

Multnomah County Long Range Plan

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Who We Are

Since 1935, the Natural Resources Conservation Service (originally called the Soil Conservation Service) has provided leadership in a partnership effort to help America's private land owners and managers conserve their soil, water, and other natural resources.

NRCS employees provide technical assistance based on sound science and suited to a customer's specific needs. We provide financial assistance for many conservation activities. Participation in our programs is voluntary. Our Conservation Technical Assistance (CTA) program provides voluntary conservation technical assistance to land-users, communities, units of state and local government, and other Federal agencies in planning and implementing conservation systems.

We reach out to all segments of the agricultural community, including underserved and socially disadvantaged farmers and ranchers, to ensure that our programs and services are accessible to everyone. We also provide technical assistance to foreign governments, and participate in international scientific and technical exchanges. We manage natural resource conservation programs that provide environmental, societal, financial, and technical benefits. Our science and technology activities provide technical expertise in such areas as animal husbandry and clean water, ecological sciences, engineering, resource economics, and social sciences. We provide expertise in soil science and leadership for soil surveys and for the National Resources Inventory, which assesses natural resource conditions and trends in the United States.

Our guiding principles are service, partnership, and technical excellence.

The **Portland Field Office** provides products and services that enable people to be good stewards of the soil, water, and related natural resources. With our help, people are better able to conserve, maintain, or improve their natural resources. This good stewardship involves actions to:

- Maintain the condition of the land through continued good management where adequate conservation is already in place.
- Prevent damage to the land where assessment of social, economic, and environmental trends indicates potential for environmental degradation.
- Enhance the land for further productivity and environmental health.
- Restore the land to health where damage to natural resources has already occurred.

The Field Office's role is to provide technical and financial assistance to help our customers care for the land. As a result of our assistance, land managers and communities take a comprehensive approach to the use and protection of soil, water, and related resources in rural, suburban, urban, and developing areas.

The assistance we provide is based on an understanding that the land—the landscape as a whole—must be the focus of conservation. Using this comprehensive approach, the people we help are able to help the land function as a living, sustainable system that provides a high standard of living and quality of life today and for future generations.

OVERARCHING STRATEGIES

Cooperative Conservation. We will seek and promote cooperative efforts to achieve natural resource goals.

Watershed Approach. We will provide information and assistance to encourage and enable locally led, watershed-scale conservation efforts.

Market-based Approach. We will facilitate growth of market-based opportunities that encourage the private sector to invest in conservation on private lands.

Our partners in our Strategic Approach to Conservation are:

East Multnomah Soil and Water Conservation District

West Multnomah Soil and Water Conservation District

Oregon State University Extension Service

Oregon Department of Agriculture

Oregon Department of Fish and Wildlife

Oregon Department of Environmental Quality

Metro

Multnomah County

USDA Farm Services Agency

Tryon Creek, Johnson Creek, Columbia Slough and Sandy River Watershed Councils

Columbia Land Trust

The Intertwine Alliance

Greater Portland-Vancouver Indicators Project

Customers

We serve, either directly or indirectly, all people of the County. However, the people who make decisions about natural resource use and management are our primary customers. We provide the technical assistance and science-based information that these stewards want to make good decisions about their natural resources.

Our primary customers:

- Farmers and ranchers, people who own, operate, or live on farms and ranches.
- Other members of the private sector who support production agriculture and natural resource conservation.
- Governments and units of government with responsibility for natural resource use and management.
- Non-profit organizations whose mission aligns with aspects of natural resource management.

These major customer types ask for different products and services, delivered in different ways. Within each major customer category, there are customer segments with different needs.

SECTION I. INTRODUCTION

Vision: *“Shared responsibility and commitment to local action achieves effective land stewardship”.*

This vision statement accurately describes how the Portland Field Office of the Oregon NRCS will strive to complete the outcomes identified through the strategic approach to conservation as we continue our mission.

Mission: *“To build alliances and strategically invest to effectively solve natural resource problems in Multnomah County”.*

The purpose of this document is to assist in directing the use of technical and financial resources by strengthening partnerships to more effectively address priority natural resource concerns in Multnomah County. This strategic approach to conservation encompasses a time frame from 2015 to 2020 and involves local, state and federal agency partners as well as local stakeholder participation to provide detailed guidance to identify problems and treatment opportunities important to the sustained use and management of natural resources and will include the following tasks:

- Analyzing existing conditions of soil, water, air, energy, plants and animals
- Identifying natural resource problems and desired future outcomes
- Prioritizing problems.
- Developing a portfolio of existing and potential projects
- Implementing on-the-ground actions by investing technical and financial assistance
- Outreach

General Overview of the County

History of Multnomah County

Information provided by the Historical Society of Multnomah County

Multnomah County was created on December 22, 1854. It was the thirteenth county created in Oregon Territory. The land was taken from the eastern portion of Washington County and the northern part of Clackamas County. The borders have remained relatively unchanged to the present.

Multnomah County was created when the people living in Portland found it difficult to travel to Hillsboro to conduct business at the county seat of Washington County. They also thought that they were paying too much in taxes to support the farmers in the rural areas surrounding Portland. In 1854, Portland businessmen petitioned the Territorial Legislature for a new county and Multnomah County was created at the subsequent session. The county was named after the Multnomah Indians who were part of the Chinookan tribe that lived on the eastern

tip of what is now Sauvie Island in the Columbia River. Multnomah County is the smallest county in Oregon, with only 465 square miles. It is bounded by Columbia County and the Columbia River on the north, Washington County on the west, Clackamas County on the south, and Hood River County on the east. Multnomah County is very diverse with Portland in the west and the Columbia Gorge and Mt. Hood in the east. Most of the eastern portion of the county is covered with timber and is sparsely populated.

The population of Multnomah County has steadily increased since 1860. The 2013 county population of 766,135 represented an increase of 4.2% over 2010. Portland is the county's largest city with an estimated 2014 population of 609,456. The population of Portland is expected to continue steady growth for the next 20 years and could result in a population increase of 725,000 giving the city a population of 1.3 million

Economy

The principle industries of Multnomah County are manufacturing, transportation, wholesale and retail trade, and tourism. Tourism attractions in Multnomah County include the Oregon Museum of Science and Industry, Washington Park and Zoo, Oregon Historical Society, Portland Art Museum, Rose Test Gardens, and Japanese Gardens in Portland, and Multnomah Falls in the Columbia River Gorge. The Port of Portland, established in 1891, exports more wheat from its marine terminals than any American port. The port also ranks high in overall tonnage and the importation of automobiles.

