BENEWAH SOIL & WATER CONSERVATION DISTRICT

FIVE YEAR RESOURCE CONSERVATION PLAN

JULY 1, 2010 – JUNE 30, 2015

Updated for FY 2014

Benewah Soil & Water Conservation District
900 E Street – P.O Box 488
Plummer, ID 83851

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FORWARD

The Benewah Soil & Water Conservation District is one of 50 Conservation Districts in Idaho. Idaho Soil and Water Conservation Districts are political subdivisions of state government but are not state agencies. Conservation Districts are charged with carrying out a program for the conservation, use and development of soil, water, and other natural resources.

Conservation Districts are the primary entities to provide assistance to private landowners and land users in the conservation, sustainment, improvement and enhancement of Idaho's natural resources. They are catalysts for coordinating and implementing conservation programs, channeling expertise from all levels of government into action at the local level. Programs are non-regulatory; science-based technical assistance, incentive–based financial programs and informational and educational programs at the local level.

Both by legislation and by agreement the USDA Natural Resources Conservation Service provides technical assistance to landowners and land users through Conservation Districts. Each Conservation District in Idaho has a signed Mutual Agreement with the Secretary of Agricultural and the Governor of Idaho that establishes a framework for cooperation.

This Annual Plan/Five-Year Resource Conservation Business Plan was developed not only to guide the Conservation District, 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 Benewah Soil and Water Conservation District.

This document identifies the resource needs in the Conservation District and presents a resource conservation action plan for meeting these needs.

Certificate of Adoption

The Board of elected supervisors of the Benewah Soil and Water Conservation District this ____ day of March, 2013, do hereby approve the following document known as the Resource Conservation Business Plan. This Plan will be in effect for a five-year period ending June 30, 2015, during which time it will be updated annually and/or amended, as necessary.

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

_____
Billie Brown, Chairman

_____
Richard Morrison, Vice Chairman

_____
Larry Cooke, Member

_____

_____

Supporting Idaho Conservation Partners (As applicable)

_____ Natural Resources Conservation Service

_____ Soil & Water Conservation Commission

_____ Idaho Association of Soil Conservation Districts

PHYSICAL CHARACTERISTICS

The Benewah SWCD, located in the Panhandle of Idaho, encompasses and serves all of Benewah County. The SWCD also contains the southern portion of Shoshone County, primarily south of the divide between the Coeur d'Alene and St. Joe River watersheds. The District is bordered by Washington on the west and Montana to the east. The Benewah SWCD totals about 1,566,350 acres; about 2/3 of the district lies within Shoshone County. The largest communities are St. Maries, with a population of about 2,650 and Plummer with close to 1,000 residents.

As illustrated in **Attachment 2**, lands within the SWCD are managed by multiple entities:

Private	598,970 acres
Tribal	49,160 acres
State of Idaho	91,750 acres
Idaho Fish and Game	2,790 acres
State Parks	8,600 acres
US Forest Service	777,670 acres
Bureau of Land Management	36,710 acres

Land cover is shown in **Attachment 3**.

Forest	1,087,490 acres
Shrub/Range/Transitional Forest	380,170 acres
Cropland	56,225 acres
Grassland	13,560 acres
Wetlands	11,170 acres
Developed	10,990 acres
Open Water	6,290 acres
Hay/Pasture	370 acres

Distribution of private lands by land cover type is listed in **Attachment 3**:

Forest	370,355 acres
Shrub/Range	167,190 acres
Cropland	30,860 acres
Grassland	10,105 acres
Wetlands	9,310 acres
Developed	7,390 acres
Hay/Pasture	235 acres

Tribal land distribution by land cover type is listed in **Attachment 3**:

Forest	18,475 acres
Shrub/Range	3,020 acres
Cropland	25,165 acres
Grassland	630 acres
Wetlands	460 acres
Developed	1,855 acres

Topography consists of rugged forested mountains to the east with narrow valleys that open within the hilly terrain of the west. The gentle hills and prairie lands of the western region are part of the "Palouse" region and contain the most productive farmland. Elevations range from 7,000 foot peaks in the east to 2,128 feet at Lake Chatcolet, the outlet for the St. Joe River. Headwaters for the St. Joe River are along the forested western slopes of the continental divide on the easternmost edge of the Benewah SWCD. The St. Maries River joins the St. Joe River at the town of St. Maries. The St. Joe River continues to flow across a broad flood plain in route to Lake Chatcolet, at the southern end of Lake Coeur d Alene.

Climate is somewhat humid. Most precipitation occurs from late fall till early spring; summers are warm and dry. Yearly snowfall is much heavier within the mountainous eastern half of the SWCD than in the rolling countryside further west. From west to east, annual precipitation averages range from 20 inches to 65 inches.

DISTRICT ECONOMIC CONDITION AND OUTLOOK

The Benewah Soil and Water Conservation District encompasses all of Benewah County and the southern portion of Shoshone County. Location of Benewah SWCD in the State of Idaho is shown on **Attachment 1**. The Benewah SWCD totals about 1,566,350 acres. Economic and population information for both Benewah County and Shoshone County is shown in **Attachment 5**.

Benewah County

Benewah County experienced fairly strong population growth in the early 1990s. Its rural lifestyle and great hunting and fishing opportunities persuaded many people to move there. Then the county stagnated during and after the 2001 recession before growth resumed from 2004 to 2008 as more retirees discovered its attractions. The recession reversed that. Population declined from 9,385 in 2008 to 9,285 in 2010. From 2000 to 2010, the county's population grew 1.2 percent despite the decline in late 2010. The state grew 20 percent and the nation 9.5 percent. The county seat, St. Maries, had a population of 2,402 in 2010 while Plummer had a population of 1,044 and Tensed 123.

Benewah County's economy remains heavily dependent on forest products. Over one in six jobs is in the forest products industry. Until 2004, the county had only 60 jobs in manufacturing outside forest products. But in 2006, the Coeur d'Alene Tribe purchased Berg Integrated Systems and moved it to Plummer, where it employed about 100 people. Since then, Berg built and moved to a larger facility in Post Falls and Ground Force, an international manufacturer of mining support equipment, expanded its operations into the old Berg plant in Plummer, where it continues to grow. Despite the county's beauty and outdoor recreational opportunities, tourism employs just 150. Dependence on forest products makes the county vulnerable to high unemployment particularly following the collapse of the housing industry. Since 2006, extremely low lumber prices have reduced employment. However, lumber prices were on the rise in 2009 and have continued to increase.

Shoshone County

The southern half of Shoshone County is included within the boundary of the Benewah Soil and Water Conservation District. After devastating mine and smelter closures, Shoshone County's population fell 28 percent in the 1980s. In the 1990s, the population declined slightly. Increasingly some Silver Valley towns became bedroom communities for the Coeur d'Alene area. From 1997 to 2007, the population fell 9 percent from 14,051 to 12,838, while Idaho's population grew 22 percent and the U.S. population grew 11 percent. With its economic outlook brighter, offering job opportunities for young adults, and many retirees choosing to move there, the county's population should grow at a fair clip during the next few years. The county seat, Wallace, has a population of 880. The largest cities are Kellogg, population 2,230; Pinehurst, 1,560; and Osburn, 1,390.

In comparison to Benewah County, Shoshone County has little agricultural base. Where there has been a slight agricultural land increase in Benewah County, farms and acreage have decreased dramatically in Shoshone County over the same time period (1997-2007).

DISTRICT RESOURCE ASSESSMENT AND CURRENT TRENDS AND NEEDS

- **Cropland**

According to the Idaho Department of Commerce figures, there are approximately 92,295 acres of land in Benewah County that attribute to agriculture. Individual farm sizes vary from small units of ten acre pieces to ownerships involving several thousand acres. Many small farms are leased and farmed by the larger farm operations. A large segment of Benewah County cropland is owned or operated by the Coeur d' Alene Tribe. Privately owned Indian and Tribal Lands are held by the Federal Government in trust, and administered by the Department of Interior, Bureau of Indian Affairs, and presently leases individual and Tribal lands to the Tribal Farm Enterprise and other reservation area farmers. The Coeur d' Alene Tribe manages these lands. A Memorandum of Understanding exits between the Benewah Soil and Water Conservation District and the Coeur d' Alene Tribe. The Coeur d' Alene Tribe employs a full time conservationist and assumes full responsibility for conservation practices applied to Indian owned lands, which they administer. Some private Indian operators have entered into cooperative agreements with the Benewah Soil and Water Conservation District.

