Shoshone Basin RFPA (Rangeland Fire Protection Association), Bureau of Land Management and U.S. Fish and Wildlife Service to identify projects that can reduce fire potential throughout the Shoshone Basin with the goal of protecting key sage grouse habitat.
- Become more involved with county planning and zoning issues impacting natural resources
- Continue to sponsor project proposals with other districts
- Promote vegetative diversity to reduce threat of wildfire and improve range health
- Work with organic farmers on practices to reduce weed infestations through tillage and residue management practices.
- Help purchase a no-till drill for use throughout Twin Falls County.

PROJECTED BUDGET NEEDS

Salmon Tract canal piping project — \$3 million
Clover Tract pipeline upgrade — \$500,000
Clover Tract pressurized irrigation system — \$2.5 million

COOPERATING AGENCIES AND ORGANIZATIONS

District supervisors believe that effective natural resource conservation is a job they cannot do alone, but one that requires the joint efforts of many. Memorandums of understanding are maintained between the District and the Farm Services Agency, Farm Credit Association, Agricultural Resources Service, Cooperative Extension Service and the Natural Resources Conservation Service. The NRCS is the principal source of federal assistance to the District. The District may have working arrangements with other federal agencies outside USDA, with state agencies, with municipal or county governments or with private organizations and groups.

The Twin Falls Soil and Water Conservation District will cooperate with the following agencies and private groups to accomplish this five-year plan:

Burger Grazing Association — develop resource-based grazing plans

Bureau of Land Management — cooperate on developing grazing plans, protecting sage grouse habitat, helping with educational days and implementing TMDLs

Clover Irrigation District — potentially utilize District's revolving fund for irrigation delivery system improvements

College of Southern Idaho — meeting room facilities, cooperation in agricultural seminars and tours

Idaho Association of Soil Conservation Districts — provide District with monitoring data for implementing future TMDLs (total maximum daily loads) on listed stream segments

Idaho Cattle Association — help sponsor grazing field days and tours, work on special water quality projects in the Shoshone Basin

Idaho Conservation League — help sponsor field days, workshops and no-till drill purchase; possible partner to provide cost-share assistance to cooperators for soil health practices

Idaho Soil & Water Conservation Commission — provide assistance to state water quality projects, writing contracts for projects, evaluating effectiveness of projects; provide assistance for state cost-share programs

Idaho Department of Agriculture — monitoring for dairies, providing technical assistance for implementing nutrient management plans and siting lagoons, and pesticide recertification

Idaho Department of Environmental Quality — monitor mouth of Cedar Draw and Deep Creek (tributaries to the Snake River), oversee implementation of TMDLs

Idaho Department of Fish and Game — aquatic life and fish population surveys, habitat improvement programs, and participation in coordinated resource management plans.

Idaho Department of Lands — developing grazing plans for state grazing land, potential cooperation and participation in coordinated resource management plans

Idaho Department of Water Resources — assistance with permitted water use and aquifer monitoring

Jarbidge Sage Grouse Local Working Group — help with habitat improvement projects

Magic Common — develop resource-based grazing plans

Nature Conservancy — help sponsor field days, workshops and no-till drill purchase; possible partner to provide cost-share assistance to cooperators for soil health practices

Salmon River Canal Company — cooperate on water conservation projects and annual water forecast meeting

Shoshone Basin RFPA (Rangeland Fire Protection Association) - identify potential places for livestock water storage tanks that can be tapped by wildland fire crews and potential fire break projects

Twin Falls County Commission — funding approval, support and approval of conservation programs

Twin Falls Planning and Zoning Commission — dairy and feedlot siting ordinances, zoning to promote proper use of soil resources

Twin Falls County Weed Bureau — identifying problem weed areas, assisting with Conservation Reserve Program recommendations, developing coordinated weed management areas

University of Idaho Cooperative Extension Service — provide leadership and support for conservation tours and field days, help develop irrigation management and scheduling plans, help develop grazing plans, help develop site plans for dairies, help identify cover crop species for southern Twin Falls County, provide assistance for soil health testing program and help identify appropriate soil health management strategies

USDA-Agricultural Research Service — research to reduce irrigation-induced soil erosion, research for more efficient irrigation scheduling, provide technical assistance for water quality field days and tours, help identify management strategies to reduce nitrogen losses from dairies and cropland

USDA-Farm Services Agency — funds administration, cropping and acreage data, cooperation on all agricultural conservation programs

USDA-Forest Service — cooperation on developing grazing plans and implementing TMDLs

USDA-Natural Resources Conservation Service — provide District with assistance in program guidelines, soil and range surveys, technical help in applying conservation practices, preparing conservation plans on individual farms and ranches, office space for District employees, meeting room facilities

U.S. Fish Wildlife Service — work on cooperative projects on private land to reduce potential fires in the Shoshone Basin, develop springs to benefit livestock and wildlife as well provide water sources for fire crews, assist with educational days, protect valuable sage grouse habitat.

Greater Sage-Grouse PACs and COT Populations - Idaho



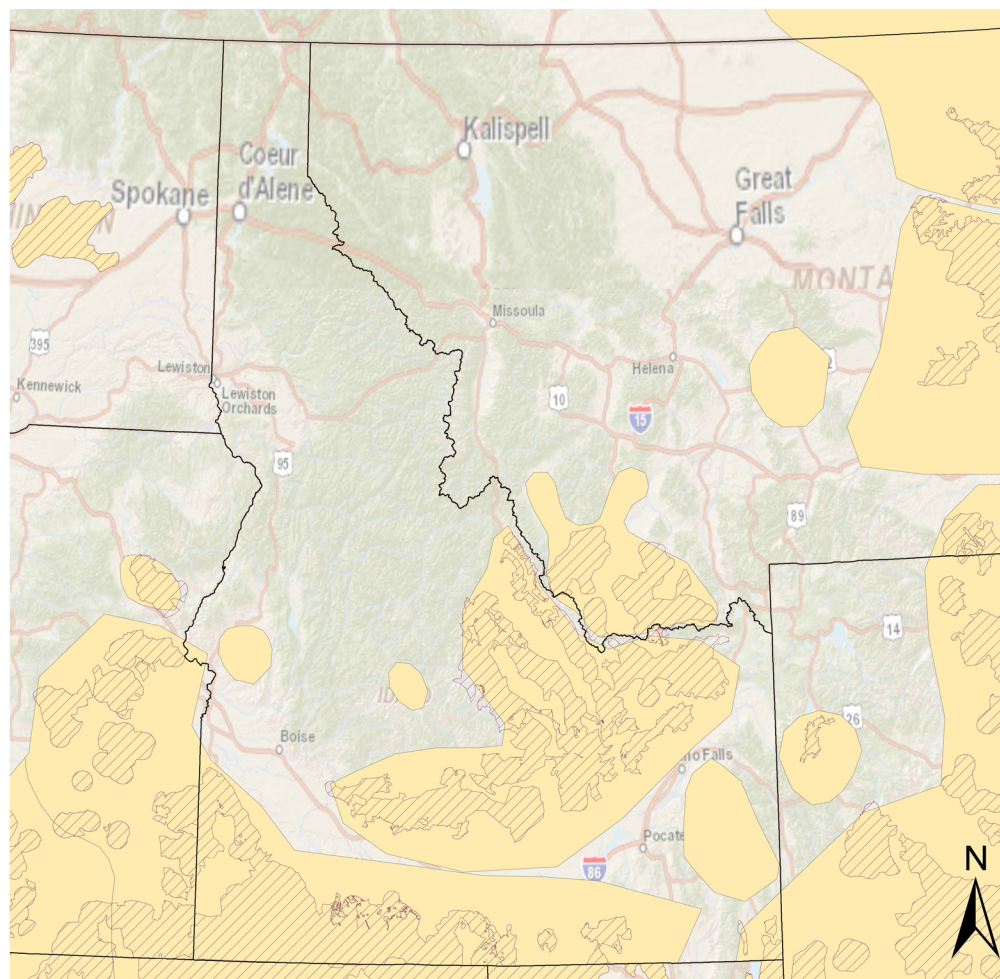
Sage-Grouse PACs



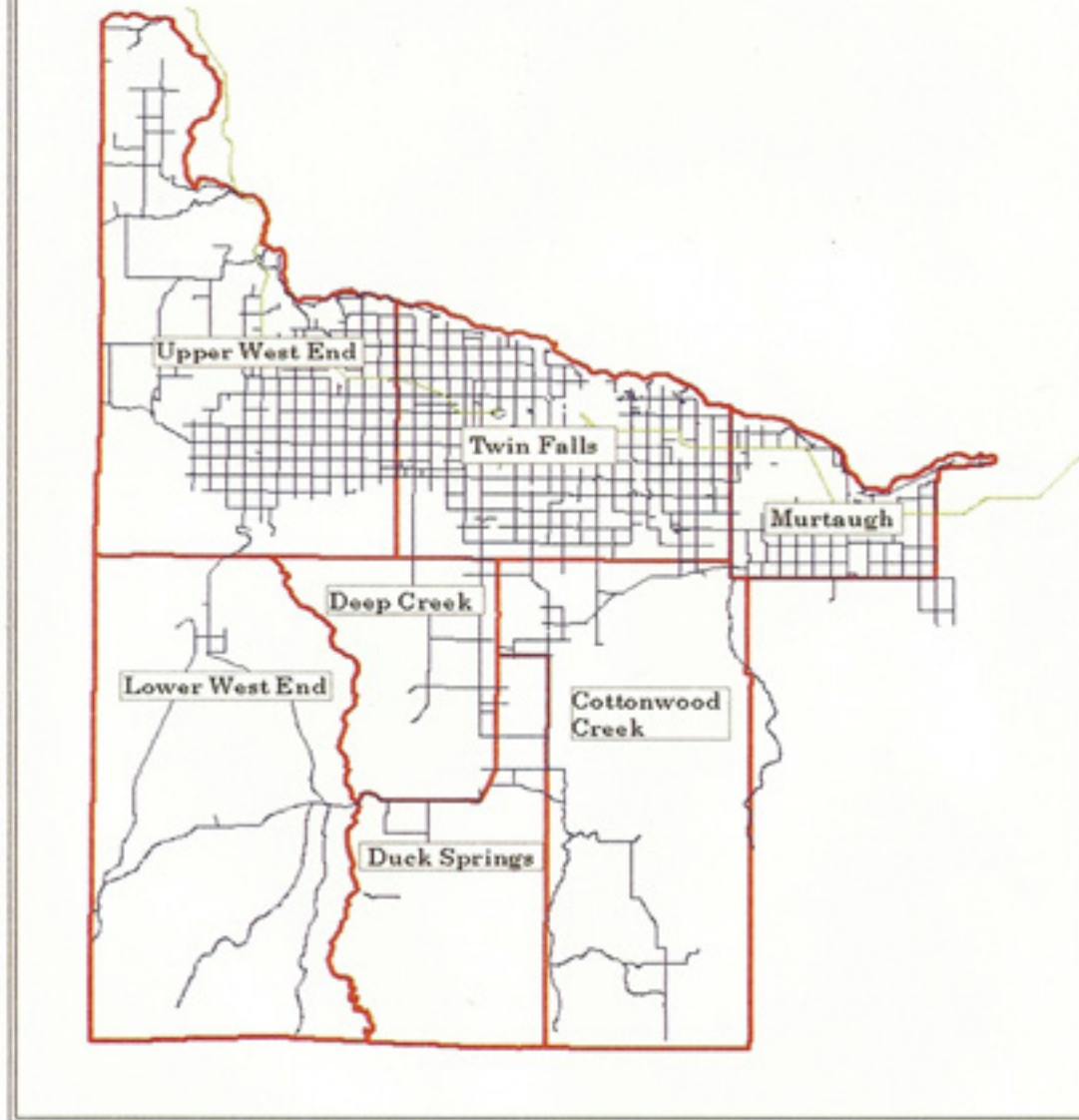
GSG COT Populations

***PACs:** *Priority Areas of Conservation*

***COT:** *Conservation Objectives Team*



Shoshone Basin CWMA Project Areas



The boundaries of the Shoshone Basin CWMA includes the entire County. The County is then divided up into project areas that are within watersheds or geological land divisions.

Twin Falls – West boundary is 1800 East road, North boundary is the Snake River Canyon, East boundary 3800 East road, and the South boundary line is 3000 North road.

Murtaugh – The boundaries are the Snake River Canyon on the North to the Cassia County line on the East to 2900 North on the South and 3800 East on the West.

TWIN FALLS COUNTY HEL

Date: 2/9/2016

Field Office: TWIN FALLS SERVICE CENTER

Agency: NRCS

Assisted By: MICHAEL REMMING



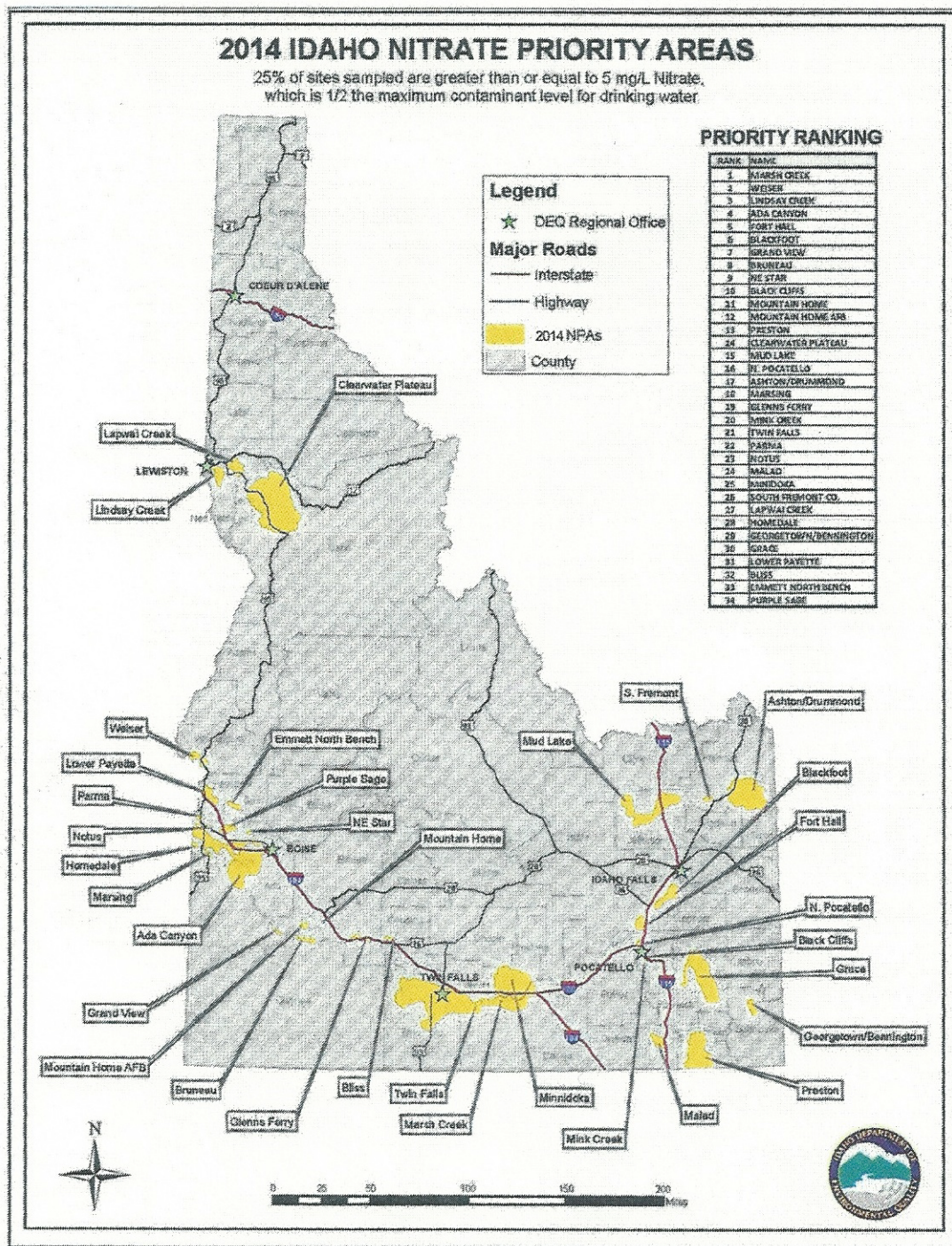
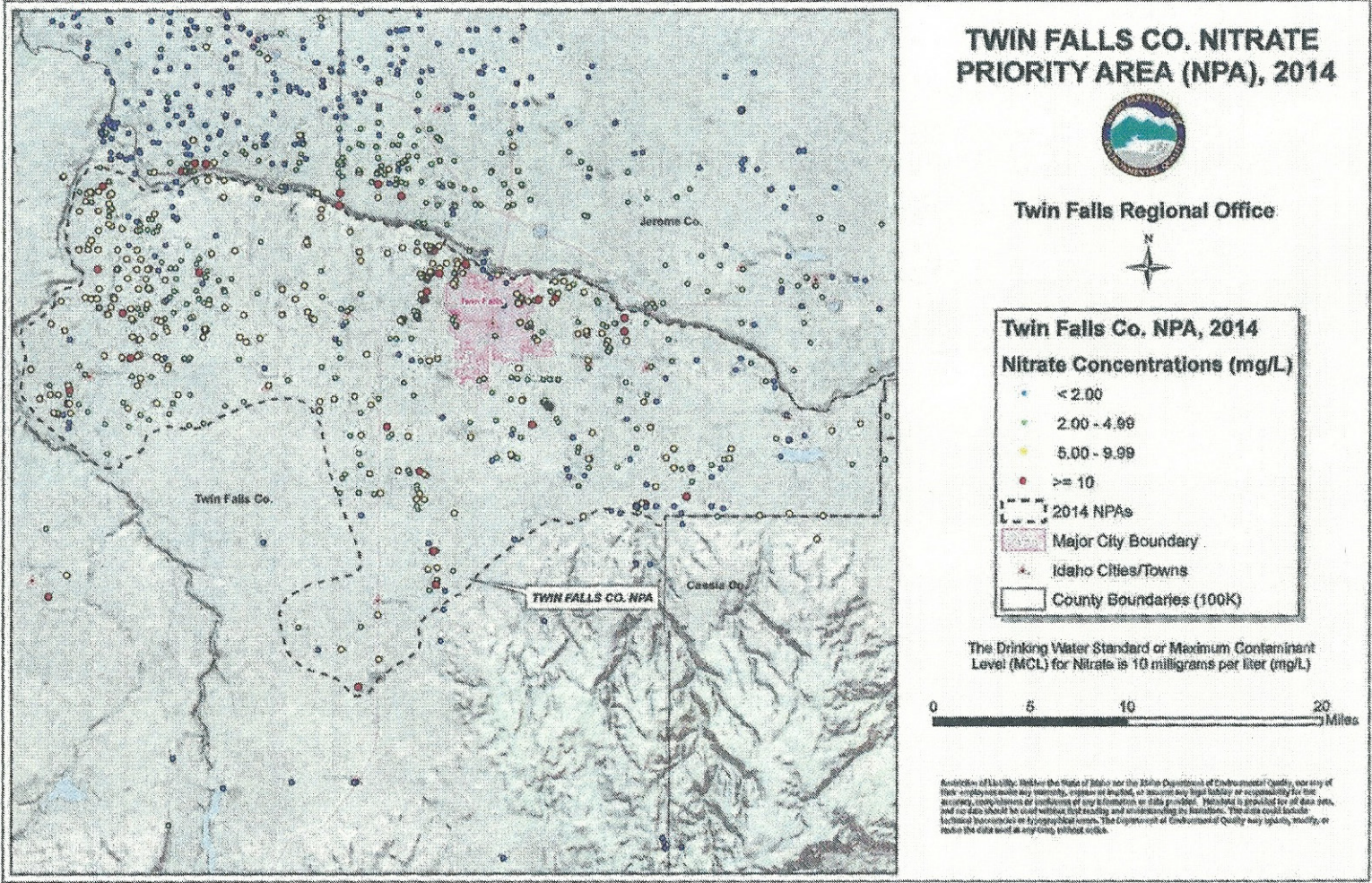