Geography

According to the U.S. Census Bureau, the county has a total area of 466 square miles (1,206 km²), of which 435 square miles (1,127 km²) are land and 79 km² (30 sq mi or 6.53%) are water.

Climate

Prepared by the National Climatic Center, Asheville, North Carolina.

The climate of Multnomah County is greatly tempered by winds from the Pacific Ocean. Summers are fairly warm, but hot days are rare. Winters are cool, but snow and freezing temperatures are not common except at higher elevations. During summer, rainfall is extremely light, so crops growing actively during this period need to be irrigated. Commonly, several weeks pass without precipitation. During the rest of the year rains are frequent, especially late in fall and in winter. In winter, the average temperature is about 40 degrees F. in most of the area and the average daily minimum temperature is 34 degrees. The lowest temperature recorded at Bonneville Dam was 0 degrees on December 31, 1968. At high elevations the average winter temperatures are as much as 10

degrees less than the rest of the area. In summer, the average temperature is about 65 degrees F. in most of the area and the average daily maximum temperature is 75 to 78. The highest recorded temperature at Portland was 107 degrees, on July 30, 1965. The frost-free period is 165 to 210 days. Total annual precipitation is about 40 inches over much of the county, but increases very markedly toward the east to 80 inches or more at both low and high elevations. The heaviest 1-day rainfall during the period of record was 4.73 inches at Bonneville Dam on October 11, 1959. At low elevations average seasonal snowfall at different locations varies, but ranges from about 8 to 18 inches. Greatest snow depth at any one time during the period of record is 8 inches in the west, and 28 inches in the east. There is at least 1 inch of snow on the ground 2 to 6 days a year. On the average, 100 days have 1 inch or more of snow on the ground. The average relative humidity in mid-afternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 75 percent. The percentage of possible sunshine is 60 in summer and 25 in winter. The prevailing wind is from the northwest. Average wind speed is highest, 9 miles per hour, in winter. In most winters, one or two storms over the whole area bring strong and sometimes damaging winds, and in some years the accompanying heavy rains cause serious flooding. Every few years in winter or summer, a large invasion of continental air mass from the east causes abnormal temperatures. In winter, minimum temperatures on several consecutive days are well below freezing. In summer, maximum daily temperatures for a week or longer are sweltering.

Physiography

Following information from the Soil Survey of Multnomah County

Bottom lands along the Columbia River and Sauvie Island are separated from the mainland by bayous and sloughs. These bottom lands extend westward from the delta of the Sandy River near Troutdale. During the spring freshet in May and June, followed by the snowmelt from parts of several states and Canada, the bottom lands are subject to flooding. When flooded, the bayous and sloughs become a vast expanse of the Columbia River. This has been a natural occurrence for thousands of years. Modern dams have helped to control the flooding, but occasionally flooding still occurs, as in 1996. Periods of volcanic activity and catastrophic flooding have occurred in the past in the survey area. The cones remain as picturesque timbered hills dotting the Portland area. A few, including Mt. Tabor and Mt. Sylvania, have unmistakable vents or craters, with cinders. The catastrophic floods were related to the several ice ages that came to North America over many thousands of years. Each of these ice ages had a thawing stage of hundreds of years, during which the Kootenay-Flathead trench in Canada and Montana was drowned by a frigid lake of great size. The lake was held in check by a lobe of ice in the gorges of northern Idaho. As the thawing continued the ice dam subsequently gave way. Mighty walls of water moved swiftly across the lowlands of Washington and Oregon. Sullivan's gulch, the route of the

main railway, light rail and highway from the east, is one of the channels gouged out and deepened by these catastrophic floods.

Major Resource Issues

Land use within Multnomah County is diverse with intertwined resource concerns that produce a complex mosaic of cause and effect.

- Primary resource concern: Soil Quality Degradation (organic matter depletion)
 - Secondary soil resource concern: soil erosion (sheet, rill and wind)
 - Cropland: These resource concerns are primarily exhibited through soil erosion that occurs during the rainy season after crops have been harvested and the ground is left bare. A secondary symptom for these resource concern is the increase in noxious weed invasion and an increasing need for insect and disease management
 - Pastureland: Multnomah pasturelands demonstrate soil quality / erosion resource concerns through evidence of over grazing, the presence of invasive species, watering from undeveloped surface water sources and inadequate heavy use area protection.
 - Forest: Areas with inadequate or poorly managed tree stands have poor soil health (and increased erosion) which leads to invasive brush species dominating the sites and limits wildlife habitat while increasing the risk of wildfire potential due to increased fuel density.
- Primary Resource Concern: Water Quality (excessive sedimentation; excessive nutrients in surface and ground waters)
 - Cropland: Agricultural activities that take place next to streams, rivers, canals or on unprotected slopes increase the risk of sediment and all adsorbed nutrients being transported into surface water sources used by communities and wildlife.
 - Pastureland: Unmanaged domestic livestock access to streams and rivers may adversely affect riparian conditions. In-stream passage barriers are limiting access by salmonids to historic upstream habitat locations.
 - Headquarters: Lack of protection for heavily used areas and poorly designed access roads cause runoff to carry sediment, nutrients, pesticides / herbicides to surrounding riparian areas, negatively affecting water quality and wildlife habitat.
 - Forest: Poorly designed /maintained access roads provide sediment sources that are transported to fish-bearing streams.

- Degraded Plant Condition (undesirable plant productivity and health)
 - Cropland: see soil health resource concern listed above.
 - Pastureland: see soil health resource concern listed above.
 - Forest: Tree health on non-industrial private land is declining due to the lack of management. This situation has caused stand conditions where both reforested areas and naturally established areas have trees that are spaced too close together causing decreased productivity, health, and vigor.