The majority of the croplands lie adjacent to four major creeks, which drain the western one-third of Benewah County. These lands consist largely of cutover forestland with lesser amounts being prairie-developed soils. The remainder of the cropland is bottomland and bench land lying adjacent to the major rivers and streams in the northern and eastern portion of the county. Actual cropland acreages fluctuate slightly annually due to land use changes through development or conservation from woodland.

The peat soils, on the floodplains of the St. Joe and St. Maries Rivers, are devoted primarily to the production of oats, hay and pasture. The bench land, mostly cutover woodland, is planted to grasses and legumes for pasture and hay with a small amount of grains. Major crops in the west portions of Benewah County consist of winter and spring wheat, lentils, dry peas, barley, oats, and grass seed. Some hay is also produced in this area. Experimental plantings of rape, sunflowers, Austrian winter peas and Timothy have been tested. Although these lesser crops have achieved successful production, the non-availability of markets limit expanded production. Eighteen to twenty six inches of annual precipitation and generally favorable growing and harvesting seasons favor this type of agriculture. These conditions allow for annual cropping with moderate to excellent yields. Individual yields often depend on fertilizer application, varieties of seed and individual management practices.

- **Noxious Weeds**

The following are declared to be noxious and undesirable weeds that are detrimental and destructive to agricultural interests in Benewah County. (Benewah County Noxious Weed List)

Quackgrass, Canada Thistle, Perennial Sowthistle, Whitetop, St. Johnswort, Russian and Spotted Knapweed, leafy Spurge, Silverleaf Nightshade, Austrian Field Cress, Perennial Ground Cherry, Camelthorn, Tansy, Skeleton Weed, Bindweed, Dalmation Toadflax, Creeping Rag Weed, Syrian Bean Caper, Austrian Pea Weed and Hawkweed.

Significant infestations of quackgrass become established in sod waterways and roadsides. These infestations enter into seed grass fields and shorten the life established seed grass stands. Some foreign seed markets are not available to Benewah County grass growers due to the zero tolerance of quackgrass seed in bluegrass and fescues.

Canada Thistle and Whitetop infestations are severe in wheat stands and reduce yields. This is predominant in areas that remain wet late in the season where early applications of herbicides are not effective.

Since 1977, severe infestations of yellow flower hawkweed have invaded grazing areas in the central portions of the County. These infestations have affected the growth of desirable pasture type grasses and have damaged grass hay quality.

The number of species and severity of noxious and undesirable weeds has made the use of no-till cropping in the Benewah area a questionable alternative conservation practice to many operators.

- **Forestlands**

The forested area lies mostly in the eastern two-thirds of the District and is bisected by two main watercourses, the St. Joe and the St. Maries Rivers. According to the Idaho Department of Commerce statistical figures, Benewah County has 385,800 acres that attribute to forestland. Many years ago, the areas most desirable for farming were logged and cleared for growing crops.

Timber still grows in the steeper more inaccessible areas on the west side of the District and is being managed for timber production or woodland grazing. Some areas, however, are still being cleared or considered for conversion to cropland.

In 1910, a fire of major proportion swept through most of the area leaving only pockets of mature growth timber standing. These pockets are found primarily on steep slopes and ridges. As a result of this fire and considerable logging done at the same time, a rather even age growth of timber has been established. Normal maturity to harvest timber in the District will vary from 50 to 120 years depending on the soil conditions and management practices. The practice of reforestation after harvest has been increasing in recent times; however, many areas of extensively cutover land have been left for natural regeneration. This land often has poor ground cover and does not prevent soil losses before natural regeneration can take place.

Although there are several large-acreage landowners within the forested areas, much of the most accessible acreage is being broken up into smaller ownerships. These smaller ownerships often result in higher production due to more intensive management practices and provide an important source of timber close to the mills. Further development of this small acreage often results in the complete loss of land capability.

Private woodland ownership is intermingled in many instances with large industrial, United States Forest Service, Bureau of Land Management, state and tribal ownerships. This ownership pattern presents difficulties in developing comprehensive management programs and requires the coordination and cooperation of several ownerships within the area. Each ownership desires different levels of management and timber harvest practices.

Cooperative efforts toward overall better management practices are increasing and the continuation of this trend is anticipated (especially with CRM programs. See following section covering “Hay land, Pasture & Range” for details). Past years of poor timber harvest practices have caused severe damage to some watersheds and streams through siltation from roads and skid trails. The Idaho Forest Practices Act has been an important step forward in protecting water quality in the forest areas, but more work is needed.

There are several local markets for forest products as well as available markets outside the District. Logs are also shipped to local mills from outside the District, adding to the supply of raw materials.

Since the wood-fiber market is generally dependent upon the construction industry, stumpage demands and values fluctuate accordingly. This market instability particularly affects the operation of smaller mills that open and close as the demand for wood products change. Woodland owners must have a thorough knowledge of the market conditions prior to planning a timber harvest.

The trend of the future will be for more intensive utilization. Currently, Plummer Forest Products, a mill located in Plummer, Idaho, processes only the smaller logs. They have developed a good market for their product. Wood burning plants for electricity already exist, as at the Plummer mill. Either pelletized woodchips or hog fuel power these plants.

The Christmas tree market also adds to the income from forest products. Plantations have been developed on lesser productive lands with erodible soils either as reforestation projects or planting specifically for Christmas tree production. There is also some minor Christmas tree harvest from natural tree stands within the District.

Forestry is the economic life of the eastern two thirds of the Benewah Soil and Water Conservation District. Since a part of the local timber supply is cut from out of the area to be processed at local mills, it is very hard to determine the exact cut within the district itself. According to recent Potlatch Corporation estimates, timber harvest around St. Maries will drop to approximately one quarter or one third of the present rate. It will remain low until approximately 2030 or 2040, when early plantation stands will be available once again for harvest. This may have serious impacts on the District's economy.

- **Hay Land, Pasture and Range**

There are about 225,000 acres of graze able land on the Benewah Soil and Water Conservation District. Most is almost entirely graze able woodland (transitory range) with very little being identified as classic "rangeland".

a) Pasture and Hay Land: Comprises those areas that are either too steep or wet for crops, or previous cropland now unproductive and allowed to re-vegetate for forage production. In the St. Joe River valley area, it is common practice to remove one or two cuttings of hay (typically meadow grasses mixed with clovers) and then graze livestock in the re-growth until late fall. In the drier upland areas, operators with livestock and cropland use the cropland as pasture much of the time. Conversely, where an operator is not diversified and raises strictly cereal grains, the poorer land classes are farmed on a regular basis. Many poorly managed pastures are weed infested and unproductive. Consequently, ground cover is usually poor in these situations and soil erosion accelerated.

b) Rangeland and Transitory Range: Comprises those areas which are either too steep, dry and rocky to crop annually or manage intensively as pasture, or unmanaged for timber growth and support a graze able forage part of the time (transitory range). An average forest habitat type, after clear cutting, will produce approximately one Animal Unit Month (AU) of forage per acre. As ecological succession continues and as land management practices allow, forage production generally decreases to one AU per six acres in 20 to 25 years. After 40 to 60 years, little or no forage is available for grazing livestock (or very little for browsing wildlife) as the tree canopy shades out almost all-desirable forage.

North Idaho is not a location one immediately thinks of upon the mention of “rangelands”. But, some areas do exhibit those classic traits, only on a smaller scale and without sagebrush as a major vegetation component. On the Benewah Soil and Water Conservation District, only steep, arid southwest facing slopes of lower elevation mountains and foothills appear as typical rangeland. A very small portion of the District is of this type but it is none-the-less an important feature. Abundant elk and deer (Mule and White-tailed Deer) populations use these areas for winter range. Livestock are also grazed there, usually in conjunction with adjacent pastures or woodlands.

Also counted as rangeland and probably the most productive, but sensitive of the forage producing site are native meadow “stringers” along creeks and streams. These comprise only a fraction of the District’s graze able land but account for much of the forage produced (possibly ¼ to ½ of all forage on the District’s graze able lands). They are commonly located in mid to upper elevation valley bottoms surrounded by forestland. Since water tables influence most or all of these meadows, they are also referred to as “riparian meadows”. Almost all are in various degraded states due to past or present over use by livestock. Cattle prefer and congregate on these meadows because of the succulent or abundant forage, relative to the less desirable and hard to reach forage found on adjacent woodland slopes. Stream banks typically erode in this scenario, contributing great amounts of sediment during past run-off periods. Woody vegetation, which normally stabilizes stream and riverbanks, does not establish due to annual grazing and erosion. Additionally, some landowners (particularly those along the lower St. Joe River) indiscriminately burn their pastures, right up to the riverbank, to eliminate accumulations of tall grasses or woody plants (willows, etc.) and to promote early spring green-up. This further complicates the situation for reducing soil erosion and nutrient run off in the adjacent streams.

