

**SNAKE RIVER
SOIL AND WATER
CONSERVATION DISTRICT**

**RESOURCE CONSERVATION
BUSINESS PLAN**

JULY 1, 2015 TO JUNE 30, 2020

MARCH 9, 2015

FOREWORD

Conservation districts are subdivisions of state government charged the conservation of soil, water and related natural resources. The Snake River Soil and Water Conservation District is one of three conservation districts in Twin Falls County. A total of 50 conservation districts, encompassing 99 percent of the state, are working to protect Idaho's soil and water resources.

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

The Snake River 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 Snake River 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. Snake River 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 Snake River 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 Snake River Soil and Water Conservation District.

INTRODUCTION

History

Officially organized in April 1966, the Snake River Soil and Water Conservation District includes some of the most extensively farmed and irrigated land in southern Idaho. The District is made up of about 1,800 acres of public land and 108,360 acres of private land.

Two conservation districts were already operating in Twin Falls County when Kimberly farmer Dick Stafford began circulating petitions to form the new district. It would be comprised of 789 farms located between the High Line Canal and the Snake River, and would bring all of Twin Falls County into a conservation district. Stafford and Dean Moore of Kimberly; Lyle Jones, Lester Naylor and Virgil Wilson, all of Hansen; were the first supervisors. Roy Jesser and Keith Rhodes, of Twin Falls, were appointed to the board in 1967.

The first long-range plan (adopted February 20, 1967) gave top priority to conservation planning. In the first three months agreements were signed with 52 cooperators covering 9,819 acres. Help was requested mostly on conservation planning, soil surveys and revising irrigation systems. Soil surveys were completed on 1,730 acres of farmland in the first year.

Also in the first year, the District recognized the need for conservation research, and leased 40 acres of cropland near Kimberly. That property was sub-leased to the Snake River Conservation Research Center. This lease was in force, continuously, until 1989 when it was allowed to expire. The District continues to cooperate with the USDA-Agriculture Research Service Pacific Northwest Irrigation and Soil Laboratory (as the Center is known today) on soil and water quality demonstrations and tours. In recent years, most of those efforts have focused on the benefits of using polyacrylamide on surface irrigated fields to reduce irrigation-induced erosion and using ponds in conjunction with pol to virtually eliminate sediment loss from fields.

An Eversman 6-yard scraper was purchased by the District in 1979 and is still available for cooperators to lease on a rental basis for digging and maintaining sediment basins and ponds.

Water quality efforts

The first special conservation project for the District began in 1974 with the Snake River Canyon Rim Study. At the request of the South Idaho Resource Planning and Development Association, the District studied soil, water and plants in the Snake River Canyon and along the canyon rim from the mouth of Rock Creek upstream to the Hansen Bridge, about 14 miles.

The Idaho Department of Health and Welfare contracted with the District in 1976 to conduct a water quality demonstration project on the LQ Drain, a 3,300-acre irrigated watershed southeast of Filer. The project, which proved that farmers would voluntarily use conservation practices to improve water quality, was a success. When the project ended in 1979, the LQ was discharging only about 2,000 tons of sediment per year into the Snake River, down from a 1976 estimate of 10,000 tons per year.

Rock Creek

The Snake River SWCD joined forces with the Twin Falls Soil and Water Conservation District in the late 1970s to address water quality problems in Rock Creek. Rock Creek had been identified as a top priority stream segment in the Idaho Agricultural Pollution Abatement Plan of 1979. The districts applied for and received a grant under Section 208 of the Federal Water Pollu-

tion Control Act Amendments of 1971 to develop a treatment plan. Since the Rock Creek project encompassed parts of both districts, a special project board was established, made up of four supervisors from each district. The treatment plan developed by the Rock Creek Project Board was later selected for funding as part of the Federal Rural Clean Water Program (RCWP) and implementation began in 1981. The project was one of only 13 original RCWP projects nationwide, and was the only one on irrigated cropland.

Supervisors were responsible for contacting farmers, approving water quality plans and directing technical assistance. Response to the project was overwhelming, and by the time the contracting period ended in 1986, 185 the watershed.

Water quality in Rock Creek surfaced again as a community concern in the late 1990s. This time the concern was generated by high fecal coliform counts which caused the Health and Welfare Department to close Rock Creek Park to swimming. Rock Creek historically has had fluctuating fecal coliform counts, depending on the season.

The Snake River and Twin Falls conservation districts again worked together to address this concern. The districts delineated the Upper Rock Creek drainage as an Environmental Quality Incentives Program (EQIP) High Priority Area. A workshop was held in March 1999 to educate cattle producers about the link between sediment loading and fecal coliform colonies, and to educate producers about best management practices they can use for grazing and irrigating their pastures.

Rock Creek continues to be a high priority for both the Snake River and Twin Falls conservation districts. Within the Snake River SWCD boundaries, Rock Creek is influenced primarily by irrigated cropland and urban influences compared to grazing and recreational use in the Twin Falls SWCD. The Snake River SWCD has applied for a 319 grant to construct a wetland along the Twin Falls Canal Company's O-Coulee to trap sediment and nutrients. O-Coulee enters Rock Creek just above Rock Creek Park in Twin Falls, and is considered to be a major contributing source of degraded water to Rock Creek.

A state pilot project, funded by federal 319 grant funds, worked with small acreage landowners along Rock Creek. Nutrient management, irrigation scheduling and grazing management are just parts of the educational components involved with that project that will focus on the relationship between surface and ground water. A video of the project was developed for use by local planning and zoning officials in other counties to address water issues in subdivisions.

Perrine Coulee

In 1995, the District turned its attention to another water quality impaired watershed within the District — the Perrine Coulee, which is comprised of 27,540 acres of which 16,957 are considered to be critical acres. The Perrine Coulee is a tributary to the Mid-Snake River and was listed as water quality impaired in 1991.

Board supervisors went through a lengthy planning process in the late 1990s to try to establish a State Agricultural Water Quality Program for the Perrine Coulee watershed, but were unsuccessful. As part of that process, several field days and tours were held in the area; and educational efforts continue to focus on farmers in that area. In August 2003, a field day was held in the area that focused on pond construction and maintenance. Over 40 individuals attended that field day, sponsored with help from the Twin Falls Canal Company.

Recently, district supervisors have turned their attention to improving water quality as water leaves this watershed. Snake River SWCD has purchased 15 acres of land east of Twin Falls,

where the last of the agricultural influence is felt on the coulee, and constructed a multi-cell wetland on the property. The Twin Falls Canal Company has been an important cooperator on this project. Construction was completed in the winter of 2003-04 and wetland plants will be planted in the spring of 2004. A \$66,600 grant from the federal Environmental Protection Agency's 319 grant program was used to pay for the project.

The City of Twin Falls was also a cooperator on this project. Once the water has run through the wetland project, the City will have a source of clean water that can be used in pressurized sprinkler systems for irrigation, which will reduce the City's demand on the aquifer.

The Snake River SWCD applied for another \$95,000 319 grant to construct another series of wetlands about a half-mile below the Main Perrine Coulee. This series of five wetlands serves as finishing ponds to remove fine sediment and additional nutrients.

LS/LQ

The LS/LQ watershed remains an area of concern for the Snake River SWCD. Fields in this area are steep and row crops, which are more susceptible to irrigation-induced erosion, are common in the rotation.

The watershed was approved for a State Agriculture Water Quality Project in 1999. Through this project, 7 contracts were written to treat 781 acres at a total cost of \$584,114, with the cost borne nearly equally between cost-share and operator. Best management practices installed because of this project included pipelines, sprinkler systems, sediment basins and other structures for water control. The project ended December 31, 2003.

A constructed wetland project, done by the Twin Falls Canal Company in cooperation with Idaho Power, the Idaho Department of Environmental Quality and the Idaho Department of Fish and Game, resurrected a wetland structure that had been constructed during the first LQ project in the 1970s. The original wetland was filled with sediment and farmed through in the intervening years. A pond field day was held at the Malone Pond site in August 2001 and over 80 cooperators attended the event.

Several other field days and tours were held in the LS/LQ project area to educate potential cooperators about both the cost-share available through the project and best management practices.

Another constructed wetland project below Malone Pond, was built in 2006 to clean up return flow from the LS drain as well as finish cleaning the LQ drain. The District has received a \$115,000 grant from the federal 319 program to help pay for this project. TFCC and the Snake River SWCD worked with the Idaho Department of Fish and Game to stock fish in the pond system to create a safe fishing hole for kids in nearby Twin Falls. The Filer Fishing Ponds, as the project is now known, are hugely popular with anglers both young and old. The ponds have also been the site of a wetlands field day for area 5th graders sponsored by the Snake River SWCD along with the Twin Falls Canal Company and Idaho Department of Fish and Game.

A large wetland complex was constructed on the Twin Falls Coulee in 2011-12 to clean up return drains above a subdivision north of Kimberly. This was the last large agricultural drain on the east end of the Twin Falls Tract that did not have a constructed wetland complex. Snake River SWCD and TFCC are evaluating existing wetlands to see if any maintenance or upgrades are needed. The A-10 drain, near Hansen, is of particular concern.

While it sometimes seems the Snake River Soil and Water Conservation District focuses its attention on the same problem areas year-after-year, progress is being made. The Twin Falls

Canal Company adopted a by-law change at its January 2000 annual meeting that requires stockholders to meet the target sediment allocation under the Upper Snake-Rock TMDL implementation plan of 52 mg/L.

Monitoring data from the University of Idaho on selected drains in the Snake River SWCD shows that while the target is not being met in every drain, significant improvements have been made, particularly in drains where large wetland projects have been constructed such as the LS/LQ and Perrine Main Perrine. Fluctuations in other drains are largely a result of crop rotation.

Drain	Ave. TSS in 2014	Ave. TSS in 2003	Ave. TSS in 1990-91
A-10 Coulee	12 mg/L	25 mg/L	45 mg/L
TF Coulee			
above wetland	88	33	121
below wetland	29		
East Perrine	86	25	100
Main Perrine			
above wetland	59	37	120
below wetland	32		
West Perrine		30	223
Lateral 30	77	37	371
LQ/LS	75	122	215
S-2		42	213

Source: University of Idaho

Land

The Snake River Soil and Water Conservation District is located in the north-central and northeastern part of Twin Falls County. The District contains a total of 110,230 acres — 98 percent of the agricultural land is privately owned (91 percent is irrigated cropland, 5 percent is rangeland and 4 percent is classified as other uses). The predominant change in land use has been from cropland to houses — particularly near Twin Falls but also around Filer and Kimberly, and along Rock Creek. Little urban sprawl has been seen near Hansen and Murtaugh.

The District lies in an area of light to slightly dark-colored, mostly well-drained lacustrine and wind-deposited silt loam soils of the Portneuf Association. Average field slopes are in the 1 to 2 percent range. Soil depths range from 10 to more than 60 inches with strongly calcareous subsoils. Some areas have hardpans and most are underlain by basalt bedrock.

Soils within the Snake River SWCD are predominantly Minveno, Portneuf and Sluka.

Portneuf soils are characterized as well drained soils that are very deep and have slopes of 0 to 8 percent. These soils are found in the eastern reach of the District.

