Updated 7/2015

SHERMAN COUNTY NRCS LONG RANGE PLAN

Moro Service Center
Sherman County Oregon
302 Scott Street
PO Box 405
Moro, OR 97039

Section I

NATURAL RESOURCES LONG RANGE STRATEGY

INTRODUCTION

VISION:
Promote and Educate to Conserve Natural Resources.

MISSION:
To work cooperatively with others to promote and encourage conservation and wise use of natural resources.

Purpose of the Plan:
This plan is being developed to serve as a long range plan for Sherman County Soil and Water Conservation Districe, Sherman County Watershed Councils and Natural Resources Conservation Service. This plan will help the Local Work Group to have more focus to conservation in Sherman County.

Partners Involved:
Natural Resources Conservation Service, Sherman County Soil and Water Conservation District, Sherman County Watershed Council, Farm Service Agency, Sherman County Weed Department, Sherman County Court and the Local Work Group which is made up of FSA County Committee Members, Local Producers, Oregon Department of Agriculture...

Time Frame Covered by Plan:
This plan is designed to be a 5 year plan and will need to be reviewed and possibly revamped on 9/30/2020.

Section II

NATURAL RESOURCES INVENTORY

Sherman County, Oregon lies between the deep canyons of the John Day River on the east and the Deschutes River on the west in north central Oregon. The mighty Columbia River forms the boundary on the north. Much of the boundary on the south is defined by the rugged canyons of Buck Hollow, a tributary of the Deschutes.

The open rolling hills and steep narrow canyons of the county's 823 square miles or 531,840 acres. There are 514,004 acres in farmland of which 345,494 acres or 65% of the county is tilled and devoted to mainly small grains. Grassland accounts for approximately 150,000 acres or 28% of the county. Range in elevation from 185 feet on the Columbia River to 3,600 feet on the plateau in the south.

The soil is mostly loess (wind-blown glacial silt) over residual soil from the underlying basalt with interspersed layers of volcanic ash.

Six small towns – Biggs, Rufus, Wasco, Moro, Grass Valley and Kent – provide basic services for the 1,750 residents of the County. The county seat is Moro, elevation 1,807'. The economy is based on wheat, barley, cattle and tourism.

A. Resource concern: Water

Situated on the east side of the Cascade Mountains, Sherman County features a hybrid climate, part Mediterranean and part Intermountain Region, meaning four distinct seasons and low annual precipitation. The Columbia Gorge, however, serves as a natural conduit for normal eastward migration of ocean-conditioned air masses from the Pacific. Much of the time these air masses tend to substantially modify extreme temperatures of both summer and winter. These strong marine influences are also reflected in the occurrence of precipitation more than half of which falls from November through February.

As a result of the marine air influence through the Columbia Gorge, rarely do abnormally hot or abnormally cool spells persist for more than a few days at a time.

Occasionally, fairly heavy snow results when cold polar air masses push down from Canada and mix with the much warmer and relatively moist marine air. While this resulted in a snow depth of 3-5 feet during the winter of 1884-1885, the average snowfall for the last 20 years is only 19 inches total per year. The 74 years previous to that averaged 22 inches. These totals represent the

annual total that falls, not the accumulated depths. The snow typically falls to depths of 1-4 inches, and usually lasts only for a few days before warmer temperatures or rains melt it away. On an average, 27 days per year have at least one inch of snow on the ground. Most precipitation, even in the winter is in the form of rain. The total annual precipitation is about 11.11 inches.

Thunderstorms may occur about 10 times per year and mostly in June.

Average relative humidity at mid-afternoon is about 48%. Humidity is usually higher at night and averages about 70% at dawn. Sunny skies are the rule for about 82% of the summer days and 30% in the winter.

During dry years, dust storms may be common, especially in the northeast part of the county, but adoption of conservation tillage practices have reduced these except during the driest years or a succession of dry years.

Winds vary around the county with the north and northeast portions of the county subjected to higher wind conditions, again influenced by the proximity of the Columbia Gorge and the pressure variations between the high desert to the east and the milder Willamette Valley. Winds are predominantly from the west and much less sustained in the southern portion of the county.