There is a good potential for improving livestock grazing practices throughout the District; in utilization of existing forage (as well as new locations) and in reducing the impacts of livestock in sensitive areas (riparian zones, tree plantations, big game winter range).

- **Wetlands**

In the Benewah District, wetlands and potential wetlands (those with hydric soil inclusions) are associated with Cald, Latahco, Moctileme, and Porrett Soils. Wetlands are determined using information obtained by the soil survey, Fish and Wildlife Service maps, and FSA aerial slide photography on-site investigations by NRCS staff. Wetlands mapping will be done on an as needed basis for the entire District. Primarily streams and river bottoms contain the wetlands.

- **Outdoor Recreation**

The Benewah District has tremendous recreational potential, which is largely undeveloped. Forested mountains with many miles of scenic roads and trails are available for those who wish to hike or ride in solitude. Fishers and campers can take advantage of many high mountain lakes and streams. There is big game, and abundance of small game and waterfowl, offering opportunities for hunting or observation.

One of the major rivers in the District is the St. Joe. This scenic river has been classified as "recreational" from Avery, Idaho to the U. S. Forest Service Spruce Tree Campground and as a "wild river" from Spruce Tree Campground to St. Joe Lake. The river offers abundant fishing, boating, canoeing, rafting and swimming, with easy accesses. Several high mountain lakes are found within the District as well. These are catalogued in the Idaho Fish and Game publication, Mountain Lakes of Idaho. In most cases, they are accessible by trail only and have infrequent use. One area, which holds some of these lakes, is the Mallard-Larkin Primitive Area. Found on U.S.F.S. land, the primitive area extends into the southeastern portion of the Benewah Soil and Water Conservation District. Many other road-less areas on the District provide similar wilderness opportunities, but are not so designated.

There are several developed and undeveloped campgrounds along the St. Joe River. Additional camping and fishing is available on most of its tributaries. Some streams have been closed to fishing to enhance the native west slope cutthroat trout fishery.

The lower portion of the St. Joe River has approximately 30 miles of slack water and offers much pleasure to boaters and water skiers. Coeur d' Alene Lake, which extends into the northern side of the District, also provides ample water recreational possibilities. These waters provide fishing as well as ice fishing in the winter months.

Rock hounds try their luck at digging for garnets at the Emerald Creek Garnet area, which is supervised by the U.S. Forest Service. Overnight camping facilities are available.

Several off-road vehicle clubs have developed a 1,000-acre area for motorcycles, snowmobiles and other off-road vehicles. A privately owned motorcycle racetrack near Clarkia attracts racing enthusiasts from a wide area.

Each community and town within the District has a picnic ground or park. These areas have been developed to fit the needs of the local community. St. Maries has three designated parks. Central Park provides a swimming pool, three tennis courts, several baseball fields, and a football field. The facilities are used by schools, by little league programs, and various community organizations. Picnic grounds and playgrounds are found in the other parks. The park in Tensed now has covered picnic tables, a basketball court and bathroom facilities. The community park in Plummer offers playground equipment for young children to enjoy.

Additionally, two state parks are located (almost entirely) within the District. Heyburn State Park is the oldest state park in the Pacific Northwest. Over 5,000 acres of forested land invites you to explore its more than 22 miles of backcountry trails. Three lakes and the St. Joe River make up the 2,300 acres of water that beckons to water lovers. Heyburn has three campgrounds. It offers developed campsites, hiking, and access to Lake Coeur d'Alene (via Chatcolet Lake and Benewah Lake) as well as the St. Joe River. Mary Minerva McCroskey State Reserve, located near DeSmet, just off State Highway 95 in southwest Benewah County, offers hiking trails through old growth timber, numerous wildflower patches, and is managed with minimum development. Recently,

several campsites have been developed within the park. One of these campsites offers covered picnic tables, a barbecue pit, and new bathroom facilities. The park is becoming better known and is being used more than ever before.

The newest recreational development within the district boundaries is the "Trail of the Coeur d' Alenes". Part of the newly constructed 73-mile long asphalt trail lies within the Benewah Soil and Water Conservation District's boundaries. The trail is a 10-foot wide asphalt trail open to walking, in-line skating, road/mountain biking, Nordic skiing and snowshoeing. Horses and pack stock are not allowed. Motorized vehicles are also not allowed. The trail, which starts in Plummer, generally follows the shoreline of the Coeur d'Alene Lake and then passes through a chain of lakes and marshland environment and follows the scenic Coeur d'Alene River up into the mountains to Mullan. The uniqueness of the trail isn't simply the beautiful scenery and attractions along its route, but it's an innovative solution to the environmental problems caused by the early miners in the Silver Valley. Silver was discovered in the Valley around 1884 and construction of the rail line to support the growing mining and timber industries was started in 1888. Much of the trail today follows this original rail line, giving it a gentle grade. When the rail line was built, mine waste rock and tailings containing heavy metals were used for the original rail bed. In addition, the bed was contaminated with accidental ore concentrate spillage. Now, the trail itself is part of the environmental cleanup in a partnership between the union Pacific Railroad, the U.S. Government, the State of Idaho and the Coeur d'Alene Tribe. The thick layer of asphalt on the trail and the gravel barriers along the trail serve to isolate the contaminants and allow the area to be used once again. The trail is divided into two sections based on management. The Coeur d'Alene Tribe manages the portion of the trail within their reservation boundary (14.5 miles between Plummer and Harrison). The Idaho Department of Parks and Recreation manages the rest of the trail from Harrison to Mullan.

Fairs, shows and contests are a continual part of the recreational opportunity. The Benewah County Fair and Paul Bunyan Days are held in late August. For those interested in horses, the St. Maries and Upriver Saddle Clubs sponsor contest and trail rides throughout the year. The City of Tensed sometimes holds a city celebration in June when there are enough volunteers to help. They have a parade, entertainment, booths and exhibits for people to enjoy. The City of Plummer also holds a celebration when there are enough volunteers. This is typically held in July. Various organizations sponsors booths, there is entertainment and fun things for the whole family to do during the day.

- **Fish and Wildlife**

Two of the major tributaries of Coeur d'Alene Lake, the St. Joe and St. Maries Rivers, flow within the District boundaries. These rivers contain native populations of resident and lake run cutthroat trout. Historically, the St. Joe River was among one of the finest trout streams in America, but is now marginal for trout in the lower section and is fair to excellent in the upper reaches.

Introduced game species within the District include rainbow, kokanee, brook trout, brown trout, Chinook salmon, large mouth bass, sunfish, perch, crappie, bullhead and northern pike. Fishing in

these rivers and lakes is good in early summer and again in the fall when water temperatures are cooler.

Mining, logging and forest development, highway construction and other land use impacts have taken a major toll on the drainage fisheries. Heavy metal pollution, stream channelization, sedimentation and migration blocks have had an especially severe impact on cutthroat trout. Increased fishing pressure due to normal population expansion and improved access, and the introduction of competing species has also played an important role in the decline of cutthroat trout.

- **Soils**

The Benewah Soil and Water Conservation District is somewhat diverse in soil parent materials and landforms as that it straddles the transition zone between the Rocky Mountains (on the east) and the Columbia Basin (on the west). Soils forming are residual, alluvial, and eolian. Residual parent materials are found throughout the District but are most prevalent in the District's eastern half, while eolian parent materials are most prevalent in the District's western half. Very thick deposits of eolian material (loess) helped form a rolling, hilly prairie region called the "Palouse". Alluvial deposits are found throughout the District but are less common.

The most extensive geologic units in the area are the Belt Series of Precambrian rocks. These metamorphosed rocks, siltite, argillite, and quartzite occur throughout the area. They are highly fractured rocks and soils formed in materials derived from them. They mostly have a high percentage of coarse fragments. Huckleberry, McCroskey, Ardenvoir, and Tekoa soils are typical of this group. These soils also contain some loess blown from central Washington during the late Pleistocene. Ash from volcanoes in the Cascade Mountains to the west was deposited during the Pleistocene and Holocene.