Sluka and Minveno soils are characterized as well-drained soils that are moderately deep and shallow over a hardpan, and have slopes of 0 to 8 percent. These soils are found in the western portions of the District.

Together these soils are some of the best adapted to irrigation in the state, and are generally fertile. Under proper management, they will produce high yields with little soil loss.

Geology and Topography

The geology of the Snake River Soil and Water Conservation District evolved during the Mesozoic and Cenozoic periods. Faults and fissures released molten lava from low profile shield volcanoes, such as Stricker Butte located 4.5 miles south of Kimberly.

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. During the 1920s it became necessary to construct drainage systems to drain groundwater away from localized areas. In today's watershed excess irrigation water can now percolate below the crop root zone, accumulate and flow along a cemented hardpan or bedrock. Hardpans develop from leaching calcium carbonate over long periods of time. Groundwater can either drain into the Snake River Canyon or surface in the midst of productive cropland.

The District is drained by the Snake River and its tributaries, Rock Creek and Perrine Coulee, from the south.

The Snake River flows from east to west through the District in a canyon that is up to 500 feet deep. The canyon was partially created by the Bonneville Flood, which is believed to have occurred between 18,000 and 30,000 years ago. The flood resulted from the spilling of water from the Great Salt Lake Basin, which filled during Ice Age climates to form Lake Bonneville. This inland sea was fully comparable in size to the modern Great Lakes. As the icecaps melted, water continued to rise in the lake until it overflowed through Red Rock Pass near what is now Downey, Idaho. Evidence of that phenomenally deep and turbulent flood appears along the entire length of the Snake River Canyon. The flow is believed to have filled the canyon above its brim and overflowed the neighboring plains. The best informed estimates have the Bonneville Flood discharging a total volume of approximately 600 cubic miles of water.

The topography of this part of Twin Falls County varies from rolling to level. Elevations vary from about 3,000 feet in the Snake River Canyon to 4,450 feet at the summit of Hansen Butte. The landscape appears mostly flat, with scattered buttes which mark the locations of ancient shield volcanoes and volcanic vents. Rock Creek bisects the District from the south to north, creating a broken landscape the last few miles as it flows through the gradually deepening Rock Creek Canyon.

Climate

Climate within the Snake River 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. A record-setting rainy period in August 2014 dumped approximately 5 inches of rain on Twin Falls County over several days. This rain fell in the midst of grain harvest damaging barley, wheat and hay crops.

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.

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 non-point source pollution control.

Function

The Snake River 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 Snake River 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 Snake River 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 Snake River 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 Snake River SWCD meets the second Tuesday of each month at a local restaurant. Meetings are held in the afternoons during winter months and in the evenings during the summer months.

Each spring the Snake River 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 Resources Priorities and Goals

- 1) Soil Health
- 2) Water Quality
- 3) Groundwater Protection
- 4) Animal Waste Management
- 5) Urban
- 6) Fish and Wildlife

Critical Geographic Areas

- Southwest Irrigation District Groundwater map
- Twin Falls County High Nitrate Priority Area
- TFCC Tunnels within the Snake River SWCD
- Perrine Coulee and Rock Creek drainages

SOCIOECONOMIC FACTORS

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 79,957 residents, up from 67,722 residents in 2009. Over two-thirds of the population is considered urban.

The City of Twin Falls has seen the greatest growth increasing from about 35,000 people in 2002 to 44,125 residents according to the 2010 census. Other cities within the Snake River Soil and Water Conservation District that have seen growth are: Filer (1,620 in 2000 to 2,508 in 2010), Hansen (970 to 1,144), Kimberly (2,614 to 3,264). Murtaugh was the only city to record a loss of population, falling from 139 residents in 2000 to 115 in 2010.

Twin Falls County has had a strong upsurge in retail and service jobs as big box retailers and the new regional medical center converged around the entrance to the city and on its main artery. Construction slowed following the Great Recession beginning in 2008, but is beginning to recover as the economy improves.

Despite strong employment growth, Twin Falls County wages remain relatively low and have not recovered to pre-Great Recession levels. Per capita income increased from \$20,800 in 1998 to \$28,642 in 2007, but has fallen to \$20,588 in 2012. This mirrors the state and national trends. Per capita income in Idaho was \$31,804 in 2007 but was just \$22,568 in 2012; nationally income fell from an average of \$38,615 to \$28,155.

Despite the housing slump beginning in late 2008, construction continues to grow. Nearly 350 building permits were issued in the county in 2012. The median home value was \$148,900 between 2009 and 2013, up \$93,800 in 2000 and three times that of 1990.

Twin Falls County had a unemployment rate of 3.2 percent in December 2014, less than both the state (3.9 percent) and nation (5.6 percent). 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 2012 Agricultural Census, the total number of farms in Twin Falls County remains constant at 1,294 farms compared to 1,296 in 2007; after falling from 1,439 in 1997. While farm numbers are fairly stable, farm size has increased again from 339 acres in 2007 to 458 acres in 2012.

Despite moratoriums on new groundwater wells, the number of irrigated acres in Twin Falls County increased to 256,974 acres in 2012 on 1,142 farms. In comparison, 1,294 farms were irrigating 244,520 acres in the county in 2012 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 per farm in 2012 was \$1,155,801 with an average of \$3,090 per acre compared to \$840,386 per farm in 2002 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. The average value of products sold per farm was \$599,581 in 2012, up from \$364,090 in 2007, and \$225,021 in 2002.

Just over half of the farmers in Twin Falls County list farming as their primary occupation.

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.

Crop sales accounted for 36 percent of the county's ag production at \$216,047,000. 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	2012 farms	2012 acres	2007 farms	2007 acres
Haylage, green chop	739	72,812	645	74,863
Alfalfa hay	686	64,242	596	68,924
Barley	56	30,616	251	23,235
Dry edible beans	308	27,885	243	18,699
Corn for silage	200	33,885	238	34,690
Wheat (all)	243	26,415	218	24,464
Corn for grain	225	20,828	130	13,461
Sugar beets	42	8,755	47	10,045

Market value of livestock and product sales accounted for 64 percent of the county's ag value at \$383,533,000, with dairy products accounting for \$266,937,000 of that. Beef cow numbers were 26,762 in 2012, up slightly from 25,898 in 2007, but down from 29,664 in 1997. Sheep and lamb numbers are also down to 12,261 head after reaching 14,000 head in 2007. Sheep inventory fell to a low of 9,968 head in 1997.

The unprecedented slump in milk prices combined with extremely high feed costs between 2008 and 2010 continues to impact the dairy industry. Milk cow inventory was just 63,960 in 2012 on 73 dairies, down from 78 dairies with 70,256 head in 2007 but still ahead of the 51,315 cows in 2002. Although a slump in milk prices in early 2009 has slowed the growth of the dairy industry during the early 2000s, dairying continues to be one of the Magic Valley's fastest growing industries. A 1 million-square-foot facility, making it the largest Greek yogurt plant in the U.S. was built between Twin Falls and Kimberly Idaho in 2012. Citizens of Hollister complained about the number of trucks and smell of whey products being land-applied to fields during the summer of 2013 and Chobani designed a waste treatment facility to reduce the amount of waste generated at the plant.

Idaho is now ranked third in the nation for milk production, behind California and Wisconsin. While cow numbers are down in Twin Falls County, the state's herd has continued to expand. Idaho had 576,761 milk cows in 2012, up from 536,463 milk cows in 2007 and 390,600 cows in 2002.

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. Seventeen farms certified farms made their home in Twin Falls County. The county reported organic sales of \$266,937,000, up from \$2,033,000 in 2007.

TRENDS IMPACTING NATURAL RESOURCES

Some progress has been made on a 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. 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.

Snake River 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.

Surface Water Quality

Great strides are being made in reducing irrigation-induced soil erosion as farmers either utilize polyacrylamide on surface irrigated fields or convert to sprinkler irrigation. However, there is still work to be done especially in historic trouble spots like the LS/LQ drain, Rock Creek and Perrine Coulee.

The annual soil loss in the District is estimated to be 10 to 15 tons per acre. This soil loss occurs primarily on irrigated cropland.

Approximately half of the Twin Falls Canal Company tract that is under sprinkler irrigation is adequately treated. While constructed wetland and sprinkler conversions have gone a long way to reducing sediment loading to the Snake River and its tributaries, irrigated farmers cannot rest of those accomplishments. Snake River SWCD will continue to offer assistance, through the Environmental Quality Incentive Program, to help irrigators convert more fields to sprinkler irrigation while also encouraging use of eye slots and polyacrylamide to reduce the amount of silt in irrigation return drains.

Streambank erosion on approximately 48 percent of the upper reaches of Rock Creek creates a substantial problem within the District. In 1987 it was estimated that over 26,000 tons of sediment were lost from Rock Creek streambanks.

Additionally, research has shown that the amount of fecal coliform is related to the amount of sediment. Minimizing sediment loads to Rock Creek will go a long way towards reducing other water quality problems.

The main agricultural water source for the District is the Snake River, delivered to individual farms through the Milner and Twin Falls Canal Companies. All land on the Twin Falls Canal Co. tract receives 5/8ths of a miner's inch of water per share. This is the most stable source of water in the Snake River Soil and Water Conservation District. A small tract south of Kimberly receives irrigation water from Rock Creek. Farmland in the Murtaugh vicinity receives supplemental irrigation water stored in Murtaugh Lake through a pump and pipeline system completed in 1989.

Although the Snake River SWCD is not part of the Eastern Snake Plain Aquifer, declining groundwater levels are a concern, particularly for the Southwest Irrigation District near Murtaugh Lake. Water is being diverted from adjacent watersheds originating in the mountains to the south into a series of injection wells as part of a managed aquifer recharge program. Additional water is also pumped from Murtaugh Lake. The Twin Falls Canal Co. cooperated with the Idaho Water Resources to wheel approximately 40 cfs of water through Murtaugh Lake throughout the winter of 2014. IDWR studies have also shown that about half the water added to the aquifer in the TFCC-Southwest Irrigation District area through recharge efforts is still in the underground reservoir five years later. That makes recharge in that area particularly effective.

Subdivisions were sprouting up all across the Snake River SWCD during the housing boom of the early 2000s, but the economic slowdown has put a hold on some of these developments. Supervisors will continue to closely monitor the conversion of farmland to housing, and work with county officials to minimize conflicts in these new urban/rural interfaces.

Water quality problems rise from irrigation return flows which carry sediment, nutrients and chemicals into perennial and intermittent streams and then into the Snake River.

One obstacle to meeting the TMDL sediment and phosphorus targets for the Mid-Snake River are the number of absentee landowners in the Snake River SWCD. In addition to living outside of Twin Falls County, many of these landowners are also retired and/or widowed and are

unwilling to help pay to put conservation practices, such as sprinklers or gated pipe or even polyacrylamide on the ground. While increased funding to the federal cost-share program known as EQIP (Environmental Quality Incentive Program) helped put a number of pivots in in the early 2000s, low commodity prices and the prolonged drought have slowed the conversion.