B. Resource concern: Humans

Sherman County present date is primarily a farming community that raises small grains and cattle.

Tribes & Treaty Rights

For centuries preceding western settlement, Columbia Basin Tenino and Wyam Indians lived, fished, hunted and traded along the three rivers that border Sherman County, the Columbia, Deschutes and John Day.

The Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes and Bands of the Yakima Indian Nation are the tribes in the Columbia Basin with 1855 Columbia River Treaty rights to anadromous fish.

Explorers & Passers-By

Early explorers reported the splendid abundance of the Pacific Northwest and by 1843 thousands of pioneers set out for the Oregon Country. Emigrants passed through what is now Sherman County in a great cloud of dust on the way to the Willamette Valley.

Settlers & Homesteaders

The county's first permanent white settler was William Graham, who located at the mouth of the Deschutes River in 1858. Next came innkeepers and stage station, ferry and toll bridge operators. Stockmen followed with herds of horses, cattle and sheep which ranged freely over the rolling bunchgrass hills. Jesse Eaton settled at the head of Spanish Hollow.

Homesteaders, eager for land, arrived in the 1880s by steamboat, stage and wagon; shortly, farmers settled every quarter section. The area changed almost overnight from livestock country to a farming community as settlers built homes, plowed the grass and fenced the rolling prairie in order to receive government patents.

Formation of the County

With the population growing and desiring independence from Wasco County, E. O. McCoy's legislative bill creating a county to be called ***Fulton***, after the pioneer Fulton family, passed in 1889. Established February 25, 1889, the new county was, however, named ***Sherman*** after General William Tecumseh Sherman of Civil War fame.

Hamlets Long-Gone

Long-gone, sometimes remembered hamlets, sites of country schools or rail sidings include Rosebush, Erskine, Bourbon, DeMoss, Rutledge, Wilcox, Gorman, Gordon, Grover, Fargher, Emigrant Springs, Early (for its early spring garden produce on the John Day River), Miller, Monkland, McDonald or McDonald's Ferry (at the John Day River Oregon Trail Crossing), Thornberry and Klondike.

Trails, Rails & Roads

Beginning in the 1840s, Oregon pioneers passed through the northern part of the county on the ***Oregon Trail***, from the John Day River Crossing to the crossing at the mouth of the Deschutes River. Some emigrants destined for the Barlow Road took the ***Cut-off to the Barlow Road*** a

short distance west of the John Day River leading southwesterly through Grass Valley Canyon to present-day Grass Valley and down Hollenbeck Point to Buck Hollow and a dangerous crossing of the Deschutes River.

From the 1860s, a series of stage, mail and freight routes crossed the county, connecting The Dalles with Boise, Umatilla, Walla Walla and Canyon City. The Dalles Military Road, established in 1868, cut from the northwest on the Deschutes diagonally toward Shaniko in Wasco County on the south, following a route used for years by pack train operators.

Oregon Railway and Navigation Company trains roared down the Columbia from the John Day River to Celilo in 1881. This railway connected with the transcontinental line in 1883, bringing many settlers to this area.

The Columbia Southern Railroad, running from Biggs on the Columbia River to Wasco, was built in 1897 with much celebration as it ended long days of hauling wheat by wagon to the river. By 1901 the railroad reached Shaniko, a stretch of 70 miles.

The county's population swelled to 4,242 in 1910, during the James J. Hill and E.H. Harriman fight to build a railroad up the Deschutes River.

Today, Interstate 84 parallels the Columbia River and old Highway 30, intersecting at Biggs with Highway 97 which traverses the full length of the county and links Sherman County to Washington State via the Sam Hill Memorial Bridge and points south.

Highway 206, crossing the county diagonally, follows Fulton Canyon from the Columbia River through Wasco to Cottonwood Grade and the John Day River, destination Condon and beyond.

Highway 216 connects Grass Valley to the juncture of Buck Hollow and the Deschutes River near Sherar's Bridge.