Basalt flows also occur throughout the District area and form plateaus. The basalt is covered by thick deposits of loess in most places. On terrace escarpments and foot slopes, the loess has been eroded away and the basalt is exposed. Lacy, Bobbitt, Blinn, and Dorb soils formed on these escarpments and have a high percentage of rock fragments mixed with thin surficial deposits of less and volcanic ash.

Thick loess deposits also mantle the gentler slopes of pre-tertiary rock-cored hills and ridges that were not later covered by basalt flows. The soils that formed in the loess deposits are very deep and have a silt loam surface layer and a silt loam to silty clay subsoil. Some soils that formed in loess, such as Southwick, Taney, Thatuna, and Santa soils, are relict paleosols.

Alluvium in the District area is generally of local origin; it is derived from materials on the adjacent uplands. Because of the wide variety of sedimentary, metamorphic, and igneous rocks on the uplands, the alluvium contains a wide variety of materials. Alluvium on fans and toe slopes generally has texture and other characteristics that are similar to those on the hills from which the sediment was eroded.

The land surface is generally rugged, consisting mainly of forested mountains and hilly terrain, with relatively narrow valleys that open to the west. In the western part of the District, an undulating prairie region called the "Palouse" represents the most productive farmland. Flowing from the east, the St. Joe River bisects the eastern portion of the District. The St. Joe and St. Maries Rivers join at the city of St. Maries. From here the St. Joe River continues through a broad flood plain and into the Chatcolet Lake (Lake Coeur d'Alene). Chatcolet Lake is the lowest point in the District, at 2,128 feet in elevation. The highest elevations are in the mountainous part of eastern Benewah and southern Shoshone Counties, where some peaks rise to nearly 7,000 feet. The average elevation in the western prairie section is about 2,700 feet.

There are published soil surveys for both Benewah County and Shoshone County in the District office. These are available to the public at any time and can be found online as well.

- **Present Soil Conditions and Trend**

The Benewah Soil and Water Conservation District falls within two Natural Resource Conservation Service soil survey areas; the Benewah County Area Soil Survey and the St. Joe Area Soil Survey.

Fieldwork for the Benewah County survey began in 1962 and was completed in 1974. It was not issued until 1980 and some of the information printed is outdated. More recent, is the St. Joe survey, which covers the remainder of the District in southern Shoshone County and some portions of Benewah County not mapped in the Benewah County Area Survey. Copies of this survey for site-specific needs are available in our office from the NRCS, as well as the Benewah County Area Soil Survey (see general soils map in Appendices Page 8).

Users of soil survey information have included loggers, foresters, teachers, appraisers, farmers, conservationist, and state, county, and city planners. Survey copies and related assistance can be obtained by contacting the District or the NRCS office in Plummer (see Appendices Page 8).

Soil condition and trend can be judged using several criteria, but in north Idaho, the main concern in conservation is soil erosion caused by runoff. Present soil condition on the Benewah Soil and Water Conservation District, generally speaking, is fair, with the trend fading slowly in a positive direction. This is based on relative comparisons between erosion losses observed by farmers, loggers, and others many years ago, and today.

According to the Natural Resources Conservation Service, annual soil losses of 50 to 100 tons per acre were not uncommon on summer-fallowed cropland. In forested areas, others measured soil losses over 80 tons/acre/year, where numerous skid trails and roads were constructed.

Today, great soil losses can still be measured, but with less frequency. Changes in management practices and improvements in equipment are some of the factors, which have appreciably reduced soil erosion rates. Never the less, it is imperative to maintain and continuously adjust soil conservation practices, just as the users of soil resources forever change their management strategies in response to technological and market influences.

The Natural Resources Conservation Service has determined that to ensure this region's ability to produce food and fiber well into the future, we must further reduce soil losses in the District.

- **Soil Erosion**

Sheet and rill erosion rates on untreated cropland in the District runs from 17 to 38 tons per acre per year. As virtually all District farmers are participants in the USDA Wheat and Feed Grain Program, most of the acres of HEL cropland in the Benewah Soil and Water Conservation District are protected under a Food Security Act Conservation Compliance Plan. These plans, fully implemented, are composed of basic and alternative Conservation systems. In 1977, 1,600 acres of HEL cropland were under land treatment contracts through the Idaho Agricultural Water Quality Program. Soil losses from these lands are at or less than "T".

As a result of watershed projects and Food Security Act planning, the District's cropland is experiencing a decrease in soil erosion or an overall upward trend in soil condition.

Soil losses from pasture and hay land seldom exceed one ton per acre per year except when in very poor condition. In general, current management levels on this land use area are low and the condition rating is fair to poor. Noxious weeds are a significant problem, reducing concentrations of desirable species through competition. Actual ground cover is limited in these sites and the soil erosion rates can approach "T". Other critical pasture and hay land areas are associated with the riparian zone and stream banks.

Timber harvesting operations on forested areas in Benewah and Shoshone Counties can cause annual sheet, rill and fully erosion losses of less than 1 ton to 60 tons per acre or more. This erosion is due mainly to road construction and skid trails. At this point, the trend is static. Mitigation of these losses could come, however, through increased implementation of forest practice Best Management Practices (BMP's).

- **Climate**

The climate of the Benewah District can be described as sub-humid, with warm dry summers and cool moist winters. The average annual precipitation is about 30 inches, with a decided winter maximum. On the average, over two-thirds of the annual precipitation falls in the October to March period. Total yearly snowfall is approximately 59 inches. Very heavy snowfall accumulations do occur on the District's mountainous eastern half while lesser amounts fall on the District's western boundary. Average annual precipitation in these areas range from 65 inches to approximately 20 inches (east to west respectively).

The temperatures in the District are relatively mild. The Average daily maximum temperature in July is only 85 degrees, while the average daily maximum in January is 21 degrees. The average date for the last spring freezes is May 13 and the average date for the first fall freeze is September 28.

BENEWAH CONSERVATION DISTRICT POLICIES AND OBJECTIVES

- **Current Supervisors**

Billie Brown, Chair
Richard Morrison, Vice Chair
Larry Cooke, Member

- **District Administration & Operation**

Under provisions of the Idaho Soil & Water Conservation District Law, the Benewah Soil and Water Conservation District is a legal subdivision of state government managed by a Board of Supervisors who are elected locally by qualified voters. . Although the Benewah Soil and Water Conservation District name implies its location is only in Benewah County, the District includes the southern half of Shoshone County as well. The Benewah Soil and Water Conservation District is organized with five supervisors who serve a four-year term of office without pay. These supervisors represent cropland, range and hay land, forestlands, etc. Through a Memorandum of Understanding, the Benewah Soil and Water Conservation District and Natural Resources Conservation Service maintain an office in the USDA Service Center at 900 E Street in Plummer, Idaho, to provide assistance to those who request it. The Benewah District Board of Supervisors meets monthly at the district office in Plummer, on the second Tuesday of the month. There is no meeting during the month of August due to conflicts with harvest time. At monthly meetings, the Board of Supervisors review current and upcoming projects. Meetings are attended by the District's Administrative Assistant, NRCS District Conservationist, and any other agencies representatives as necessary. This allows for the Board of Supervisors to oversee the operations of the district. The Benewah District utilizes the local news media to inform and invite the public to their meetings. The Board of Supervisors also notifies the public through local news media about the opportunity for public input on the 5-year plan and annual work plan. This is done in the spring of each year.

Funding for the Benewah District is provided primarily through state and county allocations. Benewah and Shoshone Counties each fund the district. The State of Idaho matches these funds with a percentage allocation. Recent legislation has removed the limit of funding by the State of Idaho; therefore, the State allocations change over the years.

- **District Policies**

It is the policy of the Benewah Soil and Water Conservation District to provide landowners and land users with assistance in land and water use, conservation and development and other problems or concerns that they may have. Technical Assistance should be provided to the Board of Supervisors by the NRCS. The Board needs to advise and direct those who benefit from District programs towards better conservation practices, with the help of the NRCS. The Benewah Soil and Water Conservation District offers many services to the farming and non-farming community. Technical assistance is offered in areas such as management of dry cropland farming, improvement of woodland management practices, the protection of prime and unique lands as

well as historical sites, and the development of recreational facilities not destructive to the environment, among others. Non-technical assistance is available through individual or group information/education programs in topics ranging from household chemical hazards to wood stove efficiency tips.