Urban Sprawl

Much of the prime farmland between Kimberly and Filer, including Twin Falls, has been developed. In 2012, the largest Greek yogurt plant in the U.S. was built between Twin Falls and Kimberly. Clif Bar is also planning to build a 300,000-square foot bakery near Twin Falls to take advantage of the cornucopia of agricultural commodities and dairy products available in the Magic Valley. But it is somewhat ironic that the plant will permanently remove nearly 90 acres of the area's best agricultural land from production. The bakery is expected to employ 250 people.

The new regional hospital on the west end of Twin Falls has spurred development in that area also, while leaving the area where the former was located devoid of businesses. Helping public officials plan future developments to protect what farmland is left will be critical for maintaining the way of life and plethora of agricultural productivity that encouraged both Chobani and Clif Bar to locate here.

Containing stormwater runoff from these plants, new retail stores along the rim and subdivisions is becoming a greater concern. The rain event in August 2014 overflowed municipal capabilities to handle the water and led to many homeowners suffering from flooded basements and backed up sewer systems. Building retention ponds to allow the excess water to drain slowly into the groundwater while filtering out contaminants such as motor oil and trash will help reduce potential future problems. One consequence of changing climate patterns is the increased risk of future large storm events as the one experienced in August 2014.

Snake River SWCD has also worked with TFCC to use water from the wetland complexes surrounding Twin Falls in pressurized irrigation systems in subdivisions reducing the amount of groundwater used by the City of Twin Falls. These efforts will become even more important as the population continues to grow.

As farmland is paved over, the productivity and sustainability of the remaining farmland becomes even more critical. The Snake River SWCD is working with NRCS to educate cooperators about management practices to enhance soil health. These practices include conservation tillage and the use of multi-species cover crops.

Strategies to Address Trends

- Work with the Agricultural Research Service to better understand the nitrate mineralization and develop management practices farmers can use to improve nitrogen efficiency.
- Develop an education program to help landowners and operators adopt conservation practices that reduce the trend of increasing nitrate levels in ground water
- Continue efforts to reach out to urban/small acreage landowners and involve them in conservation efforts
- Become more involved with county planning and zoning issues impacting natural resources
- Continue to sponsor project proposals with other districts
- Continue to provide a college scholarship to students who intend to pursue a career in natural resources or agriculture.
- Work with the Twin Falls Canal Co. to target priority return drains for wetlands projects.

Staffing Needs

- Hire a tri-district water soil health specialist — \$50,000
- Hire a full-time tri-district manager — \$75,000

Proposed Budget

- Cooperative Conservation Partnership Initiative — \$180,000
- LS/LQ pumpback project — \$2.5 million
- N mineralization study — \$1 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 Snake River Soil and Water Conservation District will cooperate with the following agencies and private groups to accomplish this five-year plan:

Bureau of Land Management — cooperating on developing grazing plans and implementing TMDLs

Bureau of Reclamation — coordination and cooperation on water resources

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

Corps of Engineers — Rock Creek Canyon feasibility study; dredge and fill permits

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

Idaho Soil 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

Mid-Snake Resource Conservation Development — potential cooperation and participation in coordinated resource management plans

News Media — publicizing tours, demonstrations, public service announcements, supporting District outreach programs

Public Schools — poster and speech contests, conservation teachers

Southwest Irrigation District— cooperation on aquifer recharge

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

Twin Falls County Parks and Recreation Department — maintaining Rock Creek and Murtaugh Lake parks

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

USDA-Agricultural Research Service — research to reduce irrigation-induced soil erosion, research for more efficient irrigation scheduling and nitrate utilization, provide technical assistance for water quality field days and tours

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

2014 NPA Delineation and Ranking Process

NITRATE PRIORITY AREA	DEQ_REG	ACRES	SQ_MILES	POPULATION	SITES	MAX_NO3	AVG_NO3	MEDIAN	PWS_SWA#	>= 2 mg/L	% >= 2 mg/L	>= 5 mg/L	% >= 5 mg/L	# >= 10 mg/L	% >= 10 mg/L	TREND	SCORE	RANK
MARSH CREEK	TFRD	98788	154	17977	398	40.00	7.16	6.43	43	354	89	256	64	91	29	Incr. Trend	27.28	1
WEISER	BRO	25370	40	7501	131	43.50	13.21	12.00	29	115	89	107	82	77	59	No Trend	24.78	2
LINDSAY CREEK	LRO	22960	44	7269	67	21.00	5.64	4.12	17	42	63	29	48	17	25	Incr. Trend	20.91	3
ADA CANYON	BRO	257038	402	198458	1092	49.80	5.29	4.07	303	813	74	445	41	138	13	No Trend	19.33	4
FORT HALL	PRO	23881	37	1780	8	23.60	12.76	12.35	5	8	100	6	75	4	50	No Trend	19.75	5
BLACKFOOT	PRO	41540	65	3218	30	16.00	4.68	4.03	29	25	83	13	43	2	7	Incr. Trend	19.51	6
GRAND VIEW	BRO	5994	9	549	35	100.00	12.19	9.00	2	35	100	30	86	13	37	No Trend	19.00	7
BRUNEAU	BRO	13818	22	39	5	110.00	33.12	21.80	0	4	20	4	30	3	60	No Trend	18.50	8
NE STAR	BRO	3250	5	297	88	54.00	11.35	7.49	6	61	69	51	58	38	43	No Trend	18.58	9
BLACK CLIFFS	PRO	1030	2	493	26	28.68	10.61	9.75	18	18	69	16	62	13	50	No Trend	18.48	10
MOUNTAIN HOME	BRO	1663	3	406	45	40.00	11.17	8.07	5	38	84	26	58	16	36	No Trend	17.18	11
MOUNTAIN HOME AFB	BRO	9242	14	8250	37	29.20	7.20	5.60	9	33	89	22	59	8	22	No Trend	16.93	12
PRESTON	PRO	124408	194	11120	72	23.80	4.74	4.01	24	47	65	29	40	9	13	No Trend	16.60	13
CLEARWATER PLATEAU	LRO	359306	561	4347	218	77.10	7.24	4.30	27	155	72	99	43	50	23	Decr. Tendency	16.39	14
MUD LAKE	IFRO	129404	202	1916	80	15.20	3.92	3.87	19	57	71	21	26	6	7	Incr. Tendency	16.02	15
N. POCATELLO	PRO	7239	11	24542	32	12.30	4.19	4.08	44	25	78	10	31	2	6	No Trend	15.71	16
ASHTON/DRUMMOND	IFRO	162473	254	2564	191	47.00	7.25	5.52	20	168	88	135	71	32	17	Decr. Tendency	15.51	17
MARSING	BRO	6692	10	600	47	60.00	9.74	2.43	12	26	55	20	49	15	32	No Trend	15.45	18
GLENNS FERRY	BRO	16781	26	1496	17	73.30	11.62	5.13	3	10	59	9	53	4	24	No Trend	15.23	19
MINK CREEK	PRO	1976	3	715	40	21.00	4.84	3.00	32	26	65	14	35	8	20	No Trend	15.05	20
TWIN FALLS	TFRD	399250	561	76284	618	41.00	5.18	4.59	38	546	87	288	47	35	6	Decr. Trend	14.89	21
PARMA	BRO	7057	11	1053	19	14.50	4.58	2.10	4	10	53	8	42	4	21	No Trend	14.26	22
NOTUS	BRO	2674	4	168	7	16.00	5.79	6.70	1	5	71	4	57	1	14	No Trend	13.57	23
MALAD	PRO	22379	35	2803	13	17.00	4.86	3.77	3	8	62	5	38	2	15	No Trend	13.54	24
MINIDOKA	TFRD	247501	230	18612	337	83.00	5.45	4.26	69	230	68	140	42	30	9	Decr. Trend	13.36	25
SOUTH FREMONT CO.	IFRO	7693	12	979	15	35.00	8.47	3.50	6	8	53	5	33	3	20	No Trend	12.71	26
LAPWAI CREEK	LRO	34214	53	982	15	10.30	4.74	4.80	10	12	80	7	47	1	7	No Trend	12.65	27
HOMEDALE	BRO	5585	9	478	24	16.00	4.16	2.05	1	13	54	10	42	3	12	No Trend	12.48	28
GEORGETOWN/BENNINGTON	PRO	17764	28	795	22	13.30	4.72	4.89	4	15	68	11	50	2	9	No Trend	12.46	29
GRACE	PRO	152954	239	2977	69	37.20	4.54	3.20	16	46	67	18	26	5	7	No Trend	12.34	30
LOWER PAYETTE	BRO	28587	45	8755	245	61.00	5.91	4.11	39	169	68	103	42	38	15	Decr. Trend	11.96	31
BUSS	TFRD	6791	11	67	29	45.00	5.25	3.17	0	19	66	10	34	5	17	No Trend	11.72	32
EMMETT NORTH BENCH	BRO	11928	19	865	53	22.80	3.87	2.80	3	33	62	13	25	5	9	No Trend	11.39	33
PURPLE SAGE	BRO	16399	26	4952	120	27.00	5.28	4.55	24	92	77	55	46	11	9	Decr. Trend	10.74	34
TOTAL		2198930	3342	402397	4244				303	3261		2613		691				
Increasing Trend																		
Increasing Tendency																		
No Trend																		
Decreasing Tendency																		
Decreasing Trend																		

Table 1. 2014 ranked nitrate priority areas with score components.

2014 NPA Delineation and Ranking Process

Rank Year	AREA NAME	DEQ Region	Acres	Square Miles	Population	Total Sites	MAX. NO3	Ave. NO3	MEDIAN	#>=2.00	%>=2.00	#>=5.00	%>=5.00	#>=10.00	%>=10.00	#PWS/SWA	TREND	SCORE	RANK
2002	Burley/Marsh Crk	TFRO	169563	265	11,787	234	20.00	6.36	5.8	205	88	140	60	40	17	33	Increase	26.50	3
2008	Cassia	TFRO	193280	302	17,525	384	40.00	6.34	5.74	331	86	224	58	65	17	48	No Trend	20.32	9
2014	Marsh Creek	TFRO	98788	154	17,977	402	40.00	7.16	6.43	358	89	258	64	91	23	43	Incr. Trend	27.28	1
2002	Lindsay Creek									Not Ranked									
2008	Lindsay Creek	LRO	29160	44	1,273	45	18.5	4.74	3.8	25	56	18	40	9	20	16	No Trend	14.12	22
2014	Lindsay Creek	LRO	28360	44	2,269	67	21	5.64	4.12	42	63	29	43	17	25	17	Incr. Trend	20.91	3
2002	Blackfoot									Not Ranked									
2008	Blackfoot	PRO	15360	24	1100	15	16	6.98	5.64	15	100	9	60	3	20	13	No Trend	15.00	20
2014	Blackfoot	PRO	41540	65	3218	30	16	4.68	4.03	25	83	13	43	2	7	29	Incr. Trend	19.51	6
2002	Rupert	TFRO	116780	182	25,132	236	100.00	5.60	4.4	183	78	104	44	18	8	29	No Trend	19.60	9
2008	Minidoka	TFRO	147200	230	18,395	319	83.00	5.35	4.32	224	70	131	41	27	8	56	No Trend	17.25	12
2014	Minidoka	TFRO	147501	230	18,612	337	83.00	5.45	4.26	230	68	140	41	30	9	69	Decr. Trend	13.36	25
2002	Payette	BRO	30509	48	2725	74	23.4	6.5	5.6	52	70	39	53	15	20	15	No Trend	18.10	10
2008	Lower Payette	BRO	26880	42	6718	119	28	6.05	4.74	83	70	57	48	22	19	25	No Trend	17.70	11
2014	Lower Payette	BRO	28587	45	8755	246	61	5.91	4.11	169	68	103	42	38	15	39	Decr. Trend	11.96	31
2002	Purple Sage									Not Ranked									
2008	Purple Sage	BRO	14080	22	2835	87	22.7	5.26	4.61	66	76	38	44	9	10	25	No Trend	15.00	20
2014	Purple Sage	BRO	16399	26	4032	120	27	5.28	4.55	92	77	55	46	11	9	24	Decr. Trend	10.74	34
2002	Twin Falls	TFRO	244229	382	47,687	303	30.50	5.30	4.90	281	93	132	44	17	6	59	Incr. Trend	26.70	2
2008	Twin Falls	TFRO	379520	593	63354	605	41.00	5.20	4.90	538	89	288	48	34	6	88	Incr. Trend	24.78	1
2014	Twin Falls	TFRO	359150	561	76284	618	41.00	5.18	4.80	540	87	288	47	35	6	88	Decr. Trend	14.69	21

Table 2. Selected comparisons between ranking periods.