- Fish & Wildlife (inadequate cover / shelter / water quality / water quantity)
 - Cropland: Riparian areas in or near crop management land units suffer invasion of noxious and invasive brush species, lack of in-stream habitat, need for improved and diversified riparian tree and shrub canopies. Riparian stream areas are critical habitat for many species including Threatened and Endangered Fish species such as the salmon fish species.
 - *A great deal of interest by all federal and state resource agencies is being focused on this resource concern. Watershed Councils and Soil and Water Conservation Districts are actively involved in riparian area and in-stream restoration. The Bureau of Land Management (BLM), US Forest Service (USFS) and US Fish and Wildlife (USFW) are also supportive with financial and technical assistance.*
 - Pastureland: Inefficient use of available water for irrigation, both systems and management, are affecting pastureland productivity, health and vigor, and are a cause of water quality and quantity concerns in streams and rivers, many of which are 303D listed and have identified stream segments that provide critical habitat for anadromous fish.
 - Forest:
 - Sensitive Oak Woodland and Savannah habitat are in decline. The health of these systems is being negatively affected by trees that are competing for sunlight and nutrients and invasive species limit the potential productivity of desired plants. The few remaining areas of these unique habitats are also under threat of development.
 - Culverts and stream crossings are not designed to provide adequate capacity or fish passage.
 - *This is evidenced by the recent work done by Johnson Creek Watershed Council that completed a survey of all culverts and structures in the watershed and prioritized the removal or replacement of priority structures that would allow fish passage throughout the entire reach of Johnson Creek.*
 - Upland wildlife opportunities are limited due to reduced habitat values in overstocked areas that were reforested after harvesting operations

Resource: Soil

Areas dominated by very deep, well drained to poorly drained, nearly level to moderately steep soils on broad rolling terraces:

- These nearly level to moderately steep soils are on broad rolling terraces. They are in the central part of the county south of the bottom lands along the Columbia River. These soils make up about 22 percent of the county. These soils are loams and silt loams. They formed in old alluvial materials. Slopes range from 0 to 60 percent, and elevation ranges from 50 to 400 feet.

Areas dominated by moderately deep to very deep, well drained to somewhat poorly drained, warm, moist soils on uplands:

- These nearly level to very steep, warm, moist soils on uplands are adjacent to the valley floor in the eastern and western parts of the county. These soils make up about 34 percent of the county. These soils are loams, silt loams, silty clay loams, and cobbly loams. They formed in volcanic ash and in sediment and colluviums weathered from basalt and andesite. Slopes range from 0 to 90 percent, and elevation ranges from 50 to 2,800 feet.

Areas dominated by very deep and deep, well drained, cold, moist soils on uplands:

- These nearly level to very steep, cold, moist soils are on moist uplands. These soils are in the eastern part of Multnomah County in the Cascade Mountains. They make up about 23 percent of the County. These soils are gravelly loams, gravelly silt loams, very gravelly silt loams, and very cobbly fine sandy loams. They formed in colluvium and glacial till from andesite and basalt mixed with volcanic ash. The soils are generally underlain by glacial till or bedrock below a depth of 60 inches. Slopes range from 5 to 90 percent, and elevation ranges from 1,500 to 4,000 feet.

Resource: Water

Precipitation: Varies from about 40 inches at the lowest elevation to over 80 inches at the National Forest boundary.

Watersheds and Streams: The majority of Multnomah County consists of the Columbia, Willamette and Sandy River watersheds. The watersheds run their headwaters far from Multnomah County but coalesce here to provide an abundant water resource.

Irrigated Lands, Water Rights and Irrigation Districts: Irrigation in Multnomah County is supplied by surface water rights with water being withdrawn from streams and rivers. Water rights are either certified or being used by permit which will be adjudicated in the future. Almost without exception, all irrigated lands are irrigated by overhead sprinkler systems. Hand line is most common with some wheel lines, a few center pivot or linear

moves, and recently the introduction of pod system (K-Line). A growing amount of drip irrigation is utilized in higher value crops such as nursery, vineyards and blueberries. Most sprinkler irrigation systems are old.

Water Quality Impairment and TMDL Streams (303d): A TMDL identifying limiting factors has been completed for the Sandy River.



Water Quality Impairment and TMDL Streams (303d): A TMDL identifying limiting factors has been completed for the **Johnson Creek**. TMDL's have been established for pesticides (DDT and Dieldrin), temperature and bacteria from the mouth to the headwaters.

Johnson Creek and its tributaries have experienced development-related impacts to its natural hydrology that may influence stream temperatures. Of these, altered channel morphology, water withdrawals and reduction of summertime base flows due to increases in impervious surface area probably have the most impact on stream temperatures. Bacteria and toxics water quality problems are also exacerbated by the current hydrology of the basin. In the case of bacteria, the paths and time in which it takes bacteria to go from “source” to “stream” are often greatly altered by modern stormwater conveyance systems and land use practices. For example, fecal waste deposited several hundred feet away from a stream could be transported to the stream in minutes via an urban storm system – a path that may take several days under natural overland flow conditions. Since die-off rates for bacteria are typically in the order of days, the bacteria from the fecal waste would likely contribute to stream standards violations when transported quickly via the storm system, but would be much less likely to survive natural overland transport – as evidenced by the low bacteria numbers seen in forested watersheds with natural hydrology and abundant wildlife. Lastly, the current water quality standards violations for the “legacy” pesticides DDT and dieldrin may also be exacerbated by human-related factors that impact hydrology. DDT and dieldrin were used extensively throughout the watershed and typically find their way to Johnson Creek attached to sediment particles transported during rainfall events. Human activities have a large influence on the magnitude and

duration of the erosional processes that move these toxic-laden sediments from land to the stream. Sediment laden runoff from agricultural areas carries with it DDT and dieldrin, as does the runoff from construction sites, landscaping and other land disturbing activities occurring in the urban areas of the watershed. Practices typical of both landscapes contribute to the “flashy” nature of the Johnson Creek hydrograph and result in an increase in overall pollutant loads to the system.

Resource: Air and Energy

Air quality: Nonattainment and maintenance areas for air quality standards: The Greater Portland Basin can generate enough pollution to be designated as a nonattainment area for air quality.

Energy: Wind power generation is generally not pursued in Multnomah County. Although consistent wind velocities conducive to development of wind power generation may exist, lack of aesthetics and property right issues is a major limiting factor. There is some interest in individual small scale solar power generation and individual micro-hydro power generation. Biogas generation plants are being planned, and in one case, a permit has been applied for to build a plant that uses restaurant waste, yard waste and some limited farm waste in NE Portland.