The devastating flood of December 1964 ripped apart the rail line over which grain was shipped to Columbia River rail and barge facilities. Grain is trucked from the field to farm storage bins and grain cooperative elevators where it is stored until sold and shipped.

Enormous barges pushed by tugs ply the waters of the Columbia River transporting goods and fuel upriver and grain downriver for distribution.

C. Resource concern: Soils

The soil is mostly loess (wind-blown glacial silt) over residual soil from the underlying basalt with interspersed layers of volcanic ash.

250,198 acres have been determined as Highly Erodible Land in the county. Soil Erosion is a major concern in the county with the winters of freezing and thawing of soils with precipitation on top of that.

D. Resource concern: Air and Energy

Conserving energy and reducing carbon being released into the atmosphere have become larger concerns with conservation groups. Producers in Sherman County are moving toward different technologies in order to reduce their costs by conserving energy and annual inputs. In 2009, the reported acres at Farm Service Agency showed that direct seed has been adopted on 13% of the tilled acres in Sherman County and is being tested by several other producers.

Some other energy conserving practices that are being done on Sherman County cropland are converting to "Smart Sprayers," to reduce overlap of chemicals, Yield Monitor Mapping with the use of Variable Rate Application to reduce fertilizer inputs and adjust the rate throughout the field based on the maps. The use of reduced tillage techniques, crop rotation to break pest cycles and the use of varieties to reduce pest infestations are some more examples of what the Sherman County producers are doing.

On rangeland there is an increased number of producers using solar and wind to fill troughs and power electric fence. Biological Pest Control is being done on land to reduce applied herbicides.

In 2005 approximately 170 acres of irrigated cropland was converted from Wheat/Hayland to Cherries. While these acres use more water due to the crop needs, the technology that they are using is advanced and water is conserved in these orchards. With the use of flow meters, advanced irrigation water management, low flow micro-irrigation nozzles, etc... these producers are utilizing all tools to conserve water and energy.

E. Resource concern: Plants and Animals

Section II of the Field Office Technical Guide (FOTG) has a list of Threatened and Endangered Species listed. In addition to these species there are also species of concern to both Federal and State agencies.

In Sherman County the species most ofter found for the planning process is salmonids. These are often found in the 3 major rivers and streams that run through the landscapes of agricultural operations in the county (mainly rangeland).

Upland habitat issues include lack of abundance of water for the wildlife. Conservation Reserve Program (CRP) has established food and shelter for the wildlife with 85,693 (16% of Private Land in the County) acres enrolled.

Noxious species of concern include Canadian Thistle, Knapweed, Yellow Starthistle and Skeletonweed. Biological Controls are being done in the county to control some of the above species. Other species of concern that are not listed include Medusahead.

Section II- RC Air and Energy
Energy Conserving Practices

Conserving energy and reducing carbon being released into the atmosphere have become larger concerns with conservation groups. Producers in Sherman County are moving toward different technologies in order to reduce their costs by conserving energy and annual inputs. In 2009, the reported acres at Farm Service Agency showed that direct seed has been adopted on 13% of the tilled acres in Sherman County and is being tested by several other producers.
Some other energy conserving practices that are being done on Sherman County cropland are converting to "Smart Sprayers," to reduce overlap of chemicals, Yield Monitor Mapping with the use of Variable Rate Application to reduce fertilizer inputs and adjust the rate throughout the field based on the maps. The use of reduced tillage techniques, crop rotation to break pest cycles and the use of varieties to reduce pest infestations are some more examples of what the Sherman County producers are doing.
On rangeland there is an increased number of producers using solar and wind to fill troughs and power electric fence. Biological Pest Control is being done on land to reduce applied herbicides. In 2005 approximately 170 acres of irrigated cropland was converted from Wheat/Hayland to Cherries. While these acres use more water due to the crop needs, the technology that they are using is advanced and water is conserved in these orchards. With the use of flow meters, advanced irrigation water management, low flow micro-irrigation nozzles, etc... these producers are utilizing all tools to conserve water and energy.