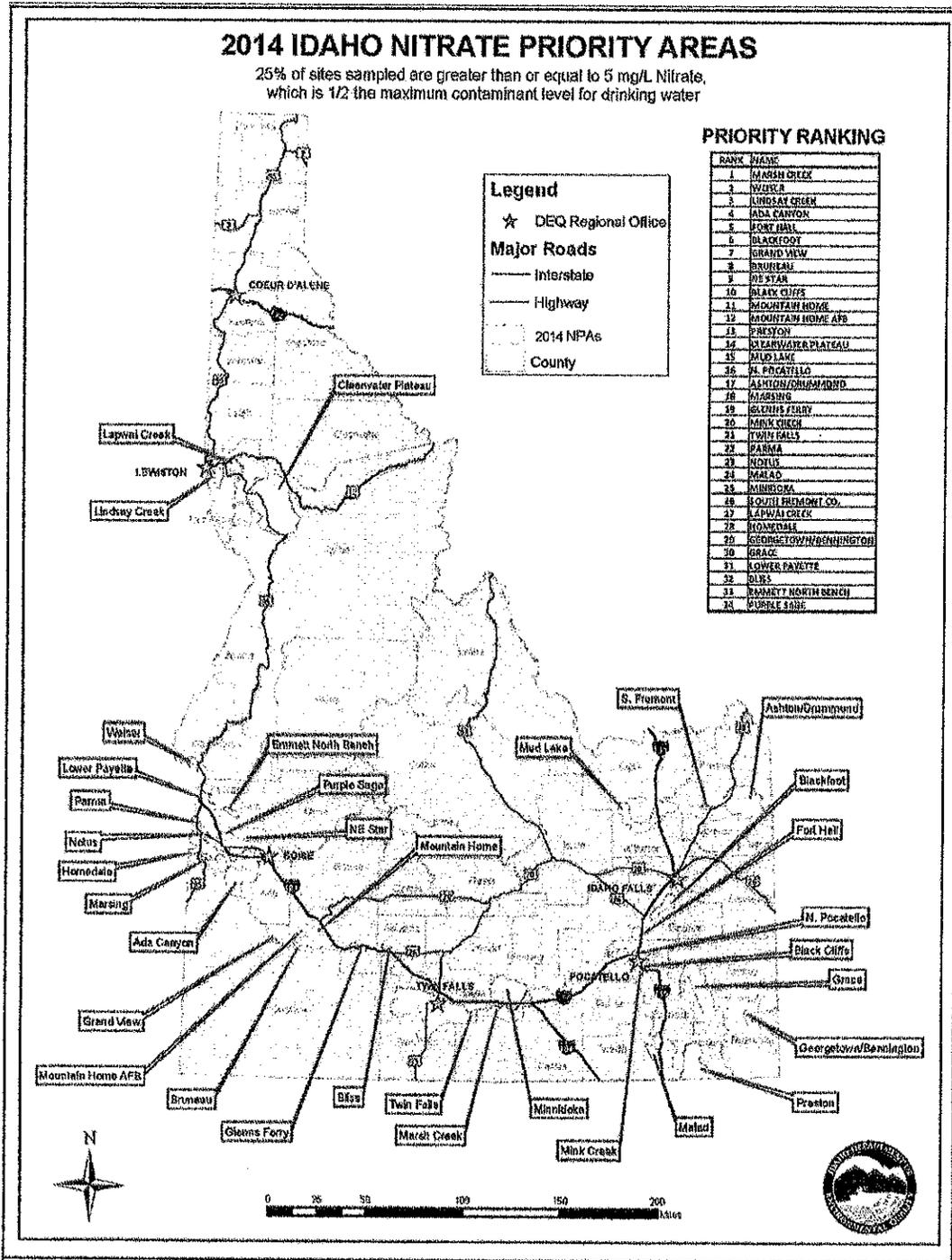
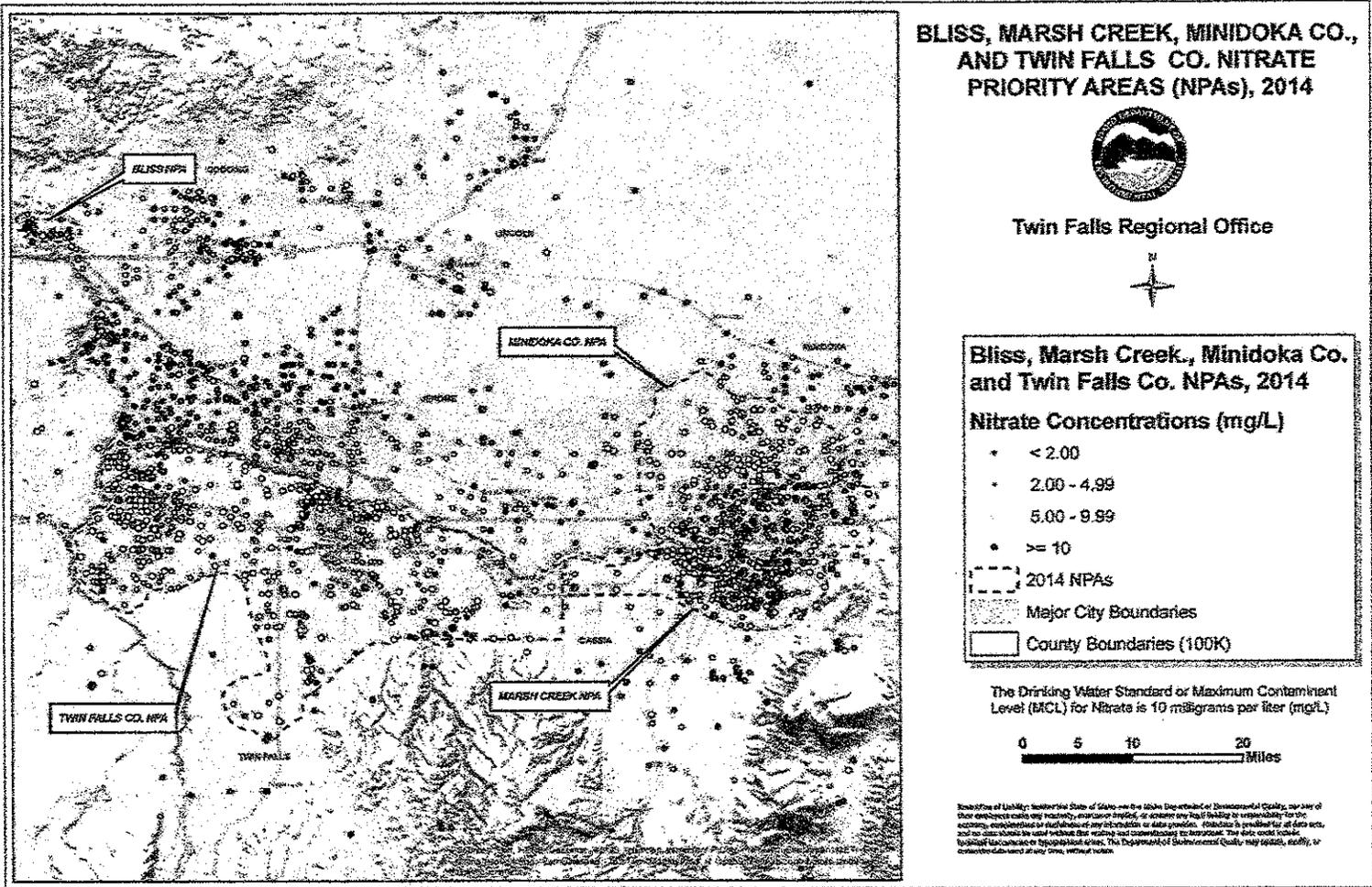
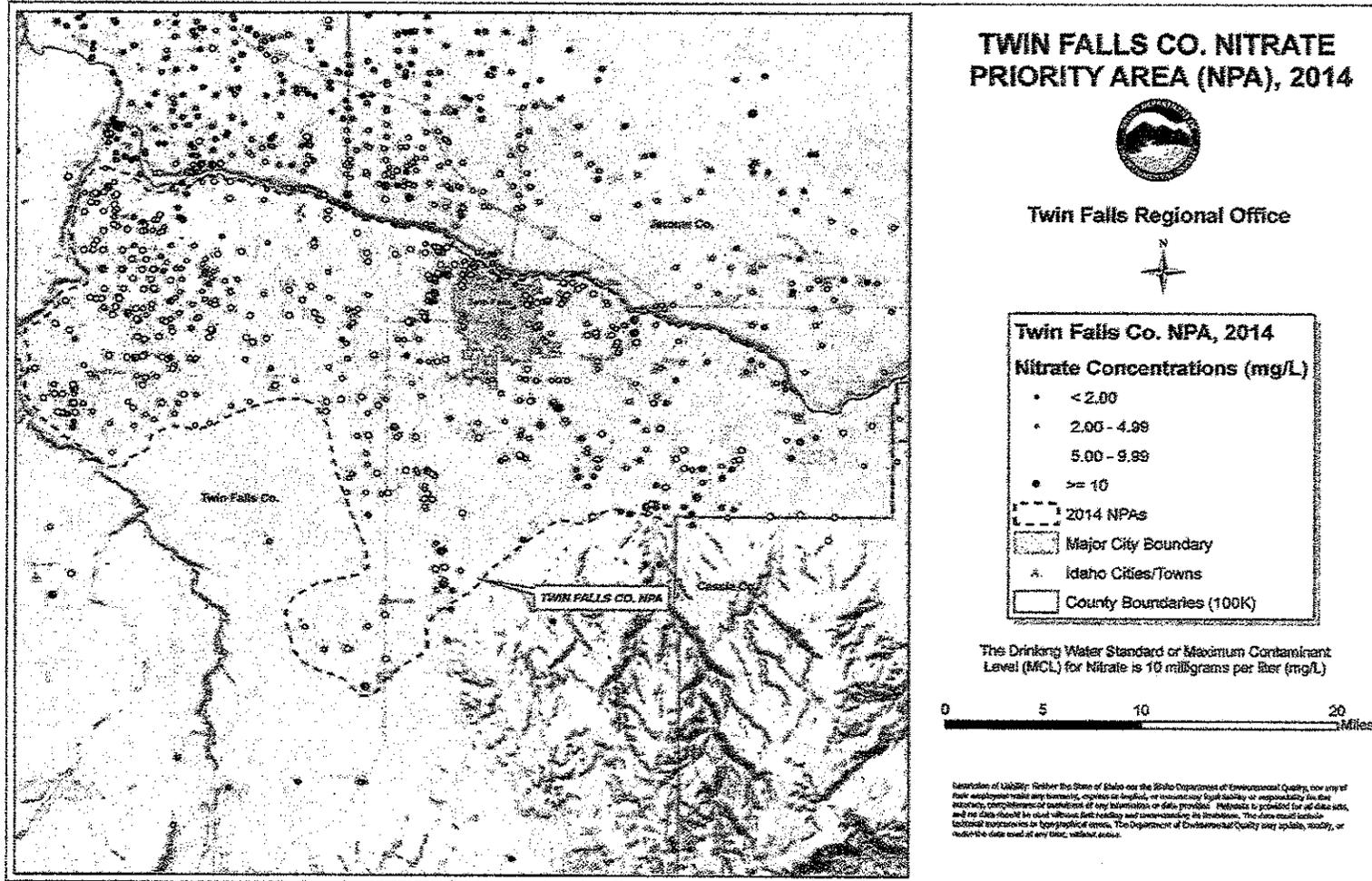