Resource: Plants and Animals

The rainy winters of western Oregon support an unbroken cover of vegetation. In the low riverside country there are a few small prairies and many ponds and swamps. Along the riverbanks grows a lofty fringe of cottonwood trees, as much as 80 feet high. Smaller trees, such as ash, willow, favor the banks of sloughs and marshes. Oak Island, a part of Sauvie Island, has a magnificent stand of Oregon white oak. Benchlands, safely above the annual floods, support a somewhat stunted growth of Douglas-fir, the dominant tree of western Oregon. These trees are “stunted” only in comparison to trees on better soils in the foothills and mountains. In Forest Park, on the flanks of the Tualatin Mountains, in the Bull Run watershed and scattered in the Columbia gorge are Douglas-fir at climax that are 4 to 6 feet thick and 200 feet high.

Plants provide a cover that helps to reduce erosion and stabilize the soil surface. Leaves, twigs, roots, and remains of entire plants accumulate on the surface of forest soils and are decomposed by micro-organisms, earthworms, and other soil fauna. Plant roots widen cracks in the underlying rock, permitting water to penetrate. The uprooting of trees by wind also mixes soil layers and loosens the underlying material. In Multnomah County, the soils formed under three major types of plant cover. In the xeric soil zone, grass was a prominent member of the plant community along with a mixed conifer and deciduous forest of Oregon white oak, bigleaf maple, and Douglas-fir. The annual dieback of roots provides large amounts of organic materials. The deciduous trees absorb calcium and other bases and return them to the soil annually, thus reducing the effects of leaching. Under these conditions Mollisols, such as Helvetia soils, have formed. In the udic soil zone, the proportion of grasses and deciduous trees decreased and the proportion of conifers increased. Organic matter

accumulated; however, bases were absorbed by the conifers but not so readily returned to the soil as in the xeric zone. The greater precipitation in the udic soil zone has resulted in more leaching of bases, so that soils that have an umbric epipedon, such as Mershon soils, have formed. At a higher elevation, mainly in places in the Cascade Mountains where precipitation exceeds 120 inches annually, the plant communities are dominantly conifers such as western hemlock and noble fir. In these areas, the presence of large amounts of organic matter and the leaching of bases have produced a high hydrogen ion concentration and resulted in the formation of Typic Cryorthods, such as the Lastance soils.

Forest Health – understocked forestlands: On private non-industrial forestlands there are some lands that have been cut through a number of times and the remaining trees are of very poor quality and undesirable species from a commercial point of view, or, quite a few years ago replanting after harvesting was not required or management after replanting was inadequate to obtain good forest tree stand density. In some cases invasive brush species such as blackberry, scotch broom and Gorse have invaded the stands and it takes considerable time, effort and financial resources to reclaim these areas and get them into healthy forestlands again.

Forest Health – overstocked forestlands: On private non-industrial forestlands, many have not been managed to obtain the appropriate stand density. As a consequence, these lands are overstocked, growth rates essentially are stalled, and the stands are subject to increased hazards from wildfire. Many of these stands also have problems with invasive brush species. The wildlife benefits are greatly reduced when these stands are overstocked.

Forest Health – oak woodland and savannah habitat: Oak woodlands and oak savannah habitat is prevalent throughout most of the lower elevations. It is a critical habitat for many species including the Yellow billed cuckoo and other neo-tropical migratory birds. More than 160 species are documented as using the oak woodlands. With the reduction of burning by the Indian peoples and control of more wildfires for the last 100 years, it appears that oak woodlands have increased when compared to maps from the 1872 General Land Office survey and when compared to the Historical Strategic Habitat GIS mapping layer that is available. Many of the oak woodlands are overstocked by many times and are unable to develop the desirable characteristics which provide the greatest wildlife benefit. Some of the overstocking can be attributed to the lack of fire in the forest system. Considerable thinning and control of invasive brush species is needed to gain the desirable wildlife benefits. Douglas fir also is encroaching into many oak stands. Many agencies and entities and landowners are interested in improving oak woodlands. Recently considerable technical and financial assistance has been available to assist landowners. There is considerable support from agencies to improve oak woodland conditions for the benefit of endemic species. Many of the oak woodlands are also grazed with domestic livestock and improvements such as cross fencing, livestock water developments and prescribed grazing are benefitting wildlife populations

SECTION III. NATURAL RESOURCE ANALYSIS

Partner Plans:

East SWCD: Long Range Plan

West SWCD: Long Range Plan

Watershed Councils

Oregon Department of Agriculture: Ag Water Quality Management Plans Lower Columbia and Sandy River

Oregon Department of Fish and Wildlife (ODFW): Conservation Strategy

Oregon Department of Forestry

Oregon State University Extension Service: North Willamette Experiment Station Long Range Strategy

Intertwine Strategic Plan

Existing efforts from partners:

Stream Care program continues to be a very successful program that provides eligible landowners with free weed control and tree planting along the creek.

Johnson Creek Watershed: All land owners along the creek with property outside of the city limits of Gresham may be eligible for Stream Care.

Beaver Creek Watershed: All land owners with property along the main stem of the creek from the head waters to 302nd may be eligible.

East Multnomah SWCD anticipates being able to decrease their funding of this program due to their success and plan to re-focus their efforts to address soil erosion and sediment into area streams.

Healthy Streams is a continuing WMSWCD program that provides funding and technical assistance to landowners for streamside restoration to improve water quality and wildlife habitat. Target areas continue to be canals and ditches on Sauvie Island and Rock and Abbey creeks in the West Hills. The objective on Sauvie Island agricultural land is to reduce invasive plant species and tillage that occurs directly adjacent to waterways which may contribute to erosion and sedimentation. The District will pay to install non-invasive herbaceous buffers in their place.

County Cooperative Weed Management group continues to work with willing landowners to prevent the introduction of and control the spread of harmful invasive plant species in Multnomah, Clackamas, Washington and Clark counties.

The West Willamette Restoration Partnership continues to help control aggressive weeds in the forests of Portland's Southwest Hills; namely in the wooded corridor along Terwilliger Boulevard between Forest Park and Tryon Creek State Park.

Early Detection & Rapid Response

Preventing the introduction of invasive species is the first line of defense against new invasions. However, even the best prevention efforts will not stop all invasive species introductions. Next to prevention, the most time and cost-effective way to manage the potential negative impacts of new invasive plants is through Early Detection and Rapid Response (EDRR) efforts.

The EDRR program does not stop at the borders of our District. We have partnered with the West Multnomah Soil and Water Conservation District (WMSWCD) and the City of Portland to make sure this EDRR program is available throughout all of Multnomah County. This ensures that all lands in the county are being monitored and that someone is accountable for responding to these destructive species should they arrive here. Each group will be responsible for report management and treatment in the following areas:

- EMSWCD, all of Multnomah County east of Portland city limits;
- City of Portland, all areas within Portland city limits;
- WMSWCD, all areas north and west of Portland city limits and all of Sauvie Island

Wildlife Conservation Opportunity Areas: The Willamette Valley Ecoregion and the west hills inclusion into the Coast Range Ecoregion contain a wide diversity of species and vegetation. A number of opportunities exist to improve conditions and generally center around forest health and water quality. Refer to Oregon Department of Fish and Wildlife for the “Oregon Conservation Strategy” for a discussion of opportunities.

Salmonids: Essentially every stream in the county is potential habitat for salmonid species such as Coho, Chinook and Steelhead. Extensive efforts are ongoing in regards to habitat improvements and awareness of management concerns particularly in regards to domestic livestock management affecting water quality. Various subbasin plans, watershed plans and NOAA-Fisheries Recovery Plans provide additional sources of information on salmonids. Fish passage issues are a prime concern. Multnomah County completed an in-stream barrier assessment identifying barriers such as culverts which are preventing access by fish to upper reaches of streams. Private lands are generally located below federal lands which may have very good in-stream habitat. Providing access across private lands to access the federal lands will take considerable technical and financial assistance but is critical to the success of the recovery of the salmonid species.

Pollution in our streams:

Multnomah County has jurisdiction in several watersheds that hold a polluted stream, and is currently developing clean-up plans with public and private partners.

Pollutant	Water Body
Temperature*	SandyRiver
	Gordon Creek
	Beaver/Kelly Creek
	Lower Willamette River
	Johnson Creek
	Tryon Creek
Bacteria	ColumbiaSlough
	Beaver /Kelly Creek
	Johnson Creek
Mercury	Springbrook Creek
	Lower Willamette River
DDT, Dieldrin	Johnson Creek

Threatened & Endangered Species (T&E):

FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE WHICH MAY OCCUR WITHIN MULTNOMAH COUNTY, OREGON

Last Updated July 12, 2008 (2:44:49 PM)

U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office

Listed Species

Mammals

Terrestrial:

Columbian white-tailed deer *Odocoileus virginianus leucurus* E
(Columbia River distinct population segment)

Birds

Northern spotted owl *Strix occidentalis caurina* CH T

Plants

Water howellia *Howellia aquatilis* T

Bradshaw's desert parsley *Lomatium bradshawii* E

CANDIDATE SPECIES

Birds

Streaked horned lark *Eremophila alpestris strigata*

Plants

Northern wormwood *Artemisia campestris* var. *wormskioldii*

SPECIES OF CONCERN

Mammals

Pallid bat *Antrozous pallidus pacificus*

Red tree vole *Arborimus longicaudus*

Townsend's western big-eared bat *Corynorhinus townsendii townsendii*

Silver-haired bat *Lasionycteris noctivagans*

Long-eared myotis bat *Myotis evotis*

Long-legged myotis bat *Myotis volans*

Yuma myotis bat *Myotis yumanensis*

Camas pocket gopher *Thomomys bulbivorus*

Birds

Northern goshawk *Accipiter gentilis*

Tricolored blackbird *Agelaius tricolor*

Western burrowing owl *Athene cunicularia hypugaea*

Olive-sided flycatcher *Contopus cooperi*

Harlequin duck *Histrionicus histrionicus*

Yellow-breasted chat *Icteria virens*

Lewis' woodpecker *Melanerpes lewis*

Mountain quail *Oreortyx pictus*

Band-tailed pigeon *Patagioenas fasciata*

Oregon vesper sparrow *Poocetes gramineus affinis*

Purple martin *Progne subis*

Reptiles and Amphibians

Northern Pacific pond turtle *Actinemys marmorata marmorata*

Coastal tailed frog *Ascaphus truei*

Oregon slender salamander *Batrachoseps wrighti*

Larch Mountain salamander *Plethodon larselli*

Northern red-legged frog *Rana aurora aurora*

Cascades frog *Rana cascadae*

Fish

Green sturgeon *Acipenser medirostris*

Pacific lamprey *Lampetra tridentata*

Coastal cutthroat trout *Oncorhynchus clarki ssp*

Invertebrates

Snails:

Columbia pebblesnail *Fluminicola fuscus* (= *columbianus*)

Insects:

Mt. Hood primitive brachycentrid caddisfly *Eobrachycentrus gelidae*

Mt. Hood farulan caddisfly *Farula jewetti*

Columbia Gorge neothremman caddisfly *Neothremma andersoni*

Wahkeena Falls flightless stonefly *Zapada wahkeena*

Clams:

California floater mussel *Anodonta californiensis*

Plants

Howell's bentgrass *Agrostis howellii*

Cliff paintbrush *Castilleja rupicola*

Cold-water corydalis *Corydalis aquae-gelidae*

Pale larkspur *Delphinium leucophaeum*

Peacock larkspur *Delphinium pavonaceum*

Howell's daisy *Erigeron howellii*

Oregon fleabane *Erigeron oregonus*

Barrett's penstemon *Penstemon barrettiae*

Snake River goldenweed *Pyrocoma radiata*

Whitetop aster *Sericocarpus rigidus*

Oregon sullivantia *Sullivantia oregana*

Resource Problem statements generated from the Local Work Group

Resource Problem:

Reductions in soil quality caused by lack of organic matter and tillage result in soil erosion and sedimentation from cropland operations that lack cover crop and/or buffers result in reductions to surface water quality, including an increased presence of pesticides and nutrients. In addition, overuse of nutrients and pesticides on irrigated cropland and urban landscapes results in higher nitrate and pesticide levels detected in groundwater, impacting municipal and personal drinking water wells.

Resource Problem:

Unhealthy young forest stands result in reduced productivity, increased soil erosion, increased fire hazard, insect and diseases and provide prime locations for noxious weeds.

Resource Problem:

Cumulative ecological, social and economic pressures and urbanization increases the likelihood that producers will sell their land or convert it from farming. Fewer farmed acres results in reduced open space, increased pressure on wildlife species and reduced biodiversity.

Resource Problem:

Loss of wildlife habitat and connectivity across the Willamette Valley from parcelization reduces species diversity, numbers and the potential for wildlife genetic transfer.

Which resource problems may be best addressed with NRCS investment?

So much work is being done by the Districts and Watershed Councils, City's, Metro and other NGO's in the urban area that NRCS can comfortably remove that area from its strategic focus for the majority of the resource problems listed above. The only exception to this would be the resource problem of the loss of farmland to urbanization.

The areas beyond the urban growth boundary are substantially limited as to the technical and financial resources they can utilize, and that, is the focus of this plan. For these areas, SWCD's, OSU, some watershed councils and NRCS are the major sources of technical and financial assistance needed to address natural resource concerns.

Looking at the above list of resource problems, and accounting for work done by other partners, NRCS will be focusing on these resource problems with hope of a measurable improvement in them in the next five years:

Loss of farmland: Agricultural Conservation Easement Program (ACEP): preserve farmland and help create markets for local food.

Unhealthy forests: EQIP program provides incentives for improvements to forestland.

Loss of habitat: EQIP and ACEP provide incentives to improve connectivity, diversity and extent of habitat.

Soil quality: EQIP provides financial and technical assistance to improve soil quality on crop, pasture and forest land.

SECTION IV. NATURAL RESOURCE PROBLEMS and DESIRED FUTURE OUTCOMES

It's tough to be the last outpost on a big river. All the effort and money at our disposal won't reduce the water temperature or change the TSS of the Willamette or Columbia much less the Sandy River or even Johnson Creek. However, outcomes that point to the elimination of this County's contribution to those water quality issues can justify efforts of time and money from NRCS and its major partners. Focus on natural resources problems are the backbone of our mission. But our position in the geography of Oregon has placed pressures on our mission that are non-traditional. Loss of farms and farmers, local food initiatives and equity issues in our delivery of services require us to look anew at our goals, outcomes and priorities. To this end, multiple strategic planning efforts and consultations with partners have painted our strategic management with a non-traditional pallet of natural and human resource colors.

MISSION GOALS & OUTCOMES

Loss of farms, farmland:

The loss of farm land within the UGB is extensive. The areas of Sauvie Island and East of Sandy are the surviving remnants. The surviving parcels within the UGB are facing increasing pressure for development.

A growing interest in regional food and agriculture has resulted in efforts to enhance rural-urban linkages through creation of farmers markets, community supported agriculture, farmer-chef collaborations, and promotion of local food products. The interest has also resulted in political efforts at scales from the household to the state to foster a regionally-based community food system.

Agriculture and urbanization have traditionally been linked in discussions of loss of agricultural land to urban growth. However, there are regional variations in patterns of urban growth and in the adaptive transformation of farms. The cultural and economic context of agricultural change around Portland suggests that population increase and cultural change can provide opportunities for farming by creating markets for locally grown products. Changing food preferences and local food politics can affect land use and landscape and help shape a regional dynamic where agriculture connects rather than divides urban and rural residents.

The goal is to use ACEP to protect as much farmland as possible but the culture has not yet been established and the strategy is to start small, get one property in 2015 (working with East Multnomah SWCD), two by 2017 (continuing as demand indicates) and develop the culture of preservation that will eventually make a difference in the local food system. Both SWCD's and Metro have farmland preservation goals in their long range plans. The desired outcome is a viable and healthy agriculture in Multnomah County.

Unhealthy forests: Unhealthy young forest stands result in reduced productivity, increased soil erosion, increased fire hazard, insect and diseases and provide prime locations for noxious weeds. The forest industry around Multnomah County lost much of its volume as the result of parcelization. This urbanization of the forests and the change of ownership from industrial forests to forest landowners who aren't foresters is the cause of most forestland resource concerns. The partners are working to educate and reconnect the forest owners with their stewardship responsibilities. EDRR efforts are proving to be a great way to connect the forest owners with the financial and technical resources available to them through the SWCD's and NRCS. With the objective of improving habitat values, tree farm viability and soil and water quality the desired future condition of the

forestland in and around Multnomah County is a functioning forest ecosystem that provides habitat and, in the case of tree farms, sustainable forest products.

The first phase in the forest health strategy is to focus on the McCarthy Creek and Sandy River watersheds. The goal is to get at least 40 percent of the forest owners enrolled in an incentive program delivered by NRCS or the SWCD's.

Loss of habitat: Loss of wildlife habitat and connectivity across the Willamette Valley from parcelization reduces species diversity, numbers and the potential for wildlife genetic transfer.

Loss of riparian habitat is caused by noxious weed encroachment, in-stream ponds, development, poor landscaping practices, lack of buffers next to farm and forestlands. This results in loss of native wildlife habitat, increased water temperature and sediment/chemical loading. Riparian area reductions are also directly associated with reductions in spawning habitat, reduced fish passage to upstream areas and increases in toxic algae blooms. In addition, man-made fish passage barriers (culverts, diversions, etc.) also negatively impact fish habitat availability and access.

This concern follows the loss of farmland modal. The entities working on this issue are legion in Multnomah County. Most all of the partners would have this as their top priority. Indeed, the local work group continually ranks it as number one. However, the ability of the NRCS to contribute the amelioration of the loss of habitat is built into all of the programs it delivers. To this end, the only focused program will be the EQIP. Funding for all EQIP projects will take into account wildlife habitat in riparian areas and specifically, Johnson Creek, McCarthy Creek and Sauvie Island. Habitat work on Sauvie Island would focus on oak restoration and may include the possibility of using ACEP. West SWCD has an Oak restoration plan and riparian habitat plan for the Island and that will, likely be used in conjunction with any EQIP implementation strategies that occur.

Soil quality: Soil erosion and sedimentation from cropland that lacks cover crop and/or buffers result in reductions to surface water quality, including an increased presence of pesticides and nutrients. In addition, overuse of nutrients and pesticides on irrigated cropland and urban landscapes results in higher nitrate and pesticide levels detected in groundwater, impacting municipal and personal drinking water wells. Reductions in soil quality caused by lack of organic matter, tillage, compaction and water-induced erosion result in decreased long-term productivity in row crop, livestock, nursery crop (including Christmas trees) and vegetable (including late harvested) operations.

The strategy to improve soil quality is to focus on the largest land use that has expressed interest and willingness to adopt soil quality principles (row crop production). A previous attempt to focus on nursery crops and late harvested vegetables was not widely received do to market turn-downs (nursery crops) and perceived management conflicts (late harvested). Using EQIP the NRCS, West and East SWCD hope to spark an interest in using conservation practices such as cover crops, crop rotation, conservation cover and other practices that support the four principles of soil health.

SECTION V. Prioritization of Natural Resource Problems and Desired Outcomes

Prioritized resource problems by the Local Work Group:

Soil quality as above, and we are the technical experts in this area. There is growing interest in this area, especially in areas (Sauvie Island) that partners (WMSWCD and OSU) have been able work with.

Unhealthy forests again, an area that the NRCS is providing funds that no one but the SWCD's is. Focused on priority watersheds success will come with the majority of landowners participating in the program.

Loss of farmland: determined to be the best use of NRCS funds and technical assistance by consensus with partners at strategic planning events. Participation in ACEP has not occurred but there was no outreach plan or partners willing to hold an easement. That has changed with the East Multnomah SWCD being capable and willing easement partners that are actively pursuing easement properties.

SECTION VI. CONSERVATION IMPLEMENTATION STRATEGIES and INVESTMENT PORTFOLIO

2015 Local Work Group Meeting:

The 2015 Local Work Group Meeting was held in Hillsboro. It was a joint meeting with Washington, Multnomah and Clackamas counties. The primary focus was to explore the potential for a Soil Health CIS to address the underlying cause for many of our soil and water quality related resources concerns. The purpose of this proposed CIS is to focus on promoting soil health building practices on land under cultivation for row crops. In addition to the discussion on the Soil Health CIS, there was an extensive discussion on the growing interest from our Soil and Water Conservation District partners in land easement programs (ACEP-ALE). There was also a review of the existing Forestry CIS that addresses (afforestation) on underproductive lands and an agreement was made that this CIS has been widely received with strong participation.

Additional Opportunities:

Johnson Creek Restoration – The Johnson Creek Watershed Council (JCWC) has just completed an extensive fish passage barrier survey for the entire watershed that inventoried each structure and prioritized removal or replacement based on how much of the watershed would be opened up to fish passage once the removal or replacement was done. Eight of these structures are on private land and could be a potential partnership with the JCWC using and EQIP Conservation Implementation Strategy or other sources of funding that may become available.

2016 Update:

Clackamas & Multnomah County LWG Meeting Results

A joint Local Working Group meeting was held on January 21, 2016 at the Oregon City Service Center conference room. It was held from 1pm to 3pm and was attended by 15 people. The agenda is below:

Time	Topic	Purpose	Leader
1:00 – 1:15	Welcome / Introductions	Information	Kris Homma
1:15 – 1:30	Past Funding / Completed Projects <ul style="list-style-type: none"> • Funding pools that are ending • What has been accomplished with existing / expiring funding pools 	Information	Kris Homma / Kim Galland
1:30 – 2:00	Current Funding / Pending Projects <ul style="list-style-type: none"> • Soil Health CIS pending applications • ACEP / ALE • WRE • RCPP – what is it? How can it be used? 	Information	Kim Galland / Kris Homma
2:00 – 2:45	Future Funding <ul style="list-style-type: none"> • What are the priority resource concern / land use concerns? • How do we best use NRCS funding? • NRCS staffing and realistic expectations 	Discussion / Decision	Kim Galland / Kris Homma
2:45 – 3:00	Closing <ul style="list-style-type: none"> • Top priority resource concern to develop into a Conservation Implementation Strategy 	Decision	Kim Galland

There were 3 representative from Oregon Department of Forestry, 2 representatives from the Clackamas Soil and Water Conservation District, 2 representatives from West Multnomah Soil and Water Conservation District, 2 additional representatives from the Natural Resources Conservation Service and one representative each from East Multnomah Soil and Water Conservation District, METRO, Northwest Center for Alternatives to Pesticides. There was one agricultural producer from the Clackamas County area present.

Kris Homma presented information on resource concerns that had been treated in Clackamas & Multnomah County under past and currently expiring Conservation Implementation Strategies. These included projects that addressed water quality, irrigation efficiency, plant productivity, forestry and invasive weed management. Many of these projects were done with partner participation. Kim Galland presented information on projects in Multnomah County that she had been able to fund under existing implementation strategies since starting in November of 2015.

Kim Galland and Kris Homma gave updates on current applications in the existing funding pools for the Soil Health, Wildland Urban Interface and Afforestation Conservation Implementation Strategies.

Kim Galland gave a brief update of the ACEP-ALE process and the current pending project with East Multnomah Soil and Water Conservation District (Tamura ALE).

Kim Galland gave a brief update of current WRE project status with West Multnomah Soil and Water Conservation District (Enyart WRP).

Kim Galland gave a brief explanation of the Regional Conservation Partnership Program with specific information on being able to use PL-566 as a funding source for watershed based projects that might be applicable for the Johnson Creek, Tryon or Fanno Creek Watershed Councils.

Kim Galland opened the discussion of current resource concerns and ideas for funding pools by relaying the results of a grower meeting that East Multnomah SWCD had hosted in December that was well attended by owners / operators of mixed-use land that had concerns ranging from forestry to erosion and livestock management. However, forestry resource concerns dominated the ensuing discussion.

Forestry resource concerns were well represented with the 3 Oregon Department of Forestry employees and West Multnomah SWCD. They voiced concern over many areas that were dominated by invasive brush species such as Armenian Blackberries and Scotch Broom due to logging activities that had left the land clear. They were concerned that these areas would not be

eligible for treatment considering the the Wildland Urban Interface funds are expiring this fiscal year. This was the dominant resource concern and it was decided to pursue a new Conservation Implementation Strategy that would focus on combining the benefits of the Afforestation and Wildland Urban Interface strategies into one that would treat density and lack of diversity for overall forest health. It was also decided that a basin wide strategy would be favorable. Kim Hudnall from the NRCS and Michael Ahr from West Multnomah SWCD agreed to lead the effort to develop a forest diversity Conservation Implementation Strategy scheduled to start in fiscal year 2017.

Livestock related water quality was the only other resource concern that was considered a priority. East Multnomah SWCD has an on-going effort with Oregon Department of Agriculture to address water quality in the Beaver Creek - Sandy River watershed. West Multnomah SWCD also expressed interest in a funding pool that would address livestock related water quality resource concerns in their Gilbert River – frontal Columbia River watershed. It was decided that Kim Galland would develop a Conservation Implementation Strategy for water quality concerns in Multnomah County.

NRCS staffing was briefly discussed. The vacant soil conservationist position is expected to be filled sometime in fiscal year 2016 and Kris Homma is expected to retire by July of 2016. East Multnomah stated that they were seeking to hire a Rural Conservationist position that would be capable of helping implement the conservation practices for the current and proposed implementation strategies.

Meeting was adjourned on time.

2017 Clackamas and Multnomah Local Work Group Meeting
Session Notes

The meeting was started at 10:05 with introductions and proceeded to Kim Galland providing a breakdown of current Environmental Quality Incentive Program (EQIP) funding pools within Clackamas and Multnomah counties.

Multnomah Funding Pools	Round 1 Applications	Round 2 Applications	Clackamas Funding Pools	Round 1 Applications	Round 2 Applications
Soil Health	4 ~\$38,000 of \$50,000 being spent	3 As of LWG date and pending meeting with interested operators	Soil Health	1 ~\$7,500 of \$50,000 being spent	~2 pending meeting with interested operators
Forest Diversity (NC/LWB)	5 ~\$53,000 of \$50,000 being spent	0 As of LWG date	Forest Diversity (NC/ LWB)	3 ~\$10,000 of \$50,000 being spent	0 As of LWG date
Water Quality / Livestock	1 ~\$5,000 of \$35,000 projected to be spent but round 2 producer could spend it all	~1 meeting with interested operator the last week of January	Near Stream	0 - interested landowner did not qualify as ag. producer	0 As of LWG date
Pinchot RCPP		0 As of LWG date	Pinchot RCPP	1	0 As of LWG date

State-wide initiatives that area available are:

Seasonal High-Tunnel

Organic

Agricultural Energy

As of the LWG date, there are no pending applications for the Seasonal High-Tunnel or Organic initiatives. There is one pending application for the Agricultural Energy initiative that would fund a Conservation Activity Plan.

Kim Galland also provided a brief overview of additional programs available in addition to EQIP that included the Conservation Stewardship Program (CStP), Regional Conservation Partnership Program (RCPP), and Easement Programs such as the Agricultural Land Easement (ALE) and Wetland Restoration Easement (WRE).

The discussion of the CStP included a brief breakdown and analysis of the new method for evaluating applications.

Kim Galland also gave the group a brief overview of Client Gateway.

The group then moved on to a discussion of resource concerns. The resource concerns noted throughout Multnomah and Clackamas Counties are:

Soil Erosion

Erosion is present on fields that did not utilize fall cover crops or have similar cover on them going into the critical erosion period. Erosion is also present on fields where nursery and late season vegetable harvest is taking place.

Forest Management

Oregon Department of Forestry is finding that many small forestry landowners are having trouble with keeping invasive brush species from overtaking new plantings or dominating sites that were logged and not replanted as per state law requirements.

Water Quantity / Water Quality

Clackamas SWCD is hearing concern from landowners / operators that are in ground water limited areas and their need to convert to more efficient systems.

Multnomah SWCD would like to pursue a CIG with the Sauvie Drainage District to improve the drainage waterway maintenance methods so that bank erosion could be reduced. Jim Cathcart is working to build a relationship with the Drainage District so that a proposal for a CIG could move forward. The CIG could also yield further irrigation work on Sauvie Island. At least one operator has voiced interest in improving efficiency.

Sauvie Island irrigation water has high levels of bacteria that are of a concern to the organic and u-pick farms. The systems needed to mitigate the contamination are expensive or management intensive.

Habitat Degradation

Clackamas and West Multnomah have surveyed landowners and found that there is a growing interest in preserving and increasing the extent of Oak / Savanna habitat.

Livestock

Multiple sites within both Clackamas and Multnomah counties have livestock in pastures and feeding areas during the winter months, creating mud issues and pasture degradation.

The priority resource concern for the group was determined to be [Habitat Degradation for Oak Savanna](#). The second priority resource concern was irrigation water quantity and quality. The group felt that the current funding pools that are working on soil erosion, forestry and livestock are sufficient and working well.

Habitat degradation was chosen over irrigation water quantity / quality because the outreach and efforts already done through the districts has found strong support and need for funding in this area. The existing Forest Diversity funding was not intended towards Oak Savanna.

The funding demand for irrigation water quantity / quality still needs to be explored and developed. Clackamas county producers should be surveyed to see how much help is needed and where. Funding for Clackamas irrigation may be possible for 2019. West Multnomah will continue to build a relationship on Sauvie Island to determine the extent of the need for help and which practices would be most suitable. A CIG proposal is a possibility for 2018 or 2019. Further irrigation funding would follow.

East Multnomah has a new rural conservationist that is busy building relationships with agricultural producers in his district and feels that the current NRCS funding pools are sufficient.

The meeting was adjourned on time.

The list of attendees is attached.

Clackamas and Multnomah County NRCS Local Work Group Meeting
Agenda

January 19, 2017

221 Molalla Ave. Suite 120, Oregon City 97045

Time	Topic	Purpose	Leader
10:00 to 10:15	Welcome/introductions	information	Kim Galland
10:15 to 10:30	Current funding / Pending Projects <ul style="list-style-type: none"> • Conservation Implementation Strategies • FY17 applications 	information	Kim Galland
10:30 to 10:45	Other Programs <ul style="list-style-type: none"> • Conservation Stewardship Program • RCPP • Client Gateway 	information	Kim Galland
10:45 to 11:30	Future funding <ul style="list-style-type: none"> • What are our priority resources / land use concerns? • How do we best use NRCS funding? • NRCS staffing and realistic expectations • Partnerships 	Discussion / decision	Kim Galland
11:30 to 12:00	Closing <ul style="list-style-type: none"> • Top priority resource concern to develop for Conservation Implementation Strategy 	Decision	Kim Galland