Section II- RC Water
Groundwater and Drinking Water

There are no known groundwater or drinking water concerns presently in Sherman County. Refer to the map showing Sherman County Drinking Water Source Areas for Public Water Systems. The Service Center will monitor the development of any if they shall occur.

Section III

NATURAL RESOURCES ANALISYS

This section looks at where conservation partners are focusing their efforts, what overall conservation progress has been made in the county in the last 5-10 years and what overall conservation needs are most pressing based on resource inventory.

PARTNER CONSERVATION EFFORT

Sherman County Soil and Water Conservation District (SWCD) has been a very effective partner for conservation projects in the county. Between Small Grants, Large Grants, Education Grants and Watershed Assessments, their partnership has strengthened the conservation efforts. The **small grants** funds projects up to $10,000 based on the percentage of cost share the operator accepts. These funds have generally funded wildlife enhancement projects, soil erosion both sheet and rill and classic gully erosion as well as rangeland enhancement projects. The **large grant** funds cost share on all practices as in the FOTG. These have also generally funded the same projects as the small grants.

A new program (since June 2008) through the SWCD is the **Watershed Education Incentive Fund** which was put together by the board of directors to promote agricultural educational experiences. The grant funds are available for up to $2,000 with a 25% match shown. Any local organization can apply for conservation related projects.

Watershed Assessments have been complete on Grass Valley Waterhsed which is our largest watershed in the county. There is one in progress for Pine Hollow/Jackknife to be completed in December 2012. These assessments have been significant for the Strategic Conservation Planning Process.

CONSERVATION TREATMENT PROGRESS

Sherman County Local Work Group has been primarily focusing on soil erosion for the past 5-10 years. In 2001-2003 the efforts were focused mainly in the Grass Valley Watershed because it is the largest watershed with the most producers. Buck Hollow Watershed had been treated previously as an effort between Sherman and Wasco Counties. Structures such as Grassed Waterways, Terraces and Water and Sediment Control Basins were the most likely to have been done for soil erosion.

More recent the Local Work Group has shifted from only soil erosion control measures to more diversity. Since the catostrophical events (fires) in 2006 burned up a majority of the

rangeland in the county, it is important to restore these lands back to their historical state. Also a focus is to improve system efficiency for irrigated land.

CONSERVATION NEEDED EFFORTS

The Conservation still needed in Sherman County coincides with the above information. As we have been working on these efforts for the past 4 years or more, there are always improvements or new innovative ways for conservation.

Depending on the Conservation Reserve Program (CRP), we may focus our efforts on those properties that are HEL and land that has T of 2 soils.

Soil Erosion

What is the severity of the problem?
Sherman County has 235,000 acres of wheat farmland and 86,000 acres in CRP. Almost 70 percent of the farmland is affected by erosion from wind and agricultural operations. With such a high amount of erosion, streams and rivers are showing increased levels of sedimentation clouding the water. Herbicides, pesticides, and fertilizers leach into the water as well; a problem that could be eliminated with the reduction of erosion and the amount of farm inputs applied. If nothing is done to reduce erosion, a decrease in stream health and the overall agricultural sustainability will continue to be seen.

Who is willing to help with this resource concern?
The NRCS is partnering with the Sherman County Soil and Water Conservation District, Sherman County Watershed Council, FSA, Sherman County Court and the Local Work Group to continue to focus on soil erosion and highly erodible land, HEL.

Resource trends
The Sherman County Local Work Group has been focusing on soil erosion for the last five to 10 years. The amount of soil erosion has decreased as a result of the efforts, which include the installation of terraces and the increased awareness of no-till and trash fallow. However, only 32,000 of the 235,000 acres used for wheat production in Sherman County are farmed using no-till or direct seed.

The future of Sherman County's conservation programs for soil erosion, such as EQIP, is indefinite as the number of contracts is down, possibly due to producers making more money from high wheat prices or that erosion is being controlled through programs that are more effective, such as CRP.