Figure 3. 2014 ranked nitrate priority areas.





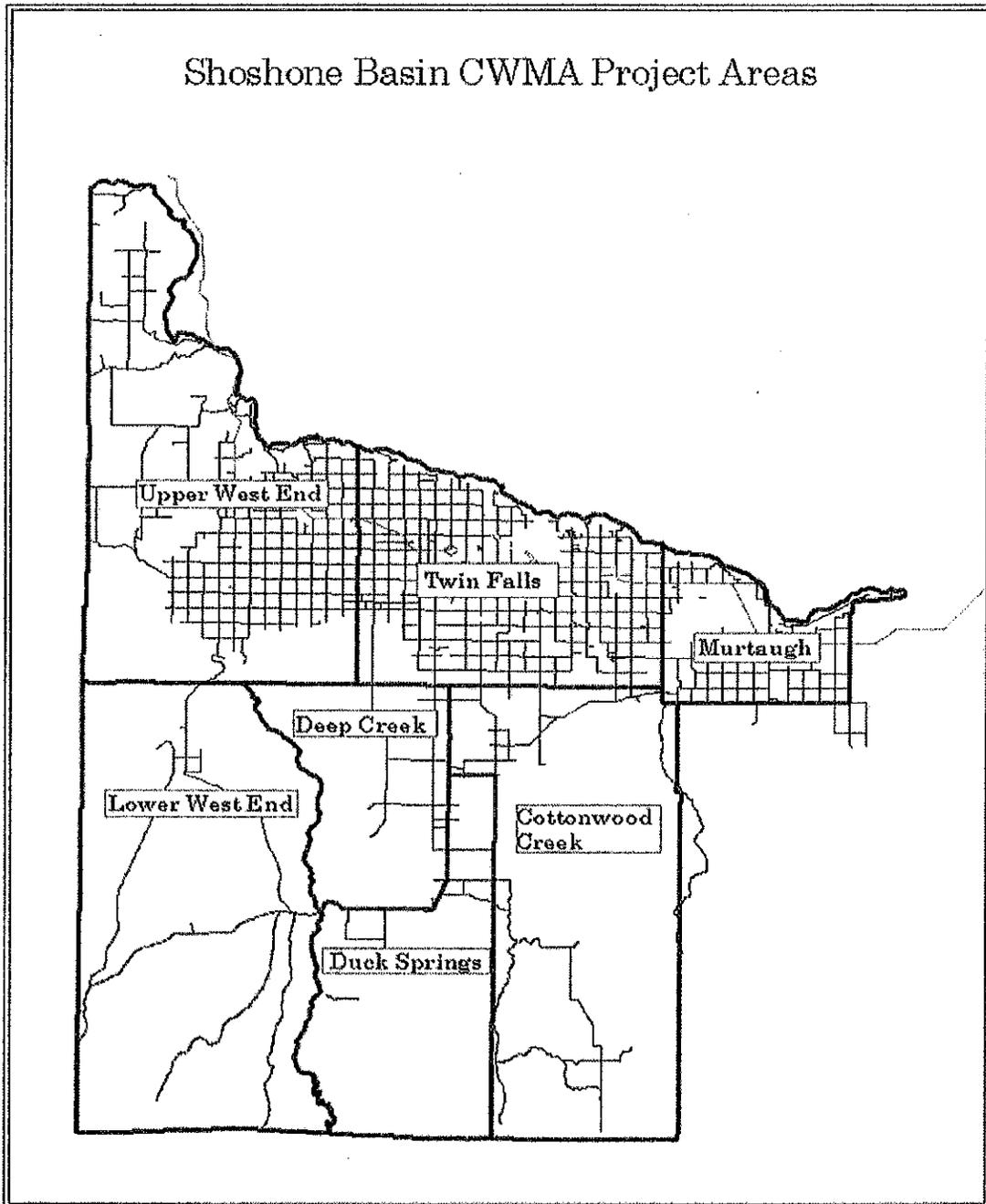
2014 Twin Falls NPA Summary		Dairies*	SWA + PWS**
Number of Sampled Sites	618		
Minimum Nitrate Value (mg/L)	0.01		
Maximum Nitrate Value (mg/L)	41.00		
Middle Nitrate Value (mg/L)	4.80		
Average Nitrate Value (mg/L)	5.18		
Number of Sites less than 2 mg/L	78		
Percent of Sites less than 2 mg/L	12.62		
Number of Sites greater than or equal to 2 mg/L	540		
Percent of Sites greater than or equal to 2 mg/L	87.38		
Number of Sites greater than equal to 2 mg/L but less than 5 mg/L	252		
Percent of Sites greater than equal to 2 mg/L but less than 5 mg/L	40.78		
Number of Sites greater than or equal to 5 mg/L	288		
Percent of Sites greater than or equal to 5 mg/L	46.60		
Number of Sites greater than equal to 5 mg/L but less than 10 mg/L	253		
Percent of Sites greater than equal to 5 mg/L but less than 10 mg/L	40.94		
Number of Sites greater than or equal to 10 mg/L	35		
Percent of Sites greater than or equal to 10 mg/L	5.66		
Number of Public Water Systems	48		88
Number of Source Water Delineated Areas Intersecting NPA	40		
Sites sampled by DEQ	152		
Sites sampled by IDWR	100		
Sites sampled by the U.S.G.S.	45		
Sites sampled by ISDA	273	99	
Population within NPA, based on 2010 Census	76,284		

*Included with ISDA sampled sites

**Sum of Source Water Delineations intersecting a NPA and the number of Public Water System Sources within a NPA

Priority Area Number: 21		Priority Area Name: Twin Falls		
Ranking Criteria			Score	Comments
1) POPULATION				
	Points	Select One		
a) Within Degraded Area				
<1000	1			
1000 to 10,000	2			
>10,001	3	x	3	76,284
		Subtotal	3	
b) Source Water Protection Areas or Public Water System wells in Priority Area				
0	0			
1 to 20	1			
21 to 40	2			
>40	3	x	3	88
		Subtotal	3	
c) Number of Wells with NO₃ ≥ 10 mg/L				
0	0			
1 to 5	1			
6 to 20	2			
21 to 40	3	x	3	35
>40	4			
		Subtotal	3	
		Population Score Total	9	
		Max Possible Score = 10		
2) WATER QUALITY				
	% wells	Nitrate Concentration Criteria		
Percent of wells with NO ₃ ≥ 2 mg/L	0.87	2	1.74	
Percent of wells with NO ₃ ≥ 5 mg/L	0.47	5	2.35	
Percent of wells with NO ₃ ≥ 10 mg/L	0.06	10	0.60	
		Water Quality Total	4.69	
3) WATER QUALITY TRENDS				
		Select One		
Increasing Trend	10.0			
Increasing Tendency	7.5			
No Discernable Trend	5.0			
Decreasing Tendency	2.5			
Decreasing Trend	0	x	0	
		Trend Score	0	
4) OTHER BENEFICIAL USES				
Other beneficial uses are impaired	1	Yes=1 No=0	0	
		Beneficial use score	1	Aquaculture
		Max Possible Score = 1		
		Total Score	14.69	

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.

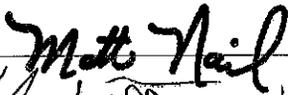
Twin Falls – West boundary is 1800 East road, North boundary is the Snake River Canyon, East boundary 3800 East road, and the South boundary line is 3000 North road.

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.

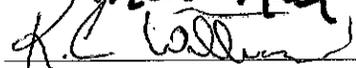
Certificate of Adoption

We, the elected Board of Supervisors of the Snake River Soil and Water Conservation District, this 9th day of March 2015, do hereby approve the following document known as the Annual Plan/Five-Year Resource Conservation Business Plan of the Snake River Soil and Water Conservation District. This plan will be in effect for a five-year period ending June 30, 2020, at which time it will be updated or amended annually as necessary.

As evidence of our adoption and final approval, we do hereby affix our signatures to this agreement.



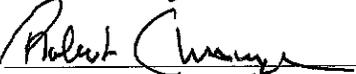
Matt Nail, Chairman



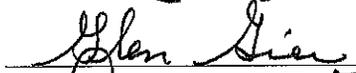
KC Williams, Vice-chairman



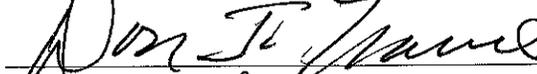
Dave Sommer, Secretary/Treasurer



Rob Champlin, Member



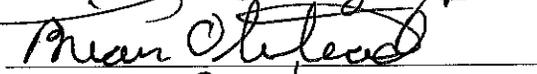
Glen Gier, Member



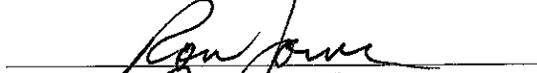
Don Norris, Member



Dave Ramseyer, Member



Brian Olmstead, Associate Member



Ron Jones, Associate Member



Roy Jesser, Associate Member

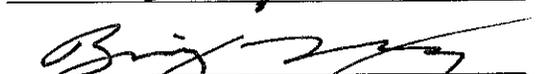
Cooperating Agencies



Steve Schuyler, USDA NRCS



Chuck Pentzer, ISCC



Benjamin Kelly, IASCD



**Snake River Soil and Water Conservation District
Annual Resource Conservation Plan
March 9, 2015**

Snake River Soil and Water Conservation District

The Snake River Soil and Water Conservation District follows the Snake River through Twin Falls County from the eastern county line to Filer. The cropland is primarily surface irrigated and is part of the Twin Falls Canal Company tract. Irrigation-induced soil erosion is a primary resource concern for the District. A few large dairies have moved into the District, but the majority of cooperators are crop farmers. A growing resource concern is the number of small acreages and subdivisions that are encroaching into agricultural land. To reach these non-traditional cooperators, the District puts an emphasis on the annual poster contest and celebrating National Soil and Water Stewardship week.