Figure 3. 2014 ranked nitrate priority areas.



Twin Falls 2022 Annual Work Plan

March 9, 2022

Resource Concerns

Soil Health
Invasive Species
Education
Range Conservation
Water Conservation

Proposed/planned Projects:

1) Continue to develop virtual soil health tours and discussions.

Leader:

Twin Falls SWCD board
UI/NRCS soil health educator

Time:

January - Dec.

2) Support the Magic Valley Soil Health Forum.

Twin Falls SWCD board

Jan. to Dec.

3) Continue to lead the Division IV soil health testing program.

Twin Falls SWCD board
ISWCC & UI/NRCS

Jan. to Dec.

4) Host Annual Water Forecast Meeting (**April 2022**).

Twin Falls SWCD board

Jan. to April

5) Work with USFWS & BLM on a spring restoration project
in the Shoshone Basin.

Twin Falls SWCD board

January to Dec.

6) Support efforts to identify soil health practices for bean growers.

Twin Falls SWCD board

Jan. to Dec.

7) Support efforts by local organizations to increase pollinator
habitat in Twin Falls County.

Twin Falls SWCD board
Public outreach specialist

Jan. to Dec.

8) Support efforts to upgrade/pressurize the Clover Tract system.	Twin Falls SWCD board NRCS/ISWCDD	Jan. to Dec.
9) Work with the Twin Falls County Fair Board and Twin Falls County Farm Bureau Federation on Ag Pavillion.	Public outreach specialist	February to Oct.
10) Help sponsor participants to attend soil health conferences <i>Set policy to provide up to \$250/person and a max of \$1,000 per year</i>	Twin Falls SWCD board	Jan. to Dec.
11) Work with NRCS to evaluate sprinkler system efficiencies.	ISWCC	Jan. to Dec.
12) Work with the Twin Falls CWMA to control rush skeleton weed on private land.	Twin Falls SWCD board	March to August
13) Continue to support efforts for invasive species check station.	Twin Falls SWCD board.	Jan. to Dec.
14) Establish social media presence. post water quality & soil health info, meeting agendas, etc.	Public outreach specialist Administrative assistant	Jan. to Dec.
15) Host annual poster and speech contests.	Public outreach specialist	February to October
16) Host Rock Creek and Harrington Fork Education Days.	Public outreach specialist	February to May
17) Promote Natural Resources Camp & scholarships.	Twin Falls SWCD board Public outreach specialist	February to June
18) Talk to neighbors about tillage and residue management practices to reduce wind erosion potential & build soil health.	Twin Falls SWCD board	Jan. to Dec.
19) Monitor proposed wind and solar projects.	Twin Falls SWCD board	Jan. to Dec.
20) Co-sponsor a soil health field day near Kimberly.	Twin Falls SWCD board UI/NRCS soil health educator	Jan. to July