What are the goals?
- Decrease farm inputs such as herbicides and fertilizers
- Decrease soil erosion caused from farming practices to meet "T"

Within five years, 50 percent of the soil in Sherman County should meet soil tolerance levels. This can be done through close cooperation with the district to get funding. Producers have a hard time changing farming methods without financial incentives. Word of mouth among farmers on the effectiveness of cost-share assistance programs will help, as well as the NRCS's attention to a focus area.

How much funding is required?
Treating 11,000 acres per year will allow the total acres in concern, 164,500, to be treated in 15 years. About $400,000 is needed per year to work on only the applied acres. Technologies change rapidly and the problems will constantly improve but there will always be more advanced ways to meet the resource concerns.

Rangeland Sustainability

What is the severity of the problem?
Rangeland restoration is needed on 50 percent, or about 71,000 acres, of the total private mixed and shrub rangeland in Sherman County. The main focus areas are the Grass Valley and Pine Hollow/Jackknife watersheds, due to assessment availability. Wildlife and livestock watering devices are needed and fire damage and historical overgrazing have caused invasive species to eradicate the native perennial grasses. The lack of near-stream vegetation has created an unsatisfactory habitat for steelhead in the John Day River.

Who is willing to help with this resource concern?
The Sherman County Soil and Water Conservation District, Sherman County Watershed Council, FSA, Sherman County Court, the Local Work Group, and the OSU Extension office are all willing to partner with the NRCS to help better the rangeland health.

Resource Trends
In 2008, a large fire destroyed approximately 56,000 of mostly rangeland acres in Sherman County. This has resulted in increased invasive species because perennial native grass seeds do not grow back from fire damage as quickly as invasive weed seeds, such as Medusahead rye. Another resource trend is that the number of cattle has decreased in the last decade causing fewer people to make an effort to restore the rangeland.

What are the goals?
- Increase wildlife and livestock water
- Increase water quality
- Protect 303d listed streams
- Bring rangeland quality back to historical levels

If the available funds and efforts are focused on the goals, the rangeland needing restored will be brought down from 70 percent of all rangeland in Sherman County to 50 percent in five years.

For the rangeland sustainability to increase to historical levels, pest management is needed to treat invasive species before native perennial grass seed can be planted. An inventory of water

available for livestock and wildlife is in progress and the results will indicate where water devices are needed.

In 2012, the monitoring data for rangeland health for the Pine Hollow/Jackknife and other streams in Sherman County will be complete.

How much funding is required?
During the first year or two, as outreach expands, $50,000 will be needed per year and then the need will increase to $100,000 annually as the number of applications and participation grows. The Sherman County District helps with the outreach, which includes fliers, newsletters, and meetings that educate on the importance of rangeland restoration and the consequences of taking no action, as well as progress made. The NRCS plans to treat less than 5,000 acres per year; at this rate, the focus rangeland area of 71,000 acres will be restored in 15 years.

Section V

The Sherman County Local Work Group has prioritized the county resource concerns as follows:

1. Soil Erosion

Crop producers countywide will be willing to participate in efforts to improve soil quality and reduce erosion as this increases agricultural sustainability.

Partner contribution is as follows:
The NRCS is partnering with the Sherman County Soil and Water Conservation District, Sherman County Watershed Council, FSA, Sherman County Court and the Local Work Group to continue to focus on soil erosion and highly erodible land, HEL.

Success will be measured by future soil surveys, landowner feedback, and the number of applied EQIP contracts for soil conservation treatment.

2. Rangeland Sustainability

Landowners countywide are willing to participate in this effort as invasive species diminish the grazing capability, decrease stream quality, and destroy wildlife habitat.

Partner contribution is as follows:
The Sherman County Soil and Water Conservation District, Sherman County Watershed Council, FSA, Sherman County Court, the Local Work Group, and the OSU Extension office are all willing to partner with the NRCS to help better the rangeland health.

Success will be measured by anecdotal evidence from the landowner and the number of applied EQIP contracts for rangeland health.

Notes

January 8, 2013
8:00 AM
Sherman County Service Center

Attendees:

Bob Martin	Rod Asher, Weed District	Brad Eakin, SWCD
Tracy Fields, SWCD	Kyle Blagg, SWCD	Gary Irzyk, SWCD
Kristie Coelsch, NRCS	Jake Calvert, SWCD	Krista Coelsch, SWCD
Brian Stradley, SWCD	Kayla Alberti, WS Council	

The meeting convened at 8:00 AM. The minutes of the meeting held in March 2012 were reviewed and discussed.

Priority Resource Concerns from last year were discussed. The LWG still plans to focus efforts on the resource concerns for Energy and Noxious weeds.

Kristie gave an update on the current funding status for the two EQIP Funding Pools. Funds available are much lower than anticipated. Kristie has submitted a request for additional funding. The LWG suggested putting a dollar cap of $10,000 per operator on Energy Pool funding. They also suggested a cap of $25,000 per operator for projects funded from the Noxious Weed Pool.

After the completion of projects in the current EQIP Pools in approximately 5 years, the LWG suggested shifting the focus area for Noxious Weeds to some of the upland areas beyond the current two miles from the river. Medusa head and juniper are a growing concern. Another Resource Concern they would like to address is the Air Quality/Water Quality problem from "haul" roads. They also expressed concerns about the effects of County roads and the drainage they cause. They would like to partner with the County Road Department on this issue.

The LWG is very enthused about the work on the invasive weed issues and the partnering with ODFW, BPA, BLM, Oregon Parks, Sherman County, and the SWCD.

Meeting was adjourned at 8:50 AM.

Sherman County
Local Work Group
Notes

February 19, 2014
6:00 PM
Sherman County Service Center

Attendees:

Brad Eakin, SWCD	Kyle Blagg, SWCD	Gary Irzyk, SWCD
Kristie Coelsch, NRCS	Drew Messenger, SWCD	Kayla Von Borstel, WS Council
Bill Martin, SWCD	Jeremy Thompson, ODFW	

The meeting convened at 6:00 PM. The minutes of the meeting held in January 2013 were reviewed and discussed.

Priority Resource Concerns from last year were discussed. The LWG still plans to focus efforts on the resource concerns for Noxious weeds and would like to move forward with Soil Health.

Kristie gave an update on the current funding status for the two EQIP Funding Pools. Funds available are much lower than anticipated. The LWG suggested putting a dollar cap of $10,000 per operator on Soil Health Pool. They also suggested a cap of $25,000 per operator for projects funded from the Noxious Weed Pool.

After the completion of projects in the current EQIP Pools in approximately 5 years, the LWG suggested shifting the focus area for Noxious Weeds to some of the upland areas beyond the current two miles from the river. Medusa head and juniper are a growing concern.

Meeting was adjourned at 6:30 PM.

Sherman County
Local Work Group
Notes

February 10, 2015
8:00 AM
Sherman County Service Center

Attendees:

Brad Eakin, SWCD	Kyle Blagg, SWCD	Gary Irzyk, SWCD
Kristie Coelsch, NRCS	Drew Messenger, SWCD	Tom McCoy, County Commissioner
Eric Neusbaum, ODA	Tom Straughn, ODA	Ashley Augilar, SWCD
Jesse Stutzman, SWCD	Jeremy Thompson, ODFW	

The meeting convened at 8:00 AM. The minutes of the meeting held in February 2014 were reviewed and discussed.

Priority Resource Concerns from last year were discussed. The LWG still plans to focus efforts on the resource concerns for noxious weeds and Soil Health.

Kristie gave an update on the current funding status for the two EQIP Funding Pools. Funds available are much lower than anticipated. The LWG suggested putting the Soil Health applications as a higher priority for FY15 and move forward on the Weed Pool as much as possible with the remaining funds.

After the completion of projects in the current EQIP Pools in approximately 5 years, the LWG suggested shifting the focus area for Noxious Weeds to some of the upland areas beyond the current two miles from the river. Another discussion was to move through the 6th field HUC's and start treating the entire watersheds.

Kristie discussed NRCS opportunities through Easement Programs.

Meeting was adjourned at 8:30 AM.