Our top accomplishments in FY 2015

1. Met with USDA Agricultural Research Service scientists to discuss nitrate concerns and best management practices to stabilize nitrate in the soil profile.
2. Participated in a field day as part of the 2015 main demonstration site of the Multi-Species Cover Crop Demonstration site that was attended by more than 40 people.
3. Co-sponsored a booth at the Twin Falls County Fair in September 2014. This was part of the Ag Pavillion.
4. Enrolled two cooperators in the Twin Falls Nitrate Priority Area Cooperative Conservation Partnership Initiative in conjunction with the Balanced Rock and Twin Falls conservation districts.
5. Hosted a wetlands field day for 5th grade students in addition to the Harrington Fork environmental education day.

Our top priorities for FY 2016

1. Work with small landowners to reduce the potential for surface and ground water contamination through educational events such as the Home & Garden Show and 2016 UI Twilight Tour.
2. Educate cooperator about soil health practices.
3. Sponsor a manure/compost field day with the University of Idaho.
4. Continue to help cooperators adopt more intensive nutrient and irrigation water management practices through the Twin Falls Nitrate Priority Area Cooperative Conservation Partnership Initiative.
5. Participate in the Ag Pavillion when it is at the Twin Falls County Fair again in 2015. This is a chance to reach out to small acreage and other rural homeowners about the role of conservation districts.

If the Snake River SWCD received additional funding, supervisors would:

1. Help Twin Falls Canal Co. install and manage pumpback systems throughout the tract.
2. Help purchase more conservation easements.
3. Provide cost-share to help convert the LS/LQ area to gravity pressurized irrigation systems.
4. Enhance wildlife habitat at constructed wetlands.
5. Provide assistance to small scale wind power development.
6. Reduce administration costs to put more dollars on the ground for conservation efforts.

Snake River Soil and Water Conservation District
Serving southern Twin Falls County and Legislative District 24 and 25
For more information contact Matt Nail, chairman, at 733-5380 ext. 3

Mission

To assist land owners and operators to intensively manage irrigated crop and pasture land.

Trends Impacting Conservation

The District has aggressively sought federal 319 grant dollars to develop constructed wetlands on critical irrigation return drains, and plans to continue that work while also developing water-related projects with the City of Twin Falls. Supervisors believe it is important to continue to work with agricultural land owners and operators, while expanding outreach efforts to urban and small rural landowners.

The Snake River SWCD includes the fast-growing cities of Twin Falls as well as Kimberly and Filer. Urban issues are becoming increasingly important for the District—not just within the rural-urban interface but also within city limits. The Snake River SWCD is working with the Balanced Rock and Twin Falls conservation districts to form an urban initiative to address these urban issues throughout Twin Falls County, but particularly issues facing the City of Twin Falls.

Projects Planned, Coordinated or Managed

- Twin Falls Nitrate Priority Area CCPI.

Funding Sources for District Operations and Projects

- Anticipated funds — \$8,000 from Twin Falls County and \$18,000 from the State of Idaho.
- Anticipated funds — \$800 Capacity Building Grant from ISWC

**Snake River Soil and Water Conservation District
Resource Conservation Plan
July 1, 2015 to June 30, 2016**

Priority #1 – Soil Health

Goal: Encourage wider adoption of conservation practices that increase soil health and reduce erosion (both wind and water) potential.

Objective:

Promote practices that improve soil health to allow soils to be more productive and sustainable.

Action:

- Encourage use of conservation tillage practices.
- Identify applicable loan and grant programs.
- Educate landowners about irrigation scheduling and irrigation water management.
- Educate cooperators about the requirements of the Conservation Stewardship Program.
- Educate cooperators about using enhanced nutrient and irrigation management practices to minimize nutrient leaching (especially nitrates) into drinking water sources.
- Administer the proposed Twin Falls Nitrate Priority Area CCPI.

Target Date:

Annually
Annually
Annually
Annually
Annually
Annually

Leader:

S. Schuyler
M. Nail
S. Schuyler
S. Schuyler
M. Cothorn
M. Cothorn

Objective:

Encourage wider adoption of soil health practices that will also reduce wind erosion potential.

Action:

- Encourage use of management practices such as cover crops, conservation tillage and wind-breaks.
- Work with the Twin Falls SWCD to administer the Multi-Species Cover Crop Demonstration Project.
- Educate landowners about the state's crop residue management program and alternatives to field burning.
- Cooperate with Balanced Rock through its no-till/cover crop CIG.

Target Date:

Annually
July to June
Summer/fall
Annually

Leader:

S. Schuyler
C. Snyder
C. Snyder
S. Schuyler
C. Snyder

**Snake River Soil and Water Conservation District
Resource Conservation Plan
July 1, 2015 to June 30, 2016**

Priority #2 — Water Quality

Objective: Meet rules & regulations of section 319 of the Water Quality Act, the 1986 Safe Drinking Water Act and Amendments to the 1972 Clean Water Act, Anti-Degradation Section.

Goal:

Help cooperators reach sediment target of 52 mg/L sediment load to the Snake River.

Action:

- Work with the City of Twin Falls to develop localized pressurized irrigation systems.
- Provide assistance for the Mid-Snake River TMDL
- Identify applicable loan and grant programs.
- Collect baseline water quality data for constructed wetlands.
- Encourage use of polyacrylamide and other BMPs on surface irrigated fields.
- Encourage conversion to sprinkler irrigation where feasible.
- Explore possibility and feasibility of drip irrigation.
- Continue to explore potential sites for constructed wetland sites.
- Administer the Twin Falls Nitrate Priority Area Cooperative Conservation Partnership Initiative.
- Work with TFCC to identify future locations for 319 wetland projects.
- Promote Conservation Stewardship Program.
- Work with the Twin Falls Canal Co. to enhance the A-10 wetland complex.

Target Date:

- Annually
- Summer 2015

Leader:

- B. Olmstead
- B. Olmstead
- S. Schuyler
- B. Olmstead
- S. Schuyler
- B. Olmstead
- M. Nail
- B. Olmstead
- M. Cothorn
- C. Snyder
- S. Schuyler
- B. Olmstead

Goal:

Improve water quality in Rock Creek.

Action:

- Secure additional funding for water quality projects along Rock Creek.
- Target educational message to small acreage owners in the Rock Creek area.

Target Date:

- Annually
- Annually

Leader:

- S. Schuyler
- C. Snyder

**Snake River Soil and Water Conservation District
Resource Conservation Plan
July 1, 2015 to June 30, 2016**

Priority #3 – Groundwater Protection

Goal: Reduce potential for contamination from agricultural land and small acreages to ground water.

Objective:

Reduce potential for nitrate contamination to drinking water sources.

Action:

- Develop an outreach project to help educate small acreage and other rural land owners about strategies they can use to help reverse the trend toward increasing nitrate levels in ground water.
- Work more closely with the Twin Falls Groundwater Committee.
- Administer the Twin Falls Nitrate Priority Area CCPI.
- Work with ARS and UI soil scientists to develop better practices for managing soil nitrate.

Target Date:

- Annually
- Annually
- Annually
- Annually

Leader:

- C. Snyder
- C. Pentzer
C. Snyder
M. Cothorn
- D. Ramseyer

Objective:

Implement pasture land renovation and management on small acreages surrounding Twin Falls.

Action:

- Establish riparian zones in vulnerable areas.
- Establish permanent pastures in shallow, steep areas.
- Include information about pasture management in district newsletter.

Target Date:

- Annually
- Annually
- Annually

Leader:

- K. Williams
- K. Williams
- C. Snyder

**Snake River Soil and Water Conservation District
Resource Conservation Plan
July 1, 2015 to June 30, 2016**

Priority #4 — Animal Waste Management

Objective: Protect soil productivity as well as both surface and groundwater quality through proper use of animal waste resources.

Goal:

Help ensure nutrient management plans are followed.

Action:

- Educate dairies about crop rotation, soil tilth and crop nutrient needs.
- Educate non-dairies about requirements of accepting dairy waste and following nutrient management plan.
- Work with producers to optimize nutrient and irrigation water management to minimize nutrient leaching.
- Explore feasibility of touring new digester system located within the district.
- Educate dairies and crop producers about new state and county regulations concerning animal waste storage, hauling and application.
- Administer Twin Falls Nitrate Priority Area CCPI.
- Work with ARS and UI to sponsor a manure/compost workshop.

Target Date:

- Annually
- Annually
- Annually
- Fall 2014
- Annually
- Annually
- Summer 2015

Leader:

- M. Nail
- M. Nail
C. Snyder
- M. Nail
- C. Snyder
- D. Norris
- M. Cothorn
- C. Snyder

Goal:

Locate animal feeding operations in proper sites.

Action:

- Provide information to the Twin Falls County Planning and Zoning Administration regarding siting issues.
- Provide technical assistance to other CAFO owners who are subject to new state rules.

Target Date:

- Annually
- Annually

Leader:

- M. Nail
- S. Schuyler

**Snake River Soil and Water Conservation District
Resource Conservation Plan
July 1, 2015 to June 30, 2016**

Priority #5 – Urban

Goal: Promote wise use of land resources during period of high growth in Twin Falls County.

Objective:

Minimize effects of urban sprawl into prime farmland.

Action:

- Educate small acreage owners about best management practices for protecting soil and water resources.
- Look into impacts of urban sprawl to Eastern Snake Plai Aquifer.
- Educate new-to-the-country landowners about modern agricultural practices.
- Educate landowners and land planners about water quality and quantity issues that arise when ag land is converted to subdivisions.
- Recruit small acreage and urban/suburban landowners to join SWCD Board.
- Approach cities within district about interest in joining the district.
- Work with City of Twin Falls on localized pressurized irrigation systems.
- Promote conservation easements.
- Work with developers and bankers to clean up subdivisions that has not yet been developed to control weeds and reduce soil erosion caused by both wind and water.

Target Date:

Annually

Annually

Annually

Annually

Annually

Annually

Annually

Annually

Annually

Leader:

C. Snyder

D. Ramseyer

R. Champlin

B. Olmstead

M. Nail

R. Champlin

B. Olmstead

D. Ramseyer

G. Gier

Goal:

Educate urban dwellers about soil and water conservation.

Action:

- Sponsor poster and speech contests through the Murtaugh, Kimberly, Hansen and Twin Falls school districts.
- Maintain and upgrade district website.
- Provide scholarship to students who volunteer for the District or attend NRC.
- Participate in the 2016 Home and Garden Show and the 2016 UI Twilight Tour to share nutrient management/water quality information.