The District currently employs a part-time Administrative Assistant. Duties to be performed by the Administrative Assistant consist of receptionist, secretarial, bookkeeping, filing, administration of water quality accounts, reporting, assisting with Board meetings, conducting elections, and general office management procedures. The Administrative Assistant is also responsible for conducting the District's Information Outreach activities. These programs may include the following, depending on budgets: community meetings involving landowners/operators, workshops, presentations and contests for local schools, a 5th grade student conservation tour, promoting soil and water stewardship week and submitting articles to the local news media.

The Idaho Soil Conservation Commission and the fifty Soil Conservation Districts are tax supported governmental units accountable to taxpayers for revenue and expenditures. The Idaho Soil and Water Conservation Commission and Soil Conservation Districts were created and enabled by the Idaho legislature under Idaho Code, Title 22, Chapter 27. The Idaho Soil & Water Conservation Commission was given the responsibility to adopt policies in order to provide for fiscal and program accountability for itself and Soil Conservation Districts. A uniform system of accounting and reporting has been established to enable the Idaho Soil and Water Conservation Commission and Soil Conservation Districts to be fiscally responsible and accountable. The Benewah Soil and Water Conservation District Financial Guidelines are as follows: 1) two signatures will be required on all checks written 2) The Benewah SWCD Board Treasurer will review and reconcile the bank statements and the monthly financial statements each month 3) The Benewah SWCD Board Treasurer will review and approve all payroll checks and payroll check stubs 4) The Benewah SWCD financial records will be audited or reviewed yearly depending on income limits set by the legislature 5) At least one Benewah SWCD Board member will (A) pick up the completed audit and financial records from the auditor or (B) a request will be made for the auditor to attend the board meeting immediately following completion of the audit 6) The Benewah SWCD Board will request that the auditor present a list of suggested solutions for any record keeping problems encountered in the audit process 7) The Benewah SWCD Board will review the Financial Guidelines semi-annually.

- **Public Participation/Monitoring and Evaluation**

Public participation is strongly encouraged by the district. The district works with a local working group and uses the local newspapers as much as possible to get participation from the public. The district also works closely with the FSA and NRCS to assure that the public is well informed. The Board would like to increase activity in the community however to help support our programs. In the future, the Board will actively work at increasing awareness of programs available to the community. Possible activities may include meetings held in some of the smaller communities within the district, newsletters and more one-on-one contact with landowners and operators.

Monitoring and evaluation of programs is achieved through monthly financial reports the board receives at each regular meeting. The district also requires that yearly financial reviews be conducted to monitor programs.

- **Cooperating Conservation Partners**

Technical services are provided mainly through the Natural Resources Conservation Service; however, assistance is also available through other State and Federal agencies through Memorandums of Understanding with the District. The Idaho Soil & Water Conservation Commission provides support to Idaho's 50 Soil Conservation Districts in the wise use and enhancement of soil, water and related resources. The Idaho Association of Soil Conservation Districts is a voluntary, non-profit association of Idaho's 50 soil conservation districts cooperating in the management of Idaho's natural resources. The association provides a unified voice for conservation in Idaho.

- **Public Outreach**

The Benewah Soil and Water Conservation District recognizes the importance of a conservation information outreach program throughout the entire District. At present, the District displays exhibits at the Benewah County Fair, has sponsored a poster contest at the schools, assists with a two-day conservation tour for all Benewah and southern portion of Shoshone Counties 5th grade students. The District has also sponsored tours for cropland, forestry and rangeland. The District needs to help educate the community about the importance of conservation if we are to use and maintain our resources into the future. The Administrative Assistant conducts all of the District's Information Outreach activities. Current programs may include the following: community meetings involving landowners/operators, workshops, presentations for local schools, two 5th grade student conservation tours which depend on school budgets, promoting soil and water stewardship week and submitting articles to the local news media.

- **Technical Assistance**

Technical assistance is mainly available from the NRCS. However, other agencies such as Idaho Soil & Water Conservation Commission, Idaho Department of Lands, Department of Environmental Quality, etc. offer technical assistance in other areas. Most of this attention has been to cropland production and conservation. The District should not only help with the conservation of cropland, but also look at all other resources and land uses based in the area. Whatever technical assistance is available should be used to help conserve these resources.

The Benewah Soil and Water Conservation District will continue to have a need for increased funding if the District is to continue to grow in all areas. The need for technical assistance will increase, proportionately, with the increase in projects undertaken by the District. This remains the limiting factor to what the District can take on in terms of projects. Current NRCS technical assistance is adequate for our current water quality project workload; however, an increase in NRCS personnel is needed to achieve all goals and objectives.

DISTRICT PRIORITIES

1. **District Operations:** The district would like to increase the visibility of the conservation work completed in our area.
   - **Information and Education:** Although recent budget cuts in the schools have limited participation in the educational outreach days the district has sponsored in the past, efforts to establish a program that can be presented at school are being discussed.
   - Reach out to unconventional partners
   - Continue to participate in related public meetings
   - Develop larger network of contacts
   - Continue to improve conservation based knowledge of district employee

2. **Water Quality** Primary emphasis for technical and potential assistance will be directed toward those watersheds identified as designated stream segments of concern. These include; Hangman Creek, Plummer Creek and St. Joe and St. Maries Rivers.
   - Hold meetings assessing technical need and gaining public input within each watershed with stream segments of concern and establishing priorities.
   - Provide information and assistance in obtaining cost-share funding to control non-point source pollution and soil erosion.
   - Plan and apply visible conservation on designated priority watersheds.
   - Provide information to landowners/operators on existing practices to reduce soil erosion through the District information outreach. Establish an annual grower educational meeting.
   - Make available to the general public, brochures, handouts, etc., that demonstrate practices that reduce erosion.

Portions of eight 4th field HUCs (or eight digit subbasins) are located within the boundaries of the Benewah Soil and Water Conservation District.

These watersheds (with Benewah SWCD acres) are listed below.

St. Joe River (incl. St. Maries watershed)	1,150,532 acres
Lower North Fork Clearwater River	198,239 acres
Hangman Creek	125,459 acres
Upper North Fork Clearwater River	41,402 acres
South Fork CDA River	24,178 acres
Palouse River	11,930 acres
CDA Lake	9,423 acres
Rock	2,065 acres

The Idaho Department of Environmental Quality (DEQ) has concerns about the water quality of numerous waterbodies (**Table 3**) within the confines of the Benewah SWCD. Several of the subbasins have been assessed and TMDLs determined. Links to the completed documents and

short summaries of the assessed subbasins can be viewed on DEQ's website at this address: http://www.deq.idaho.gov/water/data_reports/surface_water/tmdls/sba_tmdl_master_list.cfm . The summaries from DEQ's website of the watersheds that the Benewah SWCD has had recent projects in are presented below:

Surface Water: St. Maries River
Subbasin Assessment and Total Maximum Daily Loads
> Link to document

The Subbasin at a Glance

Hydrologic Unit Code	17010304
Size	307,485 acres (481 square miles)
§303(d) Listed Stream Segments	St. Maries River (2 segments), West Fork St. Maries River, Middle Fork of the St. Maries River, Santa Creek, Carpenter Creek, Emerald Creek, Gold Center Creek, Flewsie Creek, Alder Creek, Tyson Creek, Thorn Creek, Renfro Creek, Crystal Creek, Charlie Creek, John Creek, Gramp Creek
Beneficial Uses Affected	Cold water, salmonid spawning, primary and secondary contact recreation
Pollutants of Concern	Sediment, nutrients, bacteria, dissolved oxygen, temperature, habitat alteration
Major Land Uses	Forestry, agriculture, recreation
Date Approved by U.S. EPA	August 2003 > View Approval Letter

Background

The federal Clean Water Act requires that states and tribes restore and maintain the chemical, physical, and biological integrity of the nation's waters. States and tribes must adopt water quality standards necessary to protect fish, shellfish, and wildlife while providing for recreation in and on the waters whenever possible.

Section 303(d) of the Clean Water Act establishes requirements for states and tribes to identify and prioritize water bodies that are water quality limited (i.e., water bodies that do not meet water quality standards). States and tribes must periodically publish a priority list of impaired waters, currently every two years. For waters identified on this list, states and tribes must develop water quality improvement plans known as total maximum daily loads (TMDLs) that establish allowable pollutant loads set at levels to achieve water quality standards.

Overview

The St. Joe River Subbasin is a large watershed composed of both the St. Joe River and the St. Maries River. The St. Maries River drains the western flank of the Clearwater Mountains, a subset of the Bitterroot Mountains. The river flows from the southeast to the northwest to enter the St. Joe River at the town of St. Maries.

Sixteen of the 17 listed segments are listed for sediment, nine for temperature, eight for habitat alteration, four for nutrients, and one each for dissolved oxygen and bacteria. Sediment originates in the basin primarily from eroding banks, road crossings, and encroachments. Temperature is most affected by stream shading. Nutrients and bacteria arise from livestock and human wastes, while dissolved oxygen is affected by discharge of oxygen-demanding materials from wastewater treatment facilities. Impairment of cold-water aquatic life has been demonstrated by composite scores of fish, macroinvertebrate, and habitat indices. These scores generally indicate full support in the headwaters, but reveal use impairment in the downstream reaches of the both the tributaries and the river itself.

The U.S. Environmental Protection Agency considers certain unnatural conditions, including habitat alteration, that are not the result of the discharge of a specific pollutants as "pollution." Since a TMDL is not required for a water body impaired by pollution, but not a specific pollutant, TMDLs were not developed for habitat alteration.

Streams and Pollutants for Which TMDLs Were Developed

St. Maries River (2 segments)	Sediment, temperature
West Fork St. Maries River	Sediment, temperature
Middle Fork of the St. Maries River	Sediment, temperature
Santa Creek	Sediment, temperature
Carpenter Creek	Sediment
Emerald Creek	Sediment, temperature
Gold Center Creek	Temperature
Flewsie Creek	Temperature
Alder Creek	Sediment
Tyson Creek	Sediment
Thorn Creek	Sediment
Renfro Creek	Sediment
Crystal Creek	Sediment
Charlie Creek	Sediment
John Creek	Sediment

Gramp Creek	Temperature

Surface Water: St. Joe River
Subbasin Assessment and Total Maximum Daily Loads
> Link to document

The Subbasin at a Glance

Hydrologic Unit Code	17010304
Size	1,192 square miles
§303(d) Listed Stream Segments	Bear Creek, Beaver Creek, Bird Creek, Blackjack Creek, Bluff Creek, East Fork Bluff Creek, Fishhook Creek, Fly Creek, Gold Creek, Harvey Creek, Heller Creek, Little Bear Creek, Loop Creek, Mica Creek, Mosquito Creek, Simmons Creek, Tank Creek
Beneficial Uses Affected	Cold water, salmonid spawning, primary and secondary contact recreation
Pollutants of Concern	Sediment, nutrients, bacteria, dissolved oxygen, temperature, habitat alteration
Major Land Uses	Forestry, agriculture, recreation
Date Approved by U.S. EPA	August 2003 > View Approval Letter

Background

The federal Clean Water Act requires that states and tribes restore and maintain the chemical, physical, and biological integrity of the nation's waters. States and tribes must adopt water quality standards necessary to protect fish, shellfish, and wildlife while providing for recreation in and on the waters whenever possible.

Section 303(d) of the Clean Water Act establishes requirements for states and tribes to identify and prioritize water bodies that are water quality limited (i.e., water bodies that do not meet water quality standards). States and tribes must periodically publish a priority list of impaired waters, currently every two years. For waters identified on this list, states and tribes must develop water quality improvement plans known as total maximum daily loads (TMDLs) that establish allowable pollutant loads set at levels to achieve water quality standards.

Overview

The St. Joe River Subbasin is a large watershed composed of both the St. Joe River and the St. Maries River. The St. Joe River and its tributaries drain the entire watershed above the confluence with the St. Maries River at the city of St. Maries.

Fourteen of the 17 listed segments are listed for temperature, 11 for sediment, 5 for bacteria, 3 for dissolved oxygen, and 1 segment each for nutrients and habitat alteration. The sediment in the subbasin is primarily from road crossings and encroachment. Temperature can be most affected by stream shading. Nutrients and bacteria come mainly from livestock, while dissolved oxygen is affected by the discharge of oxygen-demanding materials from livestock wastes.

Impairment of the cold-water beneficial use was assessed using composite scores of fish, macroinvertebrate, and habitat indices. These scores generally indicated full support in most streams assessed in the subbasin, but they also indicated use impairment in some tributaries to the St. Joe River. The St. Joe River itself was not listed, nor was it found to be impaired in this assessment.

The assessment resulted in temperature TMDLs for all the segments listed for temperature. Sediment TMDLs were completed for Mica, Fishhook, Bear, and Little Bear Creeks. Recommendations also were made for the delisting of certain streams and pollutants in the watershed.

The U.S. Environmental Protection Agency considers certain unnatural conditions, including habitat alteration, that is not the result of the discharge of specific pollutants as "pollution." Since a TMDL is not required for a water body impaired by pollution, but not a specific pollutant, a TMDL was not developed for habitat alteration.

Streams and Pollutants for Which TMDLs Were Developed

Bear Creek	Sediment, temperature
Beaver Creek	Temperature
Blackjack Creek	Temperature
Bluff Creek	Temperature
Fishhook Creek	Sediment, temperature
Fly Creek	Temperature
Gold Creek	Temperature
Harvey Creek	Temperature
Heller Creek	Temperature
Little Bear Creek	Sediment, temperature
Loop Creek	Temperature
Mica Creek	Sediment

Mosquito Creek	Temperature
Simmons Creek	Temperature
Tank Creek	Temperature

Surface Water: Upper Hangman Creek
Subbasin Assessment and Total Maximum Daily Loads
> Link to document

The Subbasin at a Glance

Hydrologic Unit Code	17010306
Size of Subbasin Area Addressed in this Document	Approximately 10,000 acres
§303(d) Listed Stream Segments	Hangman Creek, South Fork Hangman Creek, Bunnel Creek, Hill Creek, Conrad Creek, Martin Creek, Tenas Creek
Beneficial Uses Affected	Cold water aquatic life, secondary contact recreation, salmonid spawning
Pollutants of Concern	Sediment, temperature, bacteria, nutrients, habitat alteration
Major Land Uses	Timber management, residential development, livestock grazing
Date Approved by U.S. EPA	September 2007 > View Approval Letter

Background

The federal Clean Water Act requires that states and tribes restore and maintain the chemical, physical, and biological integrity of the nation's waters. States and tribes must adopt water quality standards necessary to protect fish, shellfish, and wildlife while providing for recreation in and on the waters whenever possible.

Section 303(d) of the Clean Water Act establishes requirements for states and tribes to identify and prioritize water bodies that are water quality limited (i.e., water bodies that do not meet water quality standards). States and tribes must periodically publish a priority list of impaired waters, currently every two years. For waters identified on this list, states and tribes must develop water quality improvement plans known as total maximum daily loads (TMDLs) that establish allowable pollutant loads set at levels to achieve water quality standards.

Overview

The upper Hangman Creek watershed is located where the rolling hills of the Hangman Creek valley meet steep mountainsides. The watershed is primarily forested, although there have been some openings created for other land use activities. The land is primarily privately owned with only a small amount of national forest lands. The primary land use is timber management, with some residential development along major roads and some livestock grazing activity at lower elevations.

Sediment was determined to be in excessive quantities and impairing the cold-water aquatic life use designation. Sediment generated from roads, mass failures, and stream bank erosion was characterized to determine the amount of sediment load reduction needed to restore beneficial uses. The target load capacity was set at 50% above natural background.

Temperature TMDLs were written because of exceedances of Idaho's numeric water quality temperature standard. Solar radiation was determined to be the factor most easily controllable and manageable in reduction of stream temperatures. A decrease in solar radiation requires an increase in shading of the streams.

Bacteria TMDLs were written because water quality monitoring data indicated that the beneficial use of secondary contact recreation was not being fully supported. The source of bacteria is unknown. Further monitoring will be needed to determine the source of contamination. Known possible sources include domesticated and wild animals, and/or human contributions from recreation or septic systems.

Some water bodies in this watershed were also listed for habitat alteration and/or nutrients. No TMDL was completed for habitat alteration as a matter of DEQ policy. It is being recommended that listing for nutrients be removed due to recent data showing low levels of total phosphorus.

Streams and Pollutants for Which TMDLs Were Developed

Hangman Creek	Sediment, temperature, bacteria
South Fork Hangman Creek	Sediment, temperature, bacteria
Tenas Creek	Sediment, temperature, bacteria
Martin Creek	Sediment, temperature, bacteria
Conrad Creek	Sediment, temperature, bacteria
Hill Creek	Sediment, temperature, bacteria
Bunnel Creek	Sediment, temperature, bacteria

3. **Fish and Wildlife, Recreation and Riparian** These concerns will be addressed along with the number one priority of water quality. The actions outlined as necessary to improve water quality will also serve to address improvements necessary for healthy riparian buffers along waterways, improvements for fish and wildlife and improved recreation opportunities in area waterways.

   Status: Two of the major tributaries of Coeur d' Alene Lake, the St. Joe and St. Maries Rivers, flow within the district boundaries. These rivers contain native populations of resident and lake run cutthroat trout. Historically, the St. Joe River was among one of the finest trout streams in America, but is now marginal for trout in the lower section. Introduced game species within the district include rainbow, kokanee, brook trout, brown trout, chinook salmon, large mouth bass, sunfish, perch, crappie, bullhead and northern pike. Big game found in the district includes white tail deer, mule deer, black bear, elk, cougar and mountain goat. Mountain grouse and upland game birds are abundant in most areas within the district. A variety of waterfowl can be observed and/or hunted in season.

   Trends: Fishing in the rivers and lakes is good in early summer and again in the fall when water temperatures are cooler. Mining, logging and forest development, highways construction and other land use impacts have taken a major toll on the drainage fisheries. Heavy metal pollution, steam channelization, sedimentation and migration blocks have had an especially severe impact on cutthroat trout. Increased fishing pressure due to normal population expansion and improved access, and the introduction of competing species has also played an important role in the decline of cutthroat trout. Declining water quality and shoreline encroachment are severe problems for the future fisheries management. Development and road construction are also encroaching on the natural range for wildlife.

   Needs: The district needs to continue to promote programs that are beneficial to the fish and wildlife and find ways to make the public more aware of the programs that are available to promote fish and wildlife. Continuing to work with the St. Joe/St. Maries WAG can benefit the rivers and streams within the district.

4. **Forest Lands**
   - Promote tree seedling program and increase sales each year
   - Educate landowners about proper forest practices
   - Support cost-share practices for private forestland through NRCS programs
   - Assist with Idaho State Forestry Contest and encourage local participation

   Status: The forested area lies mostly in the eastern two-thirds of the district and is bisected by two main water bodies, the St. Joe and the St. Maries Rivers. Areas most desirable for farming have been logged and cleared for growing crops, but timber still grows in the steeper more inaccessible areas. Private woodland ownership is intermingled in many instances with large industrial ownership, United States Forest Service, Bureau of Land Management, state and tribal ownerships.

Trends: Stricter regulations are also being felt in the timber industry. Resource by-products are not being fully utilized. Cooperative efforts toward overall better management practices are increasing and the continuation of this trend is anticipated. Past years of poor timber harvest practices have caused severe damage to some watersheds and streams through siltation from roads and skid trails.

Needs: The district needs to continue to search for ways that the timber industry can make maximum utilization of live, dead and downed material in the woodlands and must continue to educate the landowners about improved techniques and technologies within the timber industry. Efforts to increase participation in new Forestry Programs will be made.

5. **Non-Irrigated Cropland**
   - Provide information on conservation practices
   - Work with NRCS to support conservation plans
   - Encourage landowners to use programs designed to assist operators

Status: A large percentage of the district is cropland. Control of soil erosion continues to be an issue. While new techniques and technologies are developing, the conservation practices may be too costly. More diverse agricultural operations are coming into the area along with the need of appropriate resource assistance. While many of the farms are becoming larger in size, there are also farms that are being sold and divided into smaller parcels. Many times, these smaller parcels are then sold again and divided into even smaller pieces.

Trends: Most of the district's cropland is classified as HEL and most operators are USDA program participants. Therefore, most operators now have a Conservation Compliance Plan, which will further reduce soil erosion in the district, if the plans are fully applied. Another trend that is emerging is that of smaller "special interest" farms. However, it appears there has been less participation in conservation programs on the district's cropland. This may be due to lease conditions.

Needs: The district needs to improve public outreach to inform landowners of programs available to assist them, and try to include the smaller acreage landowners as well as the larger ones.

Pasture and Hay land:

Status: There are approximately 25,000 acres of pasture and hay land within the district. In the St. Joe River valley area, it is common practice to remove one or two cuttings of hay and then graze livestock in the re-growth until late fall. In the drier upland areas, operators with livestock and cropland use the cropland as pasture much of the time. Conversely, where an operator is not diversified and raises strictly cereal grains, the poorer land classes are farmed on a regular basis. Many poorly managed pastures are weed infested and unproductive. Consequently, ground cover is usually poor in these situations and soil erosion accelerated.

Trends: Cumulative effects of grazing, logging, mining, recreation and other land uses on environmental health are of growing concern to the district. Timing of land use practices and extent of activities were poorly coordinated between landowners in the past, except when the district and the NRCS promoted Coordinated Resource Management plans (called CRM's or CRMP's), such as those now in place on John Creek and Emerald Creek. There is good potential for improving livestock grazing practices throughout the district, in utilization of existing forage and in reducing the impacts of livestock in sensitive areas.

Needs: The district and NRCS need to assist landowners/users with existing CRMP's as needed to insure that plans are applicable with needed modifications. Continue to educate landowners of programs that can assist them.

Air Quality:

Status: The bluegrass industry within the district is being attacked for their practice of burning. Operators are currently involved in several lawsuits. The public is uninformed as to the benefits of bluegrass and the need to burn it each year. Also, the burning of logging slash and stubble remaining after the harvest of cereal grains is becoming more of an issue.

Trends: Some of the private citizens in the state have formed a group that is fighting the bluegrass farmers to stop them from continuing the practice of burning their bluegrass fields after they have been harvested. Some of the growers have tried to bale the residue before burning to minimize the smoke but this is very costly to the farmers.

Needs: The district needs to continue to assist the operators to try to find economically viable options to this problem.

6. Cooperating Agencies and Organizations

The following governmental agencies, organizations, public and private groups and businesses have supported and assisted with the Benewah Soil and Water Conservation District's successful conservation program.

Avista Corporation
City of St. Maries
City of Plummer
City of Tensed
Public and Private Schools
Churches within the District
Civic Organizations and Clubs
St. Maries Chamber of Commerce
Coeur d' Alene Tribal Council
Inland Empire Chapter of Soil & Water Conservation Society
Society for Range Management
Benewah County Board of Commissioners
Shoshone County Board of Commissioners
Idaho Department of Agriculture
Idaho Department of Employment
Idaho Department of Fish and Game
Idaho Dept. of Health & Welfare
Idaho Department of Highways

Idaho Department of Lands
Idaho Department of Parks and Recreation
Idaho Department of Transportation
Idaho Department of Water Resources
U.S. Army Corps of Engineers
U.S. Department of Agriculture
U.S. Environmental Protection Agency
U.S. Farm Home Administration
U.S. Fish and Wildlife Service
U.S. General Services Administration
U.S. Geological Survey, Water Resources Division
USDA Farm Service Agency
USDA Forest Service
USDA Natural Resources Conservation Service
U.S. Bureau of Indian Affairs
U.S. Bureau of Reclamation
KOFE Radio Station
U.S. Bureau of Land Management
University of Idaho Cooperative Extension Service
Clearwater-Potlatch Timber Protective Assoc.
Idaho State Legislators representing the District
The St. Maries Gazette Record
The Capital Press
KREM – TV Station
Cenex – Co-Op Supply
Idaho Department of Employment – Job Service
Panhandle Lakes Resource Conservation and Development

APPENDIX OF ATTACHMENTS

Benewah District location within the State of Idaho – Attachment 1

Benewah Conservation District Land Status Map – Attachment 2

Benewah Conservation District Land Cover Map – Attachment 3

Benewah Conservation District Water Quality Limited Stream Segments – Attachment 4

Benewah and Shoshone County Statistics – Attachment 5

Benewah Annual Plan of Work – FY2013 – Attachment 6

FY2015 (7/1/2014 – 6/30/2015) Annual Plan of Work
Benewah Soil & Water Conservation District

Conservation District Priority Number 1: District Operations

Goal(s): Assist all conservation partners with the promotion of conservation programs to maximize area participation.

Objective: Identify needed work throughout the district and promote and increase the visibility of the District's conservation work in the area.

Actions	**Target Date**	**Individual(s) Responsible**
Conduct regular and special meetings to identify and address resource needs throughout the district. Provide oversight and develop district projects. Projects may include but are not limited to current and future 319 projects and Avista Streambank Restoration project.	Monthly	Benewah SWCD Board & Administrative Assistant
Maintain current and accurate records of all meetings as required by law. Make said records available to the public and conservation partners to promote conservation throughout the district.	On-going	Benewah SWCD Board Secretary & Administrative Assistant
Manage and track district funding using a comprehensive financial management system. Reported fiscal activities will include but are not limited to; annual financial review/audit, submittals of financial reports to appropriate entities.	On-going	Administrative Assistant & Board Secretary/Treasurer
Reach out to traditionally unconventional resource partners (i.e.; DEQ, US Forest Service & USF&G) to promote and implement conservation	On-going	Benewah SWCD Board & Administrative Assistant
Develop and submit Conservation District Annual Plan of Work and review and update district Five Year Plan on an annual basis	On-going	Benewah SWCD Board & Administrative Assistant

Conservation District Priority 1: District Operations

Actions ***(Continued)***	**Target Date**	**Individual(s) Responsible**
Attend and participate in related public meetings, events and gatherings such as watershed Basin Area Group (BAG) and area Watershed Advisory Groups (WAGS), Resource Conservation and Development (RC&D)	On-going	Benewah SWCD Board and Administrative Assistant
Assist and participate in on-going area conservation education efforts such as the Idaho State Forestry Contest and Coeur d'Alene Tribal Career Fair as well as presentations to interested groups, local organizations and at related agency meetings.	On-going	Benewah SWCD Board and Administrative Assistant
Offer educational outreach programs such as Forestry Education Day, District Conservation Poster Contest, and Agriculture Education Day and Sixth Grade Conservation Camp as budgets allow.	On-going	Benewah SWCD Board and Administrative Assistant
Submit articles and information about District activities and conservation efforts to local news media sources as well as conservation partners (i.e.; Natural Resource Conservation Service (NRCS) and the Idaho Soil & Water Conservation Commission (ISWCC)	On-going	Benewah SWCD Board and Administrative Assistant
Publish an Annual Report of activities and accomplishments	On-going	Benewah SWCD Board and Administrative Assistant
Develop and submit Conservation District Budget	On-going	Benewah SWCD Board & Administrative Assistant
Review and update District Policy and Procedures Manual	On-going	Benewah SWCD Board & Administrative Assistant

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Conservation District Priority Number 2: Water Quality

Goal(s): Provide leadership and technical assistance to maintain or improve water quality in the Benewah Soil & Water Conservation District by encouraging landowner and operator participation in programs and application of practices that will result in significant reduction of soil erosion.

Objective: Continue to support and encourage the use of Best Management Practices (BMP's) and Resource Management Systems (RMS's) on agricultural land in the district to help control erosion problems and to improve water quality.

Actions	Target Date	Individual(s) Responsible
Work with landowners/operators to identify ways to voluntarily apply needed conservation practices.	On-going	Benewah SWCD, NRCS & ISWCC
Hold informational meetings for landowners, operators, and interested parties providing information on conservation programs available.	On-going	Benewah SWCD, NRCS & ISWCC
Provide brochures, handouts, newsletters, etc. to provide information about available programs.	On-going	Benewah SWCD, NRCS & ISWCC
Inventory and assess area culverts for any contribution to impaired water quality	On-going	Benewah SWCD, NRCS & ISWCC
Participate in and support local Watershed Advisory Groups (WAG) and Basin Area Group (BAG)	On-going	Benewah SWCD, NRCS & ISWCC

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Conservation District Priority Number 3: Fish & Wildlife Habitat/Riparian Health

Goal(s): Restore, improve and enhance fish and wildlife habitat on TMDL water bodies within the district and improve required habitat for Endangered Species Act (ESA) listed species.

Objective: Encourage landowners/operators to utilize BMP's on riparian areas within District boundaries on TMDL identified water bodies to reduce negative effects on fish and wildlife habitat.

Actions	Target Date	Individual(s) Responsible
Encourage landowners to install tree and shrub plants, riparian buffers, rip rap and rock veneer barbs and livestock exclusion fencing	On-going	Benewah SWCD/NRCS
Promote landowner educational outreach through brochures and news articles.	On-going	Benewah SWCD/NRCS

Goal(s): Assist landowners/operators in securing funds to address their resource concerns.

Objective: Work with various agencies to assist landowners with finding funds to address riparian resource concerns.

Actions	Target Date	Individual(s) Responsible
Hold informational meetings for the landowners to learn about available programs.	On-going	Benewah SWCD/NRCS
Work with NRCS, IDL, BPA, IDF&G, USFS, SWCC, EPA/DEQ, other private organizations and interest groups to identify priority projects	On-going	Benewah SWCD/NRCS

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Conservation District Priority Number 4: Forestlands

Goal(s): Promoting healthy forests on private land

Objective: Work with Landowners to increase productivity of private forests, while promoting sound forest practices and increased outreach and education

Actions	Target Date	Individual(s) Responsible
Work with landowners/operators to identify ways to voluntarily apply needed conservation practices.	On-going	Benewah SWCD/NRCS
Support cost-share practices for private forest projects through EQIP. 5 of 17, 2013 applications are for Forestry practices. Of those 5, 4 Forest Management Comprehensive Activity Plans (CAP) will be completed – 2 Forest Management Plans ($6,700) and 2 Forest Practices ($14,000). 1 application was cancelled at the producer's request.	On-going	Benewah SWCD/NRCS
Promote tree seedling program and sell 10% more trees than the prior year (total sold 2013 - 8,390). Promote use of genetically improved stock by selling blister-rust resistant White Pine	6/30/14	Admin Assistant Benewah SWCD
Continue to assist with Idaho State Forestry Contest and encourage local participation	On-going	Admin Assistant Benewah SWCD

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Conservation District Priority Number 5: Non-Irrigated Cropland

Goal(s): The District will coordinate with Farm Service Agency and farmers to meet the requirements of the Food Security Act and the Farm Bill as amended.

Objective: Provide leadership and technical assistance to restore/maintain the water base in the Benewah SWCD

Actions	Target Date	Individual(s) Responsible
Work with NRCS to promote implementation of FSA plans on HEL (Highly Erodible Land) cropland used by farm program participants to produce agricultural commodity crops.	On-going	Benewah SWCD/NRCS
Provide information to schools relating to conservation matters as requested such as Career Counseling and cropland and woodland tours.	On-going	Benewah SWCD/NRCS ISWCC

Goal(s): Discourage the conversion of woodland to cropland

Objective: Control erosion and improve water quality by use of BMP's and RMS's on all cropland in the Benewah SWCD

Actions	Target Date	Individual(s) Responsible
Encourage landowners/operators to use programs designated to assist operators in reforestation of converted woodland acreage	On-going	Benewah SWCD/NRCS ISWCC
Provide guidance to landowners and operators who convert woodland acreage to cropland by information outreach programs and personal contact	On-going	Benewah SWCD/NRCS ISWCC

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Conservation District Priority Number 6: Air Quality

Goal(s): Reduce and minimize emissions of particulate matter and smoke in accordance with the Atmospheric Resource Quality Management Standard

Objective: Increase awareness and application of Best Management Practices for air quality resource concerns.

Actions	**Target Date**	**Individual(s) Responsible**
Establish conservation practices to help in the reduction of airborne particulates	On-going	Benewah SWCD/NRCS
Share information with landowners and operators about acquiring necessary local, tribal, state and federal permits	On-going	Benewah SWCD/NRCS
Continue to research implementation of woody biomass projects and conduct feasibility studies for local projects.	On-going	BSWCD
Establish conservation practices to balance air quality and water quality concerns	Continuous	Benewah SWCD/NRCS
Maintain Board presence at air quality meetings to give input and gather current and relevant information.	Continuous	Benewah SWCD

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Conservation District Priority Number 7: Recreation

Goal(s): Create opportunities for expanding recreational uses for the public and finding new recreational opportunities

Objective: Assist other agencies with developing recreation opportunities

Actions	**Target Date**	**Individual(s) Responsible**
Offer assistance to Heyburn State Park with development of various recreational uses within the park	At any time	Benewah SWCD
Offer assistance to Friends of McCroskey State Park to develop various recreational uses within the park.	At any time	Benewah SWCD