Target Date:

Fall & Spring

Annually

Annually

Winter/Spring 2016

Leader:

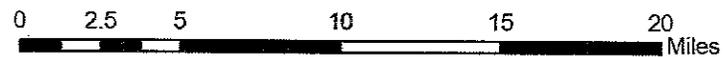
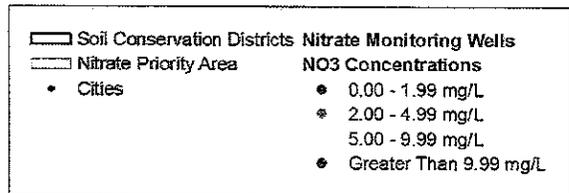
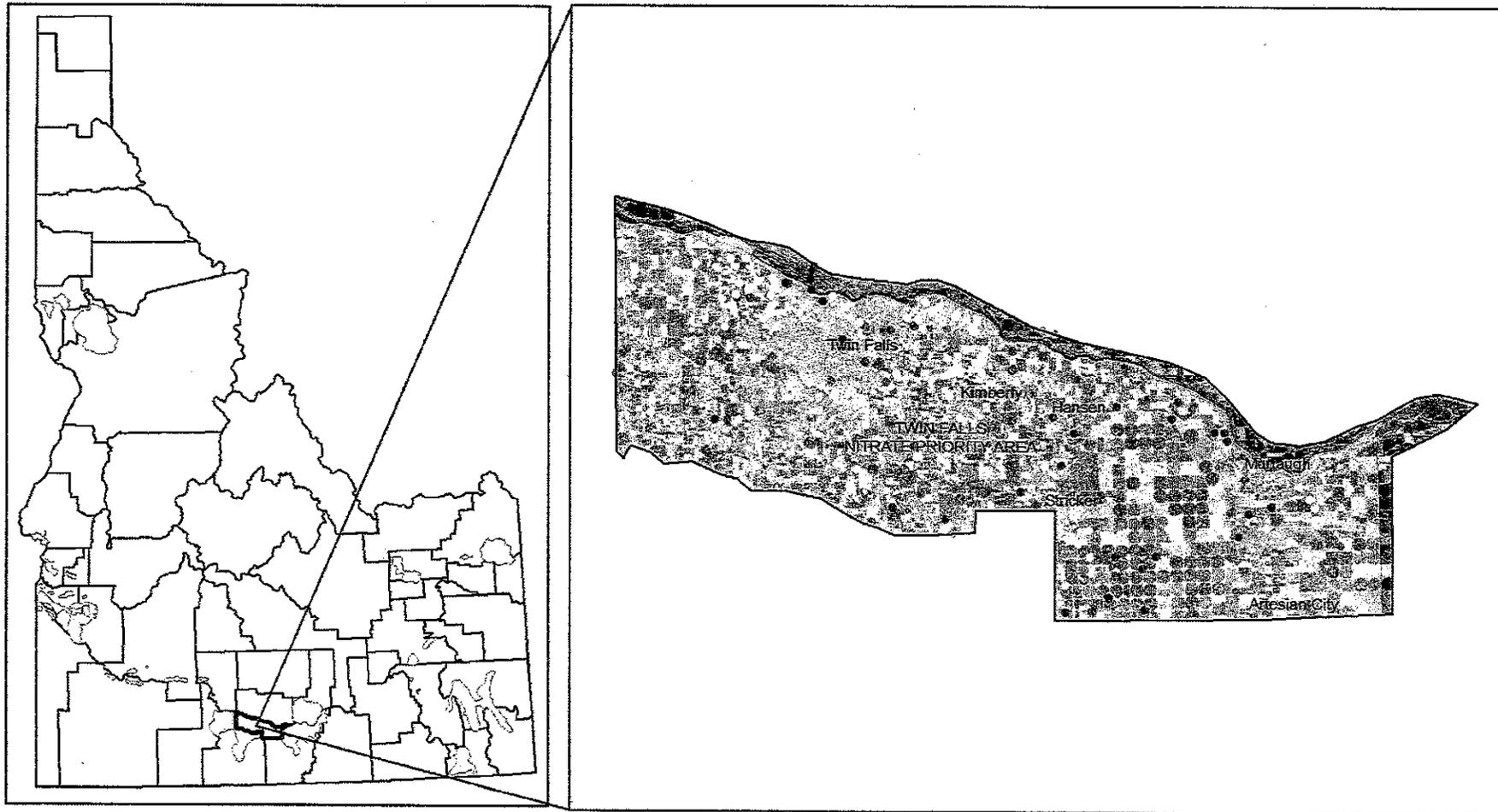
C. Snyder

C. Snyder

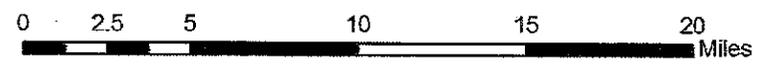
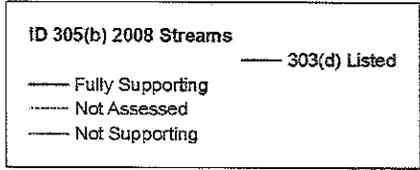
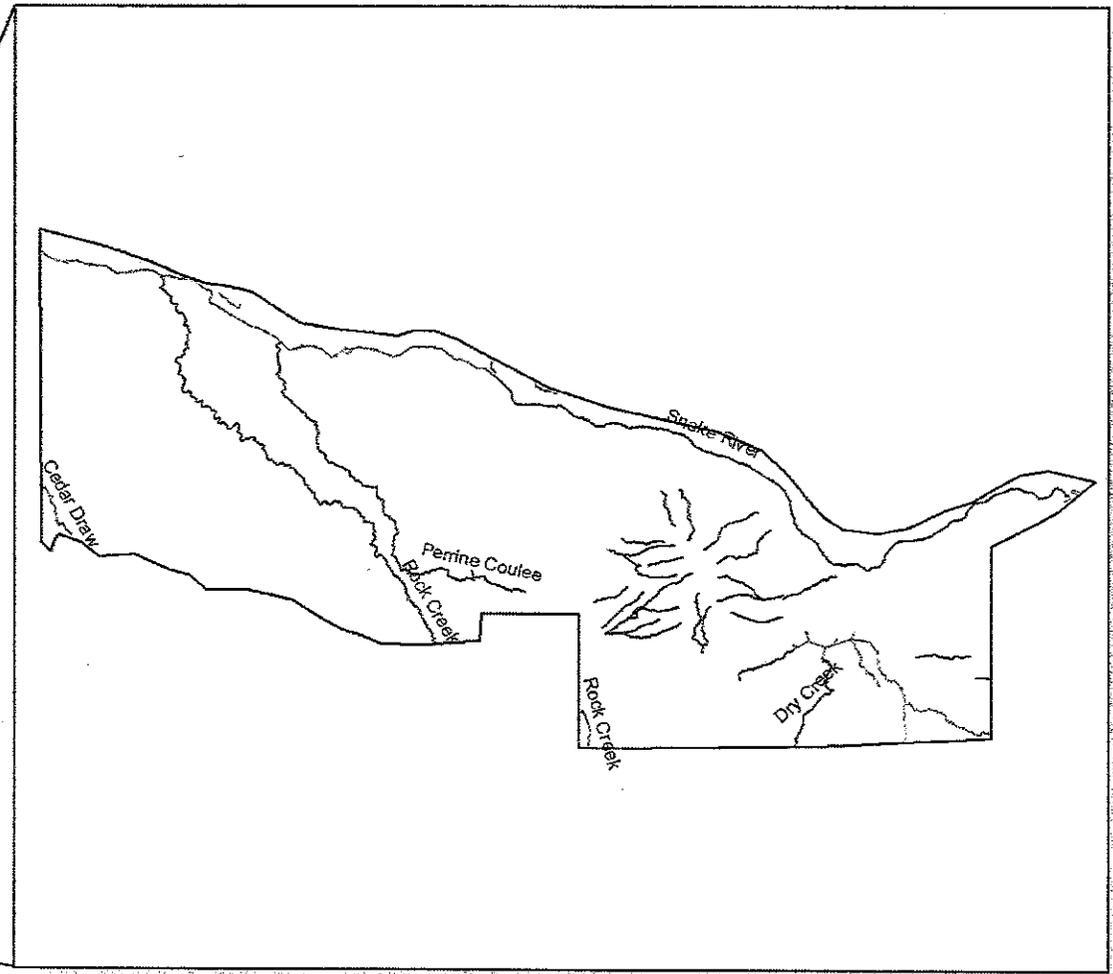
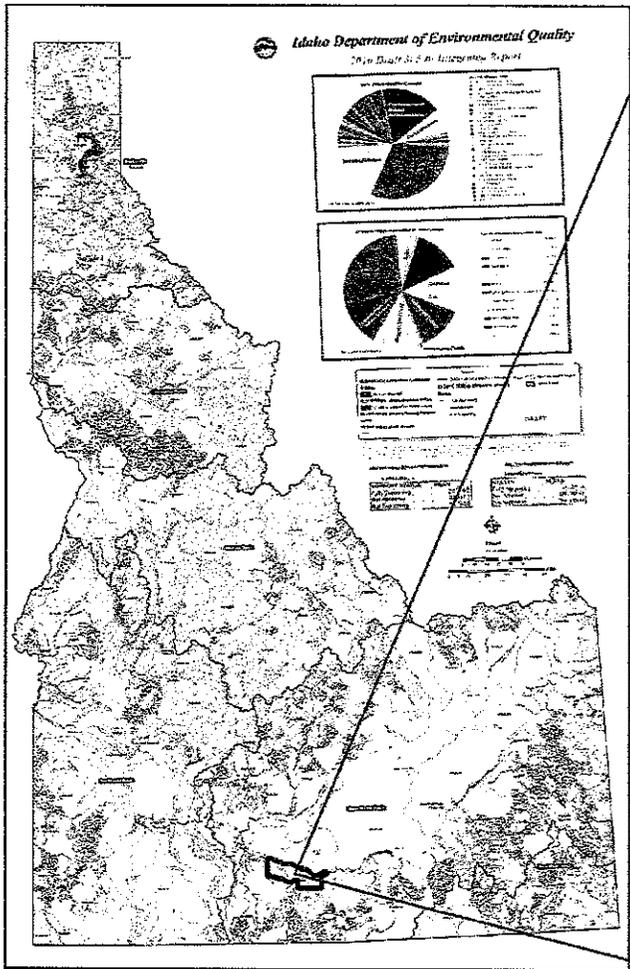
M. Nail

C. Snyder

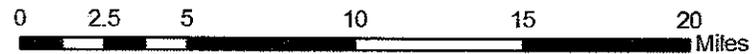
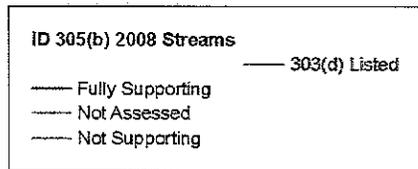
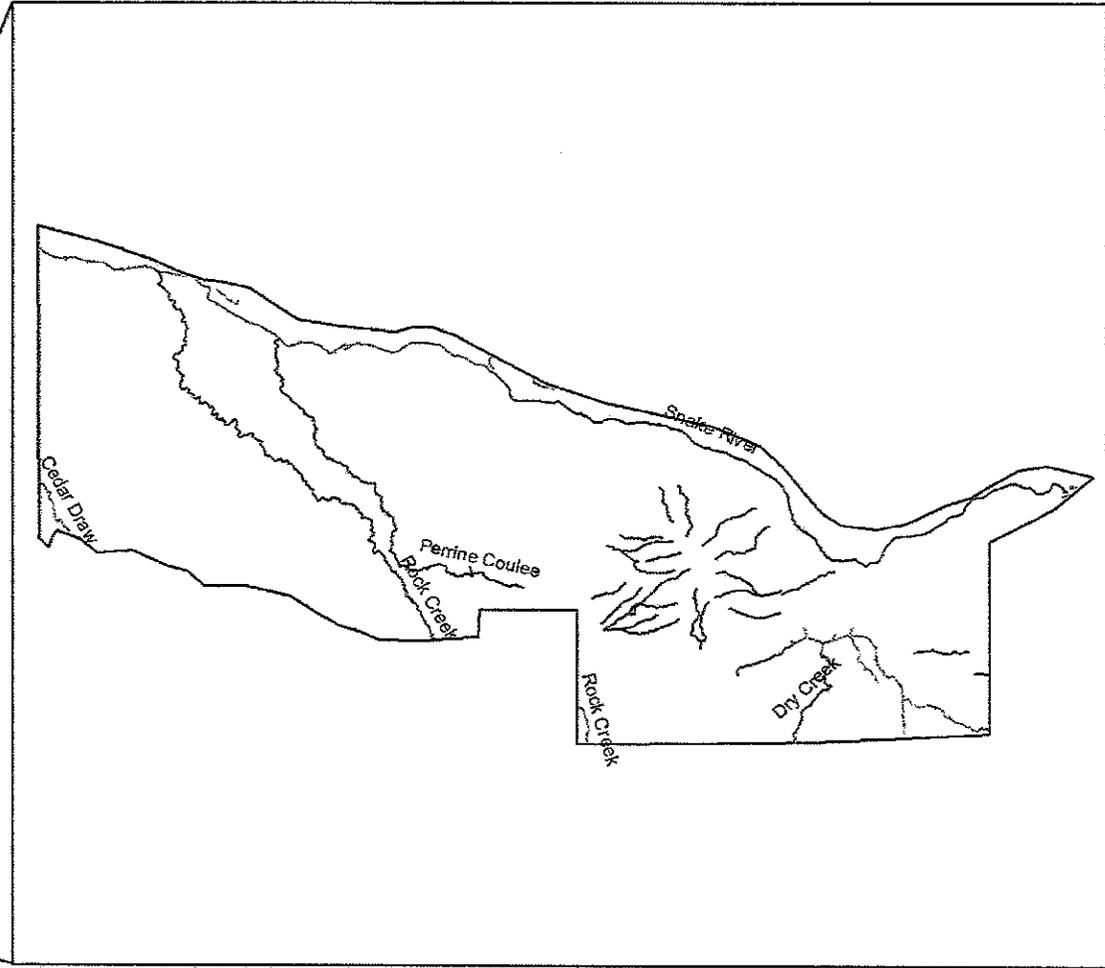
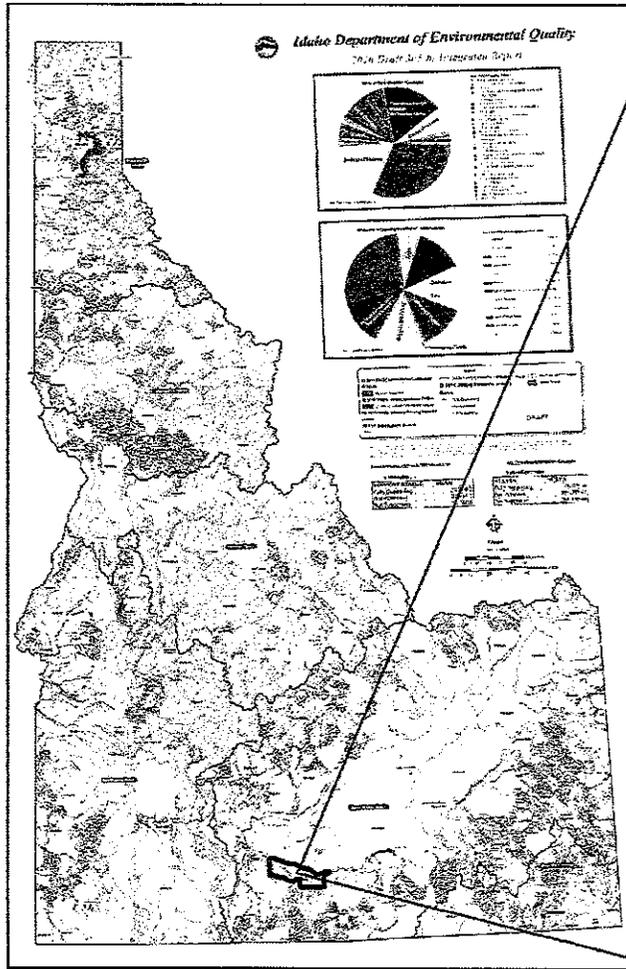
Snake River Soil and Water Conservation District Nitrate Priority Areas

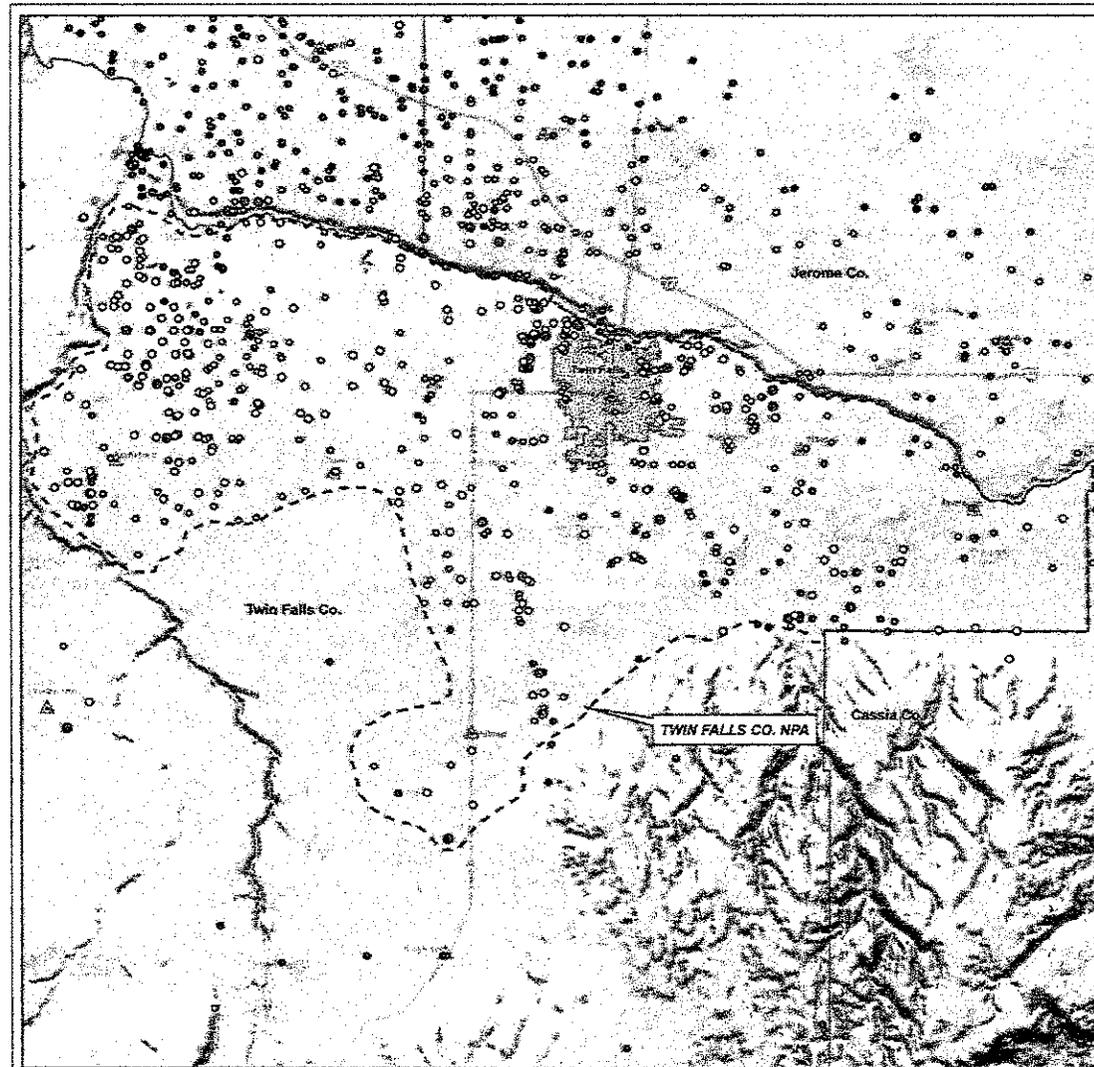


Snake River Soil and Water Conservation District 303(d)/305(b) Listed Waterbodies



Snake River Soil and Water Conservation District 303(d)/305(b) Listed Waterbodies

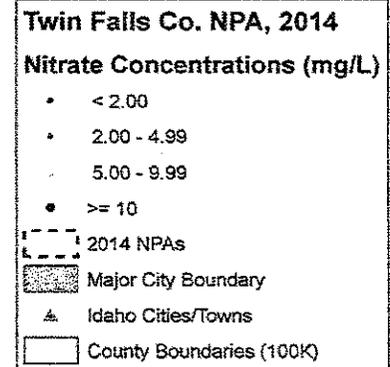




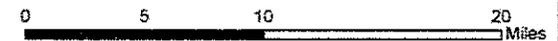
TWIN FALLS CO. NITRATE PRIORITY AREA (NPA), 2014



Twin Falls Regional Office



The Drinking Water Standard or Maximum Contaminant Level (MCL) for Nitrate is 10 milligrams per liter (mg/L)



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**IDAHO SOIL & WATER
CONSERVATION COMMISSION**

**FIVE-YEAR (5) PLAN and
ANNUAL WORK PLAN
CERTIFICATION**

DISTRICT: Snake River Soil & Water
Conservation District

FOR FISCAL YEAR:

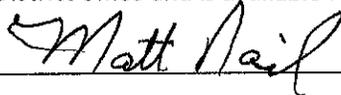
FY 2016

DUE : March 31, 2015

CERTIFICATION

On behalf of my local Board of Supervisors, I hereby certify that the attached Five-Year (5) Plan and Annual Work Plan is true and accurate, and further submit said Plan for the above named District and fiscal year.

A copy of this Five-Year (5) Plan and Annual Work Plan shall be kept at the District office and is available for public inspection.



Board Supervisor Signature

Matt Nail

Printed Name

March 9, 2015

Date

208-733-5380 ext. 123

Telephone

deeannscott@cableone.net

District Email Address

FOR SWC USE ONLY:

DATE OF CONFIRMATION:
