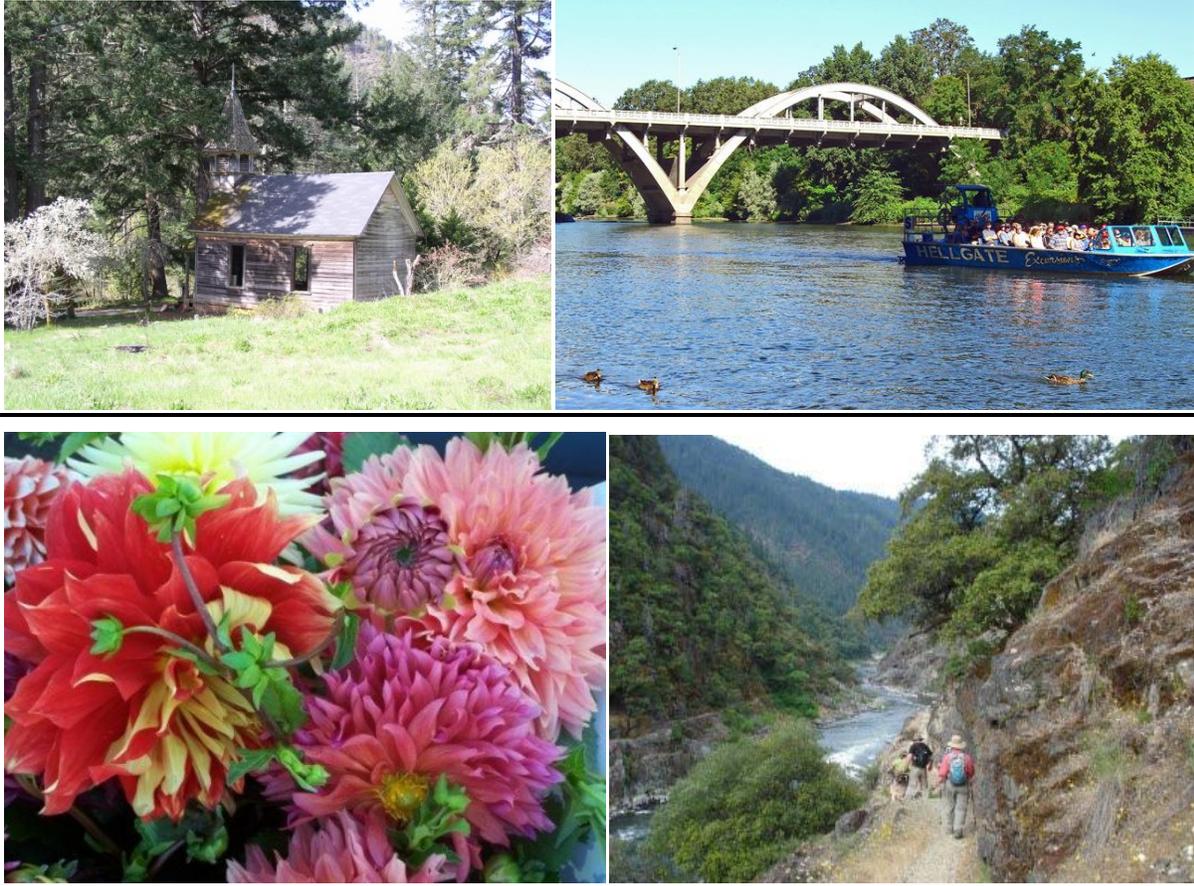


Strategic Private Lands Conservation in Josephine County



Natural Resources Conservation Service

2020

Updated May 07, 2020

USDA NRCS

Josephine County is served by Roseburg Office:

Ph. (541) 378-3531; 2593 NW Kline St, Roseburg, Or 97471

www.or.nrcs.usda.gov

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EXECUTIVE SUMMARY

The Natural Resources Conservation Service (NRCS) in Josephine County consulted with conservation partners, and with local, state and federal agencies to determine high priority resource concerns and strategies best suited to our agency's resources to address those concerns. The priorities reflect the fact that NRCS works with private land owners in a voluntary capacity.

The highest priority resource concerns identified in Josephine County include:

- ✓ Forest health. Forests are crowded and densely stocked, increasing fire intensity and danger and increasing vulnerability to insects and disease.
- ✓ Water quality. Temperature, dissolved oxygen, bacteria, sedimentation and pH levels reduce the value of water for wildlife needs as well as not adequately satisfying human needs.
- ✓ Water quantity. Seasonal low water levels affect all beneficial uses.
- ✓ Wildlife populations. Populations are at risk due to declining habitat and inadequate water quality.

With further input and guidance from partners, the following strategies will be strategically focused on concentrated areas where we can coordinate our efforts with those of others and where our impact can be measured.

Strategic Priorities

1. Forest Stand Health and Fuels Reduction

Work collaboratively with partners to provide land managers with technical and financial assistance to reduce the risk of uncharacteristically severe wildfire in tactical locations that support healthy forest ecosystems.

- Improve forest ecosystem health, restoring more natural conditions which are more resistant to disease and insects
- Reduce risk of catastrophic forest fire through correct stocking levels, invasive species control and biomass reduction
- Improve wildlife habitat through correct stocking levels, healthy stands and invasive species control

The Williams Rural Fire District, within the Williams Creek watershed, is the first NRCS funded EQIP-CIS, started in winter of 2019/2020. The Takilma area, just south of Cave Junction, is being submitted for a second EQIP-CIS project.

2. Surface Water Quality - Agricultural

Provide landowners technical and financial assistance to implement conservation measures to reduce delivery of nutrients, organics and sediment and warmer water to surface waters through the reduction in surface water runoff.

- Improve irrigation system efficiency; reduce runoff and minimize the amount of water withdrawn for irrigation purposes
- Improve health of riparian areas and buffering capacity of riparian and near stream areas

- Improve growth and vigor of pasture to promote sustainable permanent cover of desired vegetation
- Protect stream corridors by installing alternative livestock watering facilities

The Murphy Ditch, a diversion from the Applegate river near Murphy is currently being planned by the Applegate watershed Council and Two River SWCD, with NRCS guidance. The OWEB has funded some technical assistance to get the planning started, which includes designing a new diversion structure and ditch pipeline. NRCS assistance would focus on ditch piping and on-farm irrigation system upgrades.

The Illinois Valley SWCD has secured some OWEB technical assistance funding to begin planning the White Ditch conservation project, which is planned to replace a push-up gravel dam with a new diversion structure, pipe the ditch, and upgrade irrigation systems with NRCS assistance in the future.

NRCS PRINCIPLES & BACKGROUND

The Natural Resources Conservation Service: Who We Are

With the mission of “Helping People Help the Land,” the Natural Resources Conservation Service (NRCS) provides products and services that enable people to be good stewards of the Nation’s soil, water, and related natural resources on private lands. With our help, people are better able to conserve, maintain, or improve their natural resources. As a result of our technical and financial assistance, land managers and communities take a comprehensive approach to the use and protection of natural resources in rural, suburban, urban, and developing areas.

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

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 science that is 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 historically underserved (including beginning farmers, limited resource 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. We provide technical expertise in such areas as animal husbandry, clean water, ecological sciences, and engineering.

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.



INTRODUCTION

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 Josephine County. The goals and objectives identified for the long range strategy will be accomplished over a five year timeframe beginning in the 2011 federal fiscal year and ending in 2015. This strategic approach involves local, state and federal agency partners as well as local stakeholder participation to provide guidance to identify problems and treatment opportunities important to the sustained use and management of natural resources.

- Analysis of existing conditions of soil, water, air, energy, plants and animals
- Identification of natural resource problems and desired future outcomes
- Prioritization of problems & development of a portfolio of potential projects
- Implementation of actions including technical and financial assistance, and outreach

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

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

OVERVIEW OF REGION

Josephine County is in the southwestern part of Oregon. Grants Pass, the county seat, is the largest of only two incorporated cities. Elevation ranges from 750 feet to more than 7,000 feet. The total area of Josephine County is about 1,040,000 acres of which only 27% is privately owned and 73% is publicly owned. The Bureau of Land Management and the Forest Service manage most of the government land, of which Forest Service has the larger share of the 60%-40% split. The other significant government land manager is the county, managing over 30,000 acres of forest land.



Josephine County falls in the Klamath Mountain ecoregion. It is renowned for unique geology and a wealth of rare and endemic plants. The terrain is characterized by steep rugged mountains and narrow river valleys, which consist of flood plains, terraces, alluvial fans, and hills. The major rivers are the Rogue, Illinois, and Applegate. The average annual rainfall ranges from 30 to 80 inches. The climate is cool and moist in winter and warm and dry in summer, with streamflows greatly diminished by late summer.

Early settlers of Josephine County were mostly miners and loggers. Today the majority of Josephine County is forest land which is being managed for timber. Agricultural production is fairly limited in scope, but diverse in nature. The county is noted for urban growth and rapid conversion of forest land to residential use.

Major resource concerns in the region are forest health and riparian health, including in-stream habitat. The forest lands are heavily overstocked and choked with brush, reducing vigor. The

risk of catastrophic fire is high, endangering people and the ecosystem. Wildlife are affected by both poor forest health and low quality riparian and in-stream conditions.

NATURAL RESOURCE INVENTORY AND ANALYSIS

This section will evaluate the major resources in the area and identify the best opportunities for strategic investment and improvement. The resources are categorized as humans, soil, water, air/energy, plants and animals to facilitate this discussion.

HUMAN RESOURCES

The Takelma Indians were the prominent group of people in Josephine County before European settlement. The Takelma lived on a diet of acorns, camas bulbs, Manzanita berries, pine nuts, deer, fish and elk. A gold Rush in the 1850's launched the European settlement and the region provided an important transportation route through the Siskiyou to California.

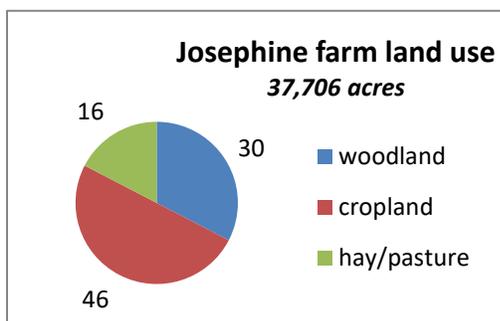
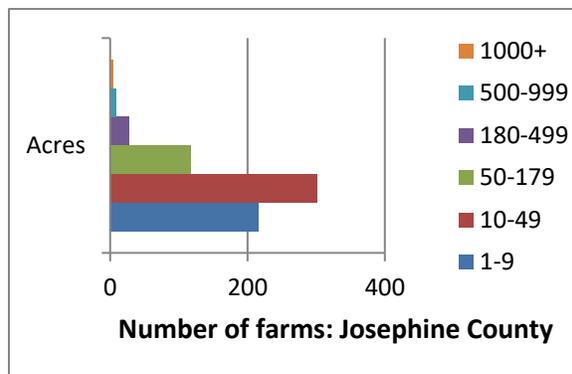
Population. In present day, Josephine County has only two incorporated cities and more than half the 81,026 residents live in rural unincorporated areas of the county. Approximately 41% live in the major city, Grants Pass, which provides most of the commercial and governmental support for the entire county. The population is not ethnically diverse with over 94% of the population listed as white, and 5% listing Hispanic or Latino origin. There are no recognized Native American tribes in the County and no tribally held lands. Population increased 7% from 2000 to 2009. More than 19% of the population was reported to be living below the poverty level in 2008.

Community outlook. The county is well connected to the regional transportation system with direct access to Interstate 5 and serving as the point for California and the coast. Tourism related to the Wild and Scenic Rogue River, the Oregon Caves and the Illinois River are important sources of income for the community. The county is ranked sixth for population growth in the state and is ranked among the four counties in the state experiencing the highest rates of change of land use from agriculture/forestry to more developed uses since land use planning rules were changed in 1974. The pressure of urbanization are concentrated near the urban area of Grants Pass, but extend well into the surrounding forest and agricultural lands beyond the urban growth boundaries. It is estimated that 80% of the pasturelands, or 14,000 acres, are now subdivided into smaller parcels and are either not grazed or have inadequate grazing management.

Farm characteristics. There are a relatively small number of farms in the county, 675, of which the average farm is only 56 acres and more than 75% of the farms are smaller than 50 acres. A

Agriculture Quick Facts: 2007 Ag census	
Total no. farms	675
Avg. farm size	56 ac
Cropland	18%
Woodland	40%
Pasture	36%
Net cash income avg. per farm	\$-3,949
Avg. govt. pymt/farm	\$2,051
Value of sales in state top 1/3	Hogs, other animals
Crops in state top one third by acreage	Grapes, fresh herbs
Livestock inventory in state top 1/3	Hogs
Century farms	1

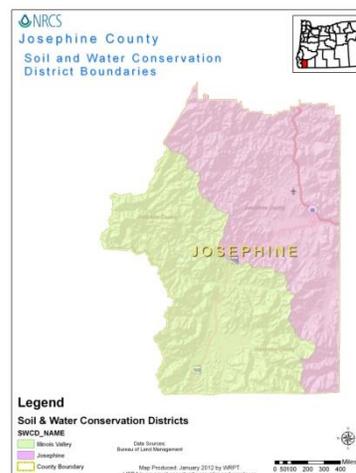
number of small acreage operators are entering farming as a second career after retirement from other occupations. There is a trend toward support for local food production and a regionally important farmer’s market held weekly in Grants Pass. A considerable number of landowners live on small acreages throughout the county and may or may not be utilizing their lands for commercial crop or livestock production. The number of farms decreased 7% from 2002 to 2007. The average farm expenses exceeded revenue resulting in a negative net cash income, or shortfall of \$3,949.



Land use. Farm land use is 46% cropland, 30% forestland and 16% pasture. The range of products is diverse and difficult to typify. Crops produced in the county with a value in the top one third of Oregon sales include hogs and other animals. Grapes and fresh herbs acreages are in the top third of Oregon’s production. Nearly half the operators making their living primarily from farming and 37% of the principal operators are female. Only one Century Farm is recognized in the county.

Program participation. Land managers have demonstrated limited interest in participating in government-sponsored programs and some who are interested have been unable to follow through for a variety of reasons. The average government payment per farm receiving payments in 2007 was only \$2,051, with total payments of only \$41,000.

Conservation partners. There are a number of organizations which work with private landowners and conduct outreach education and volunteer activities in the region. There are two Soil and Water Conservation Districts with the northern half of the county served by Josephine SWCD and Illinois Valley SWCD serving the southern half. Watershed councils have also been functioning throughout the region since the 1990’s. The Illinois Valley Watershed Council has worked very closely with the SWCD. Nestled within the Applegate watershed, the Williams Creek Watershed Council functions relatively autonomously from the Applegate group. The Middle Rogue area is served by the Stream Restoration Alliance of the Middle Rogue. All of the councils participate in the umbrella organization of the Rogue Basin Coordinating Council. There is an active Cooperative Weed Management Area in the county which coordinates noxious weed efforts.



<u>Conservation Partners</u>	Project partner	Technical assistance	Project funding	Outreach, tech. transfer	Resource interest areas
Federal Agencies, Tribes					
Bureau of Land Management	×	×	×		Forest, fuels
Farm Service Agency	×		×	×	All resources
US Fish & Wildlife Service	×	×	×		Wildlife
USDA Forest Service	×	×	×		Forest, fuels
State Agencies & Organizations					
Department of Agriculture	×		×		Water quality
Department of Energy		×	×		Energy
Department of Environmental Quality	×	×	×		Water, Air
Department of Fish & Wildlife	×	×	×	×	Wildlife
Department of Forestry	×	×	×	×	Forest, fuels
Water Resources Department	×				Water quantity
OSU Extension Service	×	×		×	Human resources
Local Agencies & Organizations					
Josephine and Illinois Valley SWCDs	×	×		×	All resources
Josephine and Applegate Community Wildfire Protection Planning groups	×		×	×	Plant, wildlife
The Nature Conservancy	×		×		Water quality, wildlife
Watershed Councils: Stream Rest. Alliance (Mid Rogue), Illinois, Williams, Applegate	×	×	×	×	Water quality, wildlife
Illinois Valley Community Development Org.	×			×	Human Resources
Forestry Action committee	×			×	Forest, plant
Lomakatsi	×	×		×	All resources
Illinois Valley Forest Resiliency Oversight Group (IVFROG)	×	×	×	×	Forest
Cultural & Ecological Enhancement Network	×			×	Forest, human
Josephine Cooperative Weed Management Area	×			×	Plant
Josephine County Forestry Department	×				Forest

Unique/local organizations. In addition to typical state and federal partner agencies, there are a couple of organizations somewhat unique to or particularly active in conservation work in our region:

- Forestry Action committee – tree planting and weed control
- Josephine and Applegate Community Wildfire Protection Planning groups – facilitating fuels reduction and fire preparedness
- IVFROG – implementing forest health and restoration projects
- Applegate Partnership – facilitating landscape-scale collaborative efforts in forest management
- OSU Extension Small farmer program – special program/staff targeting smaller and specialized producers, such as organic

- Cultural & Ecological Enhancement Network – implementing restoration and education projects
- Josephine Cooperative Weed Management Area – networking and facilitating noxious weed education and treatment
- Illinois Valley Community Development Organization – fuels reduction work

Progress to date. Considerable work has been done to educate local residents about natural resources in the area. Watershed councils, OSU Extension, Soil and Water Conservation Districts and the Cooperative Weed Management Area members all reach out to the public and directly to landowners to provide more awareness and promote better stewardship.

Future needs. Goals for improving the human element in the natural resources equation will involve continuous outreach and education to remind new and old residents of the importance of natural resource management. Education efforts need to keep pushing beyond fostering awareness and strive for changing behaviors which support healthy forests, watersheds and ecosystems.

Importance of economics. Another important factor influencing conservation activity and private lands management is economics. In Josephine County, private land managers are particularly limited by economic constraints in their ability to implement conservation. Incentives will continue to be necessary as well as efforts to help make private land management activities more cost effective and economically viable. Efforts are being made to improve marketing options and increase local support for food production through increasing farmers’ markets, encouraging direct sales and local meat processing. Continued support for the development of markets and improving the economic viability of food and fiber production, as well as forest management, will be needed to support active conservation by private landowners.

**HUMAN RESOURCES OUTLOOK SUMMARY
LOW PRIORITY**

Important ongoing need to recognize human factors

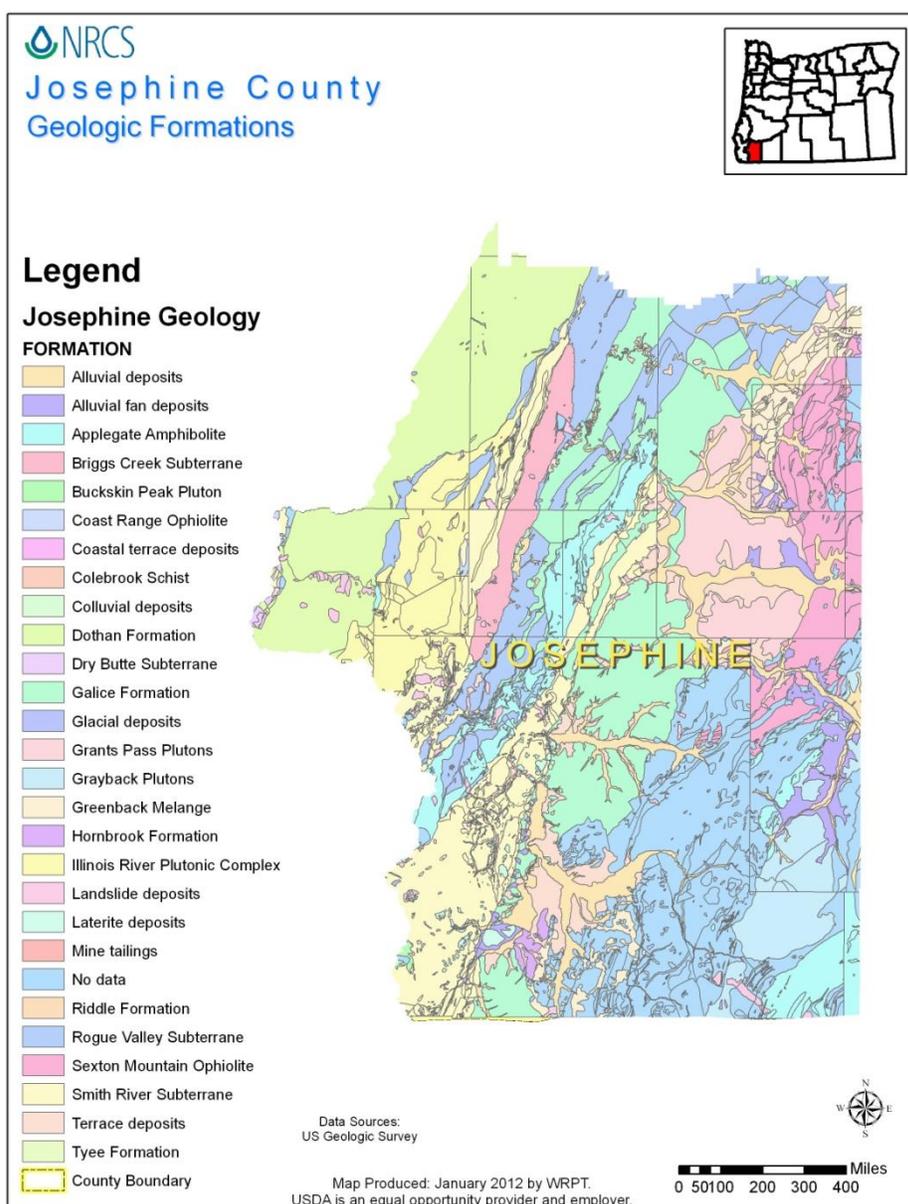
What has been accomplished	What is left to do
<ul style="list-style-type: none"> • Educational workshops for landowners • Tours for land managers, policy makers, etc • Extensive partnering and regional networking • Direct mailing of publications such as Forest Landowner Resource Guide 	<ul style="list-style-type: none"> • <i>Continue to evaluate educational needs and adjust tools, messages and methods to target audiences, including historically underserved, small acreage landowners and specialty crop producers</i> • <i>More education resulting in increased awareness, skill development</i> • <i>Workshops, tours, demonstration projects</i> • <i>More youth/education activities</i> • <i>Continued consideration for economic needs and incentives</i> • <i>Continue support for and involvement in community involvement and engagement</i> • <i>Continue effective partnering and regional coordination</i>

Roles and priorities for NRCS.

NRCS programs provide an opportunity to work closely with landowners delivering direct technology transfer and financial assistance to implement conservation measures. Staff are also regular participants in trainings, tours, seminars and workshops organized by partners. Working effectively with partners to provide outreach and education will continue to be a priority for NRCS throughout the next 5 years.

SOIL RESOURCES

The geology of the Klamath Mountains is described as a mosaic rather than the layer cake geology of the rest of the state. Serpentine mineral bedrock has weathered to a soil rich in heavy metals including chromium, nickel and gold. The soils derived from this geology support a unique and diverse flora and fauna. Josephine County is renowned for unique soils that support rare and endemic plants as well as mining activity. The unique soils and geology of the Illinois sub basin are major factors in the hydrologic character of the area. The underlying metamorphic geology in the headwaters is relatively nonporous, leading to quick saturation of the shallow, poorly developed soil, and rapid runoff of the approximately 100 inches of annual precipitation. In contrast, the alluvial fans where nearly all of the agricultural and residential development has taken place may have a depth of over 180 feet. Soil types in the Middle Rogue sub basin range from clayey Pearsoll and Jerome series, to shallow, gravelly Josephine and Beekman series. All soil layers sit on granitic or metamorphic parent rock material. In many places hardpan is near the surface and reduces infiltration. Soil health and condition is generally good, with minimal



surface erosion due to high percentage of cover and few land-uses which leave soils exposed to wind or water erosion. Soil concerns that arise are associated with high rainfall and water quality. Those concerns include sedimentation, stream bank erosion and mass slumping. Other sedimentation is most closely associated with forestry practices including timber harvesting and road building.

One source of sedimentation that does have a negative impact on water quality is erosion of ditches and stream banks. Erosion from these sources tends to be limited to high water and high rainfall events. There is also sediment delivery to streams because of surface runoff and inadequate riparian buffers.

Progress to date. The primary accomplishments associated with soil health have been in reducing sedimentation through best management practices in forestry, and protection of heavy use areas.

Future needs. Healthy, productive soils will continue to benefit from management practices that reduce surface erosion, including maintaining cover and minimizing runoff.

Soil resources outlook summary	
LOW PRIORITY: Fairly good condition overall	
What has been accomplished	What is left to do
<ul style="list-style-type: none"> • <i>Improved riparian condition and long term protection through tree planting</i> 	<ol style="list-style-type: none"> 1. <i>Expand adoption of sediment reducing practices in high priority stream reaches</i> 2. <i>Look for options to provide incentives for increased use of sediment-type buffers in cropped areas</i> 3. <i>Stream restoration work to reduce destructive flows and bank failure</i> 4. <i>Reduce threat of catastrophic fire</i>

Role and priorities for NRCS.

NRCS will continue to actively advocate for soil health through a wide variety of assistance to private landowners. Improved pasture management will help minimize compaction of soils and forest management improvements help reduce erosion related to road building, culverts, runoff and other activities related to forestry. Efforts to implement the use of buffer practices should be focused in areas identified as high priority for water quality improvements. We will work with partners to help plan and implement work that will complement stream restoration work being undertaken by partners. The Farm and Ranch Protection easement program could be used to minimize conversion of ag lands to other land uses.

WATER RESOURCES

Josephine County represents the middle segment of the Rogue River before it enters the narrow Rogue River canyon, where activity and use is restricted by the wild and scenic designation. The lower end of the Applegate River, including Williams Creek flows into the Rogue from the south and Grave Creek is the largest stream flowing in from the northern part of the county. The

Illinois River valley is largely contained in the southern part of the county; its confluence with the Rogue is in Curry County.

Irrigation. Surface water is the main source for seasonal irrigation throughout the county. Grants Pass Irrigation District, the largest district, serves the urban areas and adjacent agricultural lands. Other districts and less formal associations include Fort Vannoy, Murphy, and Laurel Hill Ditch. Historically, many of the irrigators have used “push-up dams”, which are temporary dams made from in-stream materials that can inhibit normal flow patterns and fish passage. Irrigation methods are varied, and everything from sprinklers to flood irrigation is currently being used. There are many opportunities for irrigation improvements to improve crop coverage, reduce runoff and conserve water.

Drinking water supply. Municipal and public water supplies are mostly based on surface water sources, which are treated for human consumption. Most individual rural households are served by wells, with a high degree of variability in groundwater availability due to the complex geology.

Fish Habitat. Water is an extremely important resource in Josephine County as it relates to associated fishing and recreation benefits, which are very important to the economy. In addition to its importance to this county, the river is also a corridor for the fish species living upstream and serves as the travel corridor for the salmonid species travelling to the ocean and back to complete their life cycles. The Wild and Scenic designation of the Rogue is testament to the nationally recognized value of the river system.

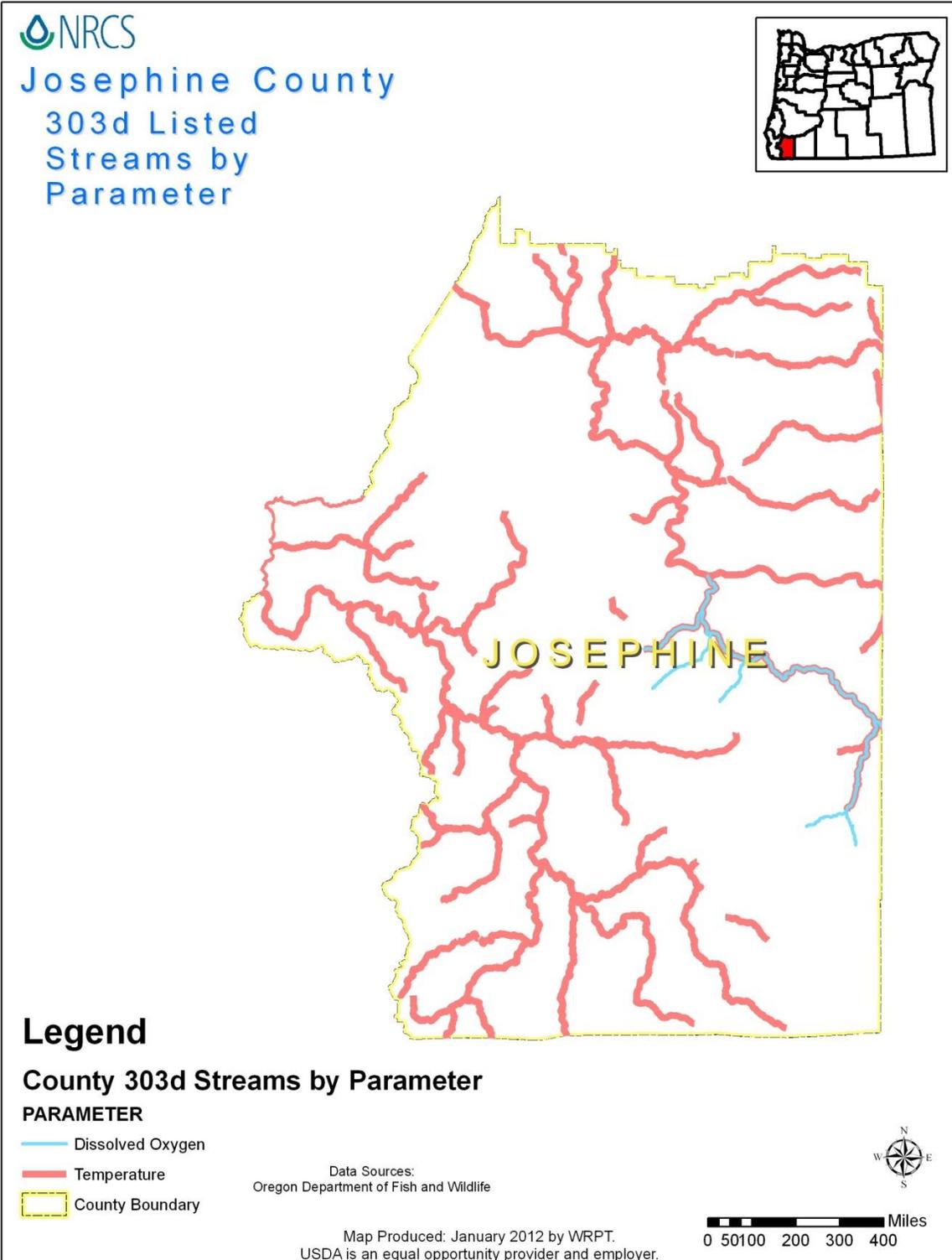
Wetlands. Wetlands provide important habitat for migrating and breeding waterfowl, shorebirds, waterbirds, songbirds, mammals, amphibians and reptiles. In addition to being critical for birds and many kinds of wildlife, floodplain wetlands and backwater sloughs and swamps are important rearing habitats for juvenile salmon. Wetlands have direct value for people because they improve water quality by trapping sediments and toxins, recharge aquifers, store water, and reduce the severity of floods. Restoration and careful management of wet meadow systems and other wetlands can increase sustainable production of forage for livestock and increase late-season stream flows.

In general, most wetland habitat loss has occurred at lower elevations and valley bottoms. Many of these wetlands have been drained and converted to agriculture. Wetlands are vulnerable to development as more people move in and urban pressure increases. Although wetland drainage is now discouraged, continuing development is a threat to some remaining wetlands. In addition, the ecological processes that create wetlands often are not compatible with current land uses, especially in more developed areas.

Water quality. Water quality issues are important and impact all beneficial water uses. Agricultural and forestry factors affecting water quality locally include: soil loss and sedimentation from roads and soil disturbance, poor quality riparian vegetation, mismanagement of irrigation water resulting in excessive return flows, poor management of nutrients and animal waste.

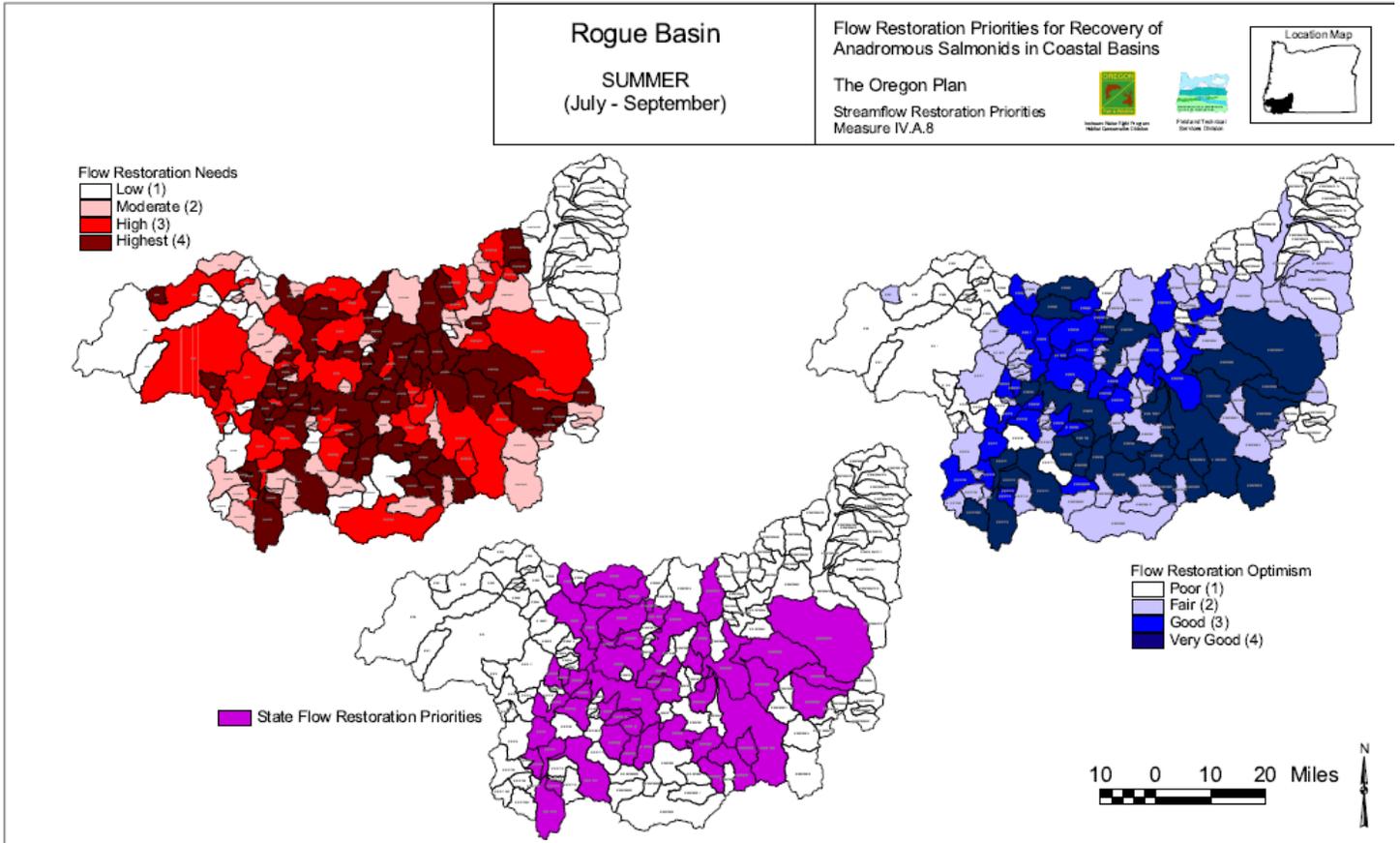
According to the Department of Environmental Quality (DEQ), temperature represents the most commonly cited impairment factor in the county. Common listing factors for water quality

impairment [DEQ 303(d) list] in Josephine County include temperature, dissolved oxygen, bacteria, sedimentation and pH.



Low flows at critical periods are also a concern for this resource. Seasonally there is not enough water in stream to provide critical habitat for fish, and water is often inadequate for all the existing uses (drinking water and irrigation).

Water quantity. A significant portion of the Rogue River Basin falling within Josephine County is designated as a Flow Restoration Priority for the benefit of fish populations (Oregon Fish and Wildlife and Water Resources Departments). The majority of the tributaries in Josephine County show deficit conditions during some time of the year.



Progress to date.

Watershed councils were formed in the 1990s to engage citizens in watershed health issues. Illinois Valley Watershed council and Stream Alliance for the Middle Rogue are the two councils operating in Josephine County. Oregon Watershed Enhancement Board invested almost \$7 M in watershed improvement projects during the 1999-2007 period. Those projects addressed a number of watershed conditions and watershed councils have done considerable work on tributaries resulting in improved stream conditions for salmon, including water quality and quantity.

Oregon Department of Agriculture (ODA) has been working to develop and revise plans for Agricultural Water Quality in the Rogue Valley since 1993. These plans identify and outline Best Management Practices (BMPs) to minimize the agricultural contribution to water quality impairment. ODA is planning to evaluate the effectiveness of the BMPs through study of

targeted areas. These areas will be inventoried and monitored to evaluate how well the BMPs deliver benefits to water quality; this will promote timely revision to management recommendations as needed.

Future needs

Improving water quality and quantity in the county will require continued implementation and adoption of best management practices including irrigation management, nutrient management, reduction in catastrophic fire danger, improved forest health and increased use of riparian buffers. Practical and economically viable alternatives for animal carcass disposal, such as composting, will also help protect water quality.

The improvement of in stream flow conservation has been identified by the watershed council as a specific need in Grave and Jump Off Joe Creeks. The outlook for the adoption of conservation practices is modest, and the implementation of some on-farm system installations is likely to require education and financial assistance. Due to the nature of non-point source pollution sources and the sensitivity of water rights issues, it will be difficult to measure progress and evaluate success for both quality and quantity.

WATER RESOURCES OUTLOOK SUMMARY	
MEDIUM PRIORITY	
<i>Significant water quality & quantity concerns</i>	
What has been accomplished	What is left to do
<ul style="list-style-type: none"> • <i>Agricultural Water Quality Management plan</i> • <i>Active watershed councils formed</i> 	<ul style="list-style-type: none"> • <i>Increased implementation of improved practices</i> <ul style="list-style-type: none"> ○ <i>Irrigation management</i> ○ <i>Nutrient management</i> ○ <i>Livestock control/waste management</i>

Role and priorities for NRCS.

Water quality and quantity will be a **HIGH PRIORITY** for NRCS assistance in Josephine County. Strategies targeting water resources are outlined in the strategic approach section of this plan. Targeting irrigation water management and system improvements will contribute significantly to reducing irrigation return flows. Enhancing livestock management and animal waste management practices can also minimize the possible contributions of livestock to water quality problems. Fuels reduction and improved forest management practices will minimize the danger of catastrophic wildfire and improve the ability of forestland to absorb and process rainfall. Improved development of partnerships and increased coordination will be a priority to help leverage resources and maximize the benefit of conservation efforts. The Conservation Reserve Enhancement Program can be utilized in improving water quality and addressing these resource concerns.

AIR RESOURCES

Air quality. Josephine County generally has good air quality, with few associated risks to human health. Periodic inversions occur during winter months and can last for several days. An Air Quality Management Area was created in the area around Grants Pass to monitor and

regulate air quality. One noteworthy exception to relative air quality is large-scale wildfire events that have been known to pose serious risks to people with breathing-related illnesses, for whom the only recourse is to stay indoors.

Progress to date. A voluntary effort to track air quality has helped keep the county within acceptable levels. Considerable fuels reduction work has been coordinated through interagency groups, resulting in over 5,500 acres completed on private lands and over 90,000 acres on public lands in the last 5 years.

Future needs and opportunities.

Measures to reduce catastrophic wildfire will serve to promote air quality and reduce risks to human health. Alternatives to open burning of forest residues such as biomass utilization have the potential to improve air quality and contribute to renewable energy development in the area.

AIR RESOURCES OUTLOOK SUMMARY	
LOW PRIORITY	
<i>Fairly good condition overall</i>	
What has been accomplished	What is left to do
<ul style="list-style-type: none"> • <i>Reduction of emissions; minimizing agricultural contribution by converting oil burning frost protection to sprinklers, wind machines for frost protection</i> • <i>Decreased wildfire danger through fuels reduction</i> • <i>Subsidizing removal of biomass from forest</i> 	<ul style="list-style-type: none"> • <i>Continue to minimize agricultural contributions through best management practices</i> • <i>Fuels reduction and forest health improvement to minimize risk and severity of wildfire events</i> • <i>Increase biomass utilization and promote economic incentives for fuels reduction</i>

Role and priorities for NRCS.

Forest management improvements and fuels reduction work have the potential to reduce air quality concerns across the region and minimize human health concerns from wildfire. NRCS will continue to address the issue of air quality through assistance to private landowners to integrate air quality concerns into all conservation activities.

ENERGY RESOURCES

The main energy sources in the agricultural and forestry sectors are gas/diesel fuels and electric power. Other sources of energy include natural gas and biomass-generated electricity. Solar energy is not widely utilized in these sectors locally. Average wind velocity of less than 10 mph make this area ill-suited to development of wind power generation even for smaller scale alternatives. Electricity is exclusively provided by PacifiCorp, and Avista supplies natural gas in urbanized areas.

Forest biomass. Biomass from forest waste represents an important energy resource which is not being fully utilized due to logistics and costs of handling and transporting the material. A two MW biomass power plant is associated with a lumber mill in Cave Junction and a 20 MW

plant exists in neighboring Jackson County. The rural school district has converted several boilers to renewable woody biomass, and efforts are also being made to evaluate the potential to convert more boilers in the region to wood energy sources, creating more local markets for biomass utilization. Extensive community interest has been demonstrated in discussions focused on development of biomass utilization and alternatives which have the potential to improve air quality and provide renewable energy.

Energy conservation. In addition to possibilities for generating power, many land managers and rural entrepreneurs have potential to benefit from energy conservation measures reducing their overall need to consume power.

Needs and opportunities.

Due to high and fluctuating prices, most producers are motivated to limit their overall costs and their energy dependence. In the agricultural sector, the biggest opportunities are through reducing demand through energy conservation. Conservation achieved through improved management and systems installations can also provide economic advantages over time. Energy conservation practices can be readily marketable and attractive to producers because they often help reduce costs of production.

ENERGY RESOURCES OUTLOOK SUMMARY	
LOW PRIORITY	
<i>Biomass utilization and energy conservation.</i>	
What has been accomplished	What is left to do
<ul style="list-style-type: none"> • <i>Studies of biomass availability</i> • <i>Subsidizing removal of biomass from forest</i> 	<ul style="list-style-type: none"> • <i>Promote innovation in biomass utilization</i> • <i>Increased use of management practices which reduce energy consumption:</i> <ul style="list-style-type: none"> ○ <i>Irrigation management</i> • <i>Facility and equipment upgrades to reduce consumption:</i> <ul style="list-style-type: none"> ○ <i>Irrigation systems</i> ○ <i>Lighting, pumping, heating systems</i> ○ <i>Solar systems for stock water, irrigation</i>

Role and priorities for NRCS.

NRCS technical and financial assistance are among some of the few resources available to private land managers to design and install upgraded systems for agricultural operations. NRCS technical specifications are designed to provide the energy benefits while maintaining positive effects on other resource concerns. To that end, NRCS efforts to assist with energy conservation can be combined with efforts designed to address other resource concerns at the same time. NRCS will also continue to support biomass removal from forestland through forest stand improvement and fuels reduction projects.

PLANT RESOURCES

The Klamath Mountains ecoregion and Josephine County in particular are renowned for unique native plant populations including numerous endemic, rare and endangered species. The region is noted as an Area of Global Botanical Significance, one of only seven in North America.

Federal land management agencies have designated several critical and sensitive habitat areas to protect these unique plant communities.

The predominant use of lower elevation agricultural lands is livestock grazing. These managed lands are particularly important because of their potential to help buffer and filter water. The discussion in this section is divided into forests, oak woodlands, pasture lands and native plant communities to facilitate analysis.

Threatened & Endangered Species Josephine County

Listed

- McDonald's rockcress *Arabis macdonaldiana*, Endangered
- Gentner's fritillary *Fritillaria gentneri* Endangered
- Cook's lomatium *Lomatium cookii* Critical Habitat Endangered
- Kincaid's lupine *Lupinus sulphureus* ssp. *kincaidii* Critical Habitat Threatened

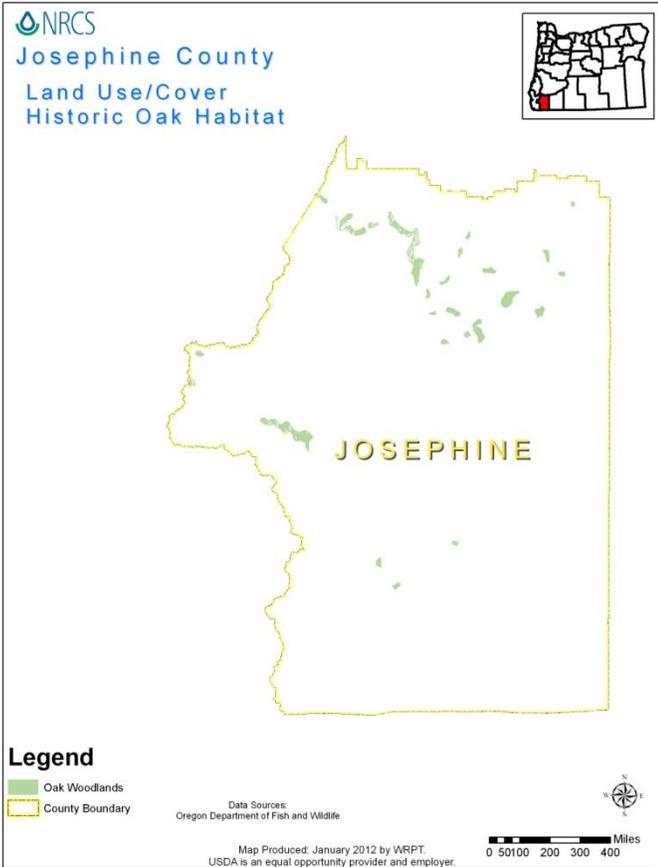
Candidate

- Whitebark Pine *Pinus albicaulis*

Forests. The Klamath Mountains Ecoregion has more different cone-bearing trees than anywhere in North America, and Josephine County is home to many of those diverse forest species. Forests and woodlands constitute more than 75% of the land use in the region. More than two-thirds of the total land in the county is federally managed forest lands. Private industrial and non-industrial acreage make up a much smaller portion of the remaining forest land ownership. Josephine County owns and manages approximately 30,000 of forest land.

Forest concerns. It is estimated by Oregon Department of Forestry that approximately 66% of the forestlands are in need of some treatment. Much of the forest land suffers from over stocking which increases fire risk, increases vulnerability to insects and disease and reduces stand productivity. Crowded forests do not provide good habitat for fish and wildlife species and do not serve watershed functions as well as healthy stands. Contributing further to these negative aspects are dense stands of brush and invasive species. Port Orford Cedar root rot is of localized concern in the region and requires particular attention to sanitation measures to prevent the spread of the ecologically-devastating disease. Improved forestland conditions can provide better habitat conditions for the spotted owls.

Oak woodlands. Oak woodlands are present throughout lower elevations of the Rogue River Basin. Over the past 100 years, Oregon white oak and California black oak plant associations have significantly declined in abundance and distribution. It is estimated that only 4-7% of historical oak woodlands remain in Oregon. The majority of extant oak stands are at risk from various threats or they lack structural diversity characteristic of healthy, functioning habitats.



Numerous factors contribute to the loss of oak habitats, including: encroachment of conifers, severe wildfire events/threats, fire suppression and lack of frequent low-intensity fires, and the establishment of dense, young oak stands and invasive plants. Stands typically lack structural diversity (large cavities, platforms, bunchgrasses, wildflower richness etc.), produce fewer acorns, and are characterized by high fuel loads. As a result, oaks across the landscape are experiencing a decline in health, vigor, and wildlife benefits or are at risk to uncharacteristically severe wildfire.

Hay and Pasture lands. Hay and pasture production represents about 16% of the farm land in Josephine County. Pasture lands are largely overgrazed and underutilized due to lack of adequate irrigation and pasture management. The use of prescribed grazing is not widespread and the unmanaged pastures tend to be overrun with weedy species and noxious weeds, suffer from compacted soils and be less productive. Most grazing takes place at lower elevations and

close to important riparian areas. The application of best management practices has been shown to have a positive effect on improving and maintaining surface water quality and quantity, while also providing economic benefits to livestock producers.

Native plant species and communities. Five species listed as Threatened and Endangered exist in the county. In addition there are a number of plant communities associated with important plant and animal species, such as the oak woodlands, wetlands, wet prairies, riparian areas, late successional forests and grasslands. These plant communities and their associated ecosystems are vital to healthy resource conditions in the county.

These plant communities are seriously threatened by invasive species and changing land-use practices. The invasive species that are the most detrimental on a landscape scale in this region are scotch broom and Himalayan blackberry. Scotch broom is also noted for aggravating wildfire risk and damage. Blackberries have overrun riparian areas and degraded that important habitat throughout the county. Other important, but localized species of concern are Japanese knotweed, Alyssum, and garlic mustard.

Documented Invasive plants in The Klamath Siskiyou ecoregion	
Armenian blackberry	Mediterranean sage
Canada thistle	Medusahead rye
Dalmation toadflax	Puncture vine
Diffuse knapweed	Quackgrass
Dogtail	Rush skeletonweed
Dyers woad	Scotch broom
False brome	Spanish broom
Fennel	Spotted knapweed
Iberian starthistle	Wooly distaff thistle
Leafy spurge	Yellow toadflax
Meadow knapweed	Yellow star thistle

From ODFW Strategy Habitats

Progress to date. Although limited in scope, livestock management practices cost-shared by NRCS, such as rotational grazing, have had a positive benefit on the control of invasive species. Tree planting and invasive species projects conducted by watershed councils and SWCDs have resulted in weed removal and native tree/shrub plantings in riparian areas.

The Community Wildfire Protection Planning process helped the community identify high priority areas and pursue funding to treat dangerous fuel loading. In the last 5 years, cooperative efforts to treat defensible space have resulted in over 5,000 acres of private lands and 90,000 acres of public lands being treated.

The Cooperative Weed Management Area provides a clearinghouse for information and sharing of resources. They are also active in outreach and education activities. The effective response to the outbreak of Alyssum in the Illinois Valley has demonstrated the strength of partnerships and interagency cooperation. Federal land managers dedicate significant resources to weed control on an annual basis. Riparian restoration projects have helped address invasive species in riparian areas on a site-specific scale. There is good potential to provide better control of invasive species through a variety of improved management practices in forestry and agriculture.

Needs and opportunities.

The unique and special habitats of southern Oregon need continued restoration and protection. Landowners will have continued need for assistance with BMPs suited to local plant communities and their individual land management goals. Attempts to increase connectivity, maintain larger areas and minimize fragmentation will also benefit unique plant and animal communities.

Noxious weeds are a constant threat benefitting from coordination, vigilance and early detection; further education and outreach are needed. There is potential to provide better control of invasive species through a variety of improved management practices in forestry and agriculture. Forest health and fuels are a very high priority in the region, with forest health impacting water quality and quantity, human health and safety, and fish and wildlife habitat. Although expensive and daunting in scope, forest health needs to continue to be addressed. Prioritization of fuels reduction work will be facilitated by maintaining and nurturing partnerships and cooperative efforts.

FOREST/PLANT RESOURCES OUTLOOK SUMMARY
HIGH PRIORITY
Forest health, plant populations in poor condition, threatened

What has been accomplished	What is left to do
<ul style="list-style-type: none"> • <i>Cooperative Weed Management Area formed and functioning</i> • <i>Community Wildfire Plans (CWPPs) developed</i> • <i>Prioritization, coordination of fuels reduction</i> • <i>Fuels reduction work completed</i> • <i>Williams EQIP-CIS</i> • <i>Proposed Takilma EQIP-CIS</i> 	<ul style="list-style-type: none"> • <i>Early Detection/Rapid Response for new species</i> • <i>Weed outreach & education</i> • <i>Reducing intensity of forest fires through fuels reduction, increased resiliency</i> • <i>Continued habitat improvement for target species</i> • <i>Increased implementation of improved livestock management methods</i> • <i>Inventory, evaluation and monitoring needed for key species and habitats</i>

Role and priorities for NRCS.

Plant resources will be a **HIGH PRIORITY** for NRCS assistance in Josephine County. Strategies targeting plant resources are outlined in the strategic approach section of this plan. Working agricultural and forestry lands represent an important component of the opportunities to improve plant health and maintain critical habitats in Josephine County. NRCS excels at providing technical and financial assistance to private landowners to implement conservation practices on working lands. NRCS will work with forest landowners to improve forest health and enhance oak woodland habitat. Priority areas will be established through collaborative and complementary efforts with other agencies to leverage conservation impacts. A Regional Conservationist Partnership Program (RCPP) application is being made to enhance oak habitat and includes proposed treatment areas in the Illinois Valley.

ANIMAL RESOURCES

The Klamath Mountains ecoregion boasts a high degree of species diversity, including a rich plant population with many endemic species. The region also provides important habitat for birds and terrestrial wildlife species as well as important aquatic species. ODFW has completed a thorough statewide analysis of critical habitats and the species that they support.

The habitats, limiting factors and suggested approaches to improve the situation concluded by ODFW are summarized here.

Summary of important habitat types

Riparian and freshwater aquatic. *Essentially every stream in Josephine County is potential habitat for salmonid and/or other important fish species. Temperature is the most common water quality factor affecting fish populations throughout the region. In-stream habitat and fish passage are also critical issues here. Stream flow has been cited as another limiting factor on a majority of the streams in the Rogue Basin, but there is optimism that efforts could be successful in a good percentage of those streams.*

Late successional mixed conifer forests, pine, pine-oak and oak woodlands. *Land use conversion from large-scale productive forests to urban and other uses has created concern for connectivity, increased danger of catastrophic fire, and furthered the spread of invasive species.*

Wetlands, vernal pools. *Wetlands are localized and small scale in the county. The geology has created the localized phenomena of vernal pools which are located in a very finite area north of Medford. These pools are habitat for several significant species of animals and plants.*

Threatened & Endangered Animal Species Josephine County

Listed:

- Marbled murrelet *Brachyramphus marmoratus* Critical Habitat /Threatened
- Northern spotted owl *Strix occidentalis caurina* Critical Habitat /Threatened

Candidate:

- Fisher *Martes pennanti*
- North American wolverine *Gulo gulo*

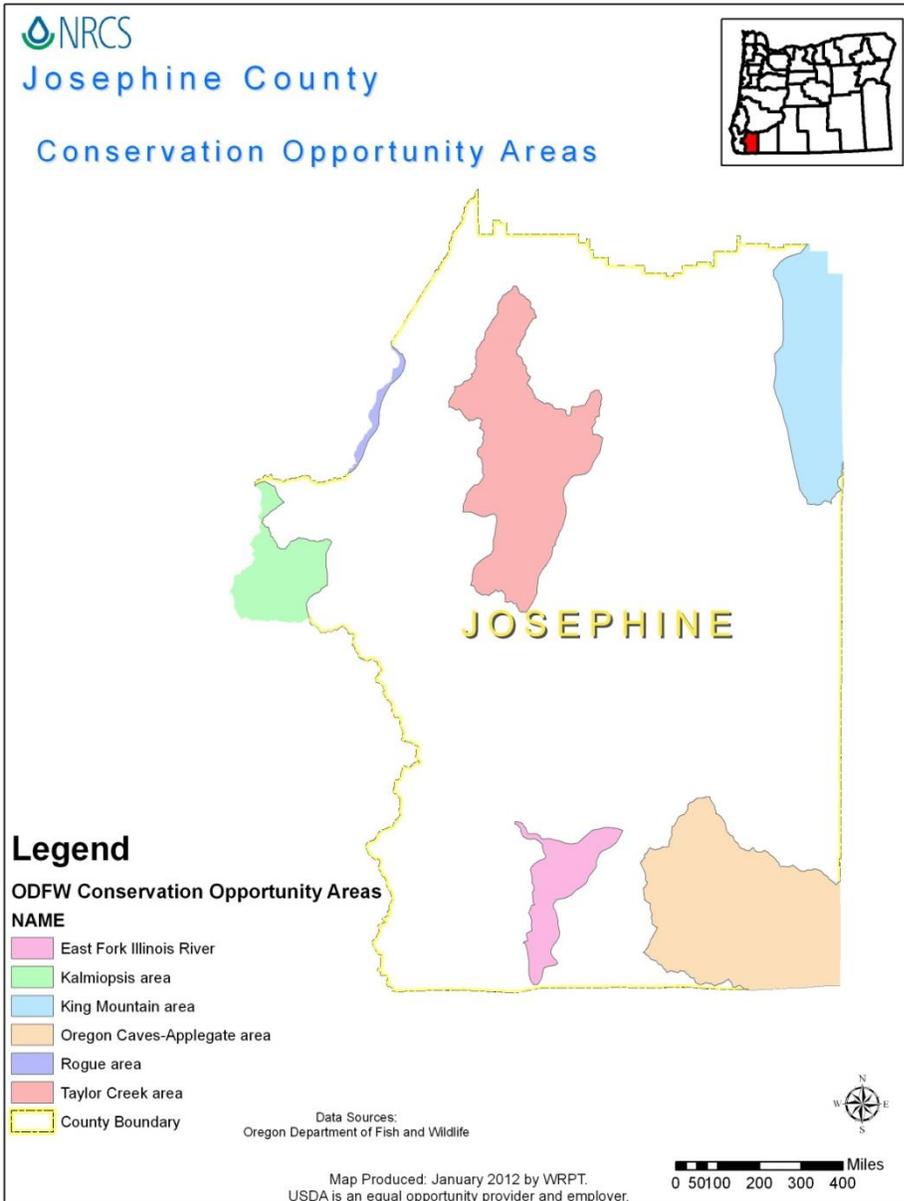
Ecosystem approaches recommended by ODFW

- ✓ voluntary easements and financial incentives to preserve and restore key habitats
- ✓ restore ecological function of riparian areas and wetlands and off channel habitats
- ✓ connect key habitats, prevent fragmentation, provide incentives to private owners
- ✓ integrate fuels and fire management
- ✓ maintain flows and reduce runoff
- ✓ maintain open-structured habitats, i.e., with mowing & controlled grazing
- ✓ restore and maintain ecosystem processes; more eco-friendly management
- ✓ early detection, prevention of invasives

After completing their extensive study, Oregon Department of Fish and Wildlife outlined a number of strategies as well as defining some Conservation Opportunity Areas (COAs) where they felt conservation efforts would be most beneficial.

Strategy Habitats in Josephine County identified by ODFW

Conservation opportunity areas & features	Key species
<p><u>Rogue area</u> (also in Curry County): Aquatic, late successional mixed conifer forests</p>	Coastal Tailed Frog, Southern Torrent Salamander, Marbled Murrelet, Northern Spotted Owl, Coho Salmon, Fall Chinook Salmon, Summer Steelhead, Winter Steelhead, Red Tree Vole, Ringtail
<p><u>Kalmiopsis area</u> (also in Curry County): Aquatic, late successional mixed conifer forests, area known for plant diversity due to geologic conditions and serpentine habitats; globally significant for endemic plants and salamanders</p>	Southern Torrent Salamander, Marbled Murrelet, Northern Spotted Owl, White Headed Woodpecker, Coho Salmon, Fall Chinook Salmon, Winter Steelhead, Fringed Bat, Red Tree Vole, Ringtail
<p><u>Taylor Creek area</u> late successional mixed conifer forests, pine-oak woodlands, serpentine habitats host a number of endemic plants</p>	Blue-Gray Gnatcatcher, Lewis’ Woodpecker, Northern Spotted Owl, White Headed Woodpecker, Coho Salmon, Summer Steelhead, Winter Steelhead, Red Tree Vole
<p><u>King Mountain area</u> Grasslands and oak savanna, late successional mixed conifer forests, pine-oak woodlands, contains many rare plant species</p>	Southern Torrent Salamander, Blue-Gray Gnatcatcher, Lewis Woodpecker, White Headed Woodpecker, Coho Salmon, Summer Steelhead , Winter Steelhead
<p><u>East fork Illinois River</u> Abundant rare and endemic plants, about 30% of the ecoregion’s wetlands, Aquatic, grasslands and oak savanna, riparian, wetlands</p>	Lewis’ Woodpecker, Choc Salmon, Fall Chinook, Winter Steelhead, Common Kingsnake
<p><u>Oregon Caves-Applegate area</u> (also Jackson Co): Important stopover for migrating songbirds, Aquatic, grasslands and oak savanna, late successional mixed conifer forests, pine oak woodlands, wetlands</p>	Siskiyou Mountains Salamander, Lewis’ Woodpecker, Northern Spotted Owl, Coho Salmon, Summer Steelhead, Winter Steelhead, Fisher, Red Tree Vole



Progress to date.

OWEB invested almost \$7 M in salmon restoration efforts including support for watershed councils between 1999 and 2007. Restoration and technical assistance combined came to an investment of over \$5 M during that period. Fish barriers have been prioritized in the Rogue Basin by the Rogue Basin Fish Access Team. That systematic effort resulted in the leverage needed to fund large projects that were high priority, including the removal of Savage Rapids Dam and Gold Ray Dam, both on the main stem Rogue and both removed in the last two years. The formation of watershed councils and their umbrella organization, the

Rogue Basin Coordinating Council, is a significant accomplishment. These on-the-ground community groups have significant volunteer outreach capability and extensive relationships with private landowners in some areas.

In the Middle Rogue, the watershed council has completed extensive tree planting, helped with the removal of invasive species in the riparian area and tackled fish passage problems. The Illinois Valley council has worked on a variety of in-stream habitat restoration projects in partnership with federal and private landowners.

Many of the commonly implemented conservation practices include positive benefits for fish and wildlife including improving water quality, improving habitat and providing forage and food sources. Additionally, practices are planned with particular care to minimize damage or avoid further restricting movement and access.

**ANIMAL/WILDLIFE RESOURCES OUTLOOK SUMMARY
MEDIUM PRIORITY**

Fish & wildlife populations in poor condition and threatened

What has been accomplished	What is left to do
<ul style="list-style-type: none"> • <i>Water quality and fish passage have benefitted as a result of efforts by a wide group of partners</i> • <i>Forest habitat has been improved and the forest made more resilient through forest stand improvement and fuels reduction work</i> 	<ul style="list-style-type: none"> • <i>Promoting water quality through</i> <ul style="list-style-type: none"> ○ <i>Improving grazing management</i> ○ <i>Improving forest management</i> ○ <i>Reducing runoff from irrigation</i> • <i>Improve forest habitat through stand improvement</i> • <i>Protect habitat from catastrophic fire</i> • <i>Restore critical habitat for important species</i>

Role and priorities for NRCS.

Animal resources will be a **HIGH PRIORITY** for NRCS assistance in Josephine County. Strategies targeting improving habitat for threatened and endangered species as well as the productivity of domestic livestock are outlined in the strategic approach section of this plan. NRCS can play a critical role in supporting habitat improvements for wildlife on private lands by working with willing landowners. Improvements to water quality through the application of BMPs will benefit all populations especially fish. Forest stand improvement practices and fuels reduction on private lands will complement work already being done on federal forest land. The Healthy Forest Reserve easement Program can provide improved habitat for the spotted owl.

CONSERVATION STRATEGIES AND INVESTMENTS

This section will explore the best strategies to make measurable progress on resource issues and outline the tools, strategies and investments needed to complete priority conservation work.

The major resource priorities for the county are summarized as follows:

Resource	Importance	Priorities, Roles
<i>Humans</i>	<i>Low</i>	<i>Increase awareness; working with partners to provide technical expertise and individual technology transfer</i>
<i>Soil</i>	<i>Low</i>	<i>Reduce sediment through expanding buffers in areas with water quality concerns</i>
<i>Water</i>	High	<i>Reduce runoff through implementation of BMPs for irrigation, nutrient, residue & livestock management, reduce forest fire risk</i>
<i>Air</i>	<i>Low</i>	<i>Reduce agricultural contributions to air quality problems</i>
<i>Energy</i>	<i>Low</i>	<i>Reduce energy use through conservation practices and equipment upgrades</i>
<i>Plants</i>	High	<i>Develop and maintain habitat for sensitive species, reduce risk of fire</i>
<i>Animals</i>	Medium	<i>Develop and maintain aquatic and terrestrial habitat for sensitive species, reduce risk of fire</i>

The key to achieving widespread adoption of voluntary conservation practices is to make them compatible with land uses and land management objectives in the private sector. The preceding analysis detailed the situation for each resource individually, although it is widely recognized that the condition of the resources is inter-related and that many conservation measures can impact multiple resource concerns.

The following table illustrates how types of conservation work have the potential to impact multiple resource concerns. This table is arranged by land-use type and presents a suite of practices that are commonly implemented in concert to achieve the desired resource and management objectives. Those practices which impact either high priority resource concerns or multiple resource concerns stand out as better resource investments.

Conservation activities by land use types & their potential to impact resource concerns:

NATURAL RESOURCE AREAS & PRIORITIES							
	Conservation activities	SOIL Low priority	WATER High priority	AIR/ENERGY Low priority	PLANTS High priority	ANIMALS High priority	HUMANS Low priority
Livestock /pasture	<ul style="list-style-type: none"> •Rotational grazing, •Cross fencing, • Livestock watering, • Invasive species control, • Stream crossings, • Heavy use area treatments •Irrigation water efficiency 	<ul style="list-style-type: none"> •Minimize soil compaction, • Improve infiltration 	<ul style="list-style-type: none"> •Improve water quality and quantity • Increase water for native species 		<ul style="list-style-type: none"> •Reduce invasive species; • Improve productivity of native species 	<ul style="list-style-type: none"> •Improve water quality for fish, •Improve forage & habitat •Improve domestic animal health 	<ul style="list-style-type: none"> •Improve economic viability, • Improve recreation
Crop land	<ul style="list-style-type: none"> •Irrigation water efficiency, • Cover cropping 	<ul style="list-style-type: none"> •Reduce run-off 	<ul style="list-style-type: none"> •Improve water quality and quantity 	<ul style="list-style-type: none"> •Conserve energy 	<ul style="list-style-type: none"> •Improve productivity 	<ul style="list-style-type: none"> •Increase in-stream water availability 	<ul style="list-style-type: none"> •Improve economic viability, • Reduce labor inputs
Wildlife	<ul style="list-style-type: none"> •Wildlife management 					<ul style="list-style-type: none"> •Improve habitat, forage •Improve domestic animal health 	<ul style="list-style-type: none"> •Increase economic viability
Forest land	<ul style="list-style-type: none"> •Forest stand improvement, thinning, • Fuels reduction, • Brush control, • Stream crossings, • Heavy use area treatments, • Roads, water bars, culverts, • Invasive species control 	<ul style="list-style-type: none"> •Minimize soil compaction, • Improve infiltration, • Reduce run off 	<ul style="list-style-type: none"> •Reduce uptake by unwanted species, • Improve water quality, • Increase water available for native species 	<ul style="list-style-type: none"> •Reduce threat of wildfire and smoke 	<ul style="list-style-type: none"> •Reduce threat of catastrophic wildfire, • Improve productivity of native species 	<ul style="list-style-type: none"> •Improve habitat and forage; • Wildlife connectivity corridors, • Improve fish passage, • Open access to habitat, • Improve forage, habitat 	<ul style="list-style-type: none"> •Improve access for management/ recreation, • Reduce threat of wildfire, • Improve economic viability

In Josephine County, we determined the highest priority resource concerns by convening partners and members of the public to discuss the state of resources in the county. Information regarding the state of the resources was also gleaned from extensive interviews and discussions with many individuals working in natural resources and conservation in the county.

For each resource concern we have reviewed the state of the resource, the progress that has been made to date and the needs and opportunities for improvement. This strategic planning process has helped to inform and clarify what needs to be done and has helped us to focus the programs and technical assistance available through the Natural Resources Conservation Service to best address natural resources through private lands conservation.

This plan has analyzed the resource needs and the progress of current efforts in order to identify the most strategic opportunities for the involvement of NRCS programs and resources. The following priorities are focused on conservation work most likely to produce results on the specified land uses managed by private landowners in Josephine County.

Strategic Priorities

1. Forest Stand Health and Fuels Reduction

Work collaboratively with partners to identify strategic opportunities to provide land managers with technical and financial assistance to reduce the risk of uncharacteristically severe wildfire in tactical locations that support healthy forest ecosystems.

- Improve forest ecosystem health, restoring more natural conditions which are more resistant to disease and insects
- Reduce risk of catastrophic forest fire through correct stocking levels, invasive species control and biomass reduction
- Improve wildlife habitat through correct stocking levels, healthy stands and invasive species control

Resource Benefits	
Humans	✓
Soil	✓
Water	✓
Air	✓
Energy	✓
Plants	✓
Animals	✓

This strategy will be focused on 6th field watersheds within the Illinois Valley, Williams areas, and Wolf Creek area. The strategy is focused on non-industrial private forest lands that form continuity with other previously completed or planned treatments. Additional treatments could focus on the 2013 post wildfire landscape helping to establish desirable vegetation before more invasive and fire prone vegetation re-establishes.

The Natural Resources Conservation Service will target Environmental Quality Incentive Program (EQIP) and Regional Conservationist Partnership Program (RCPP) funding to support the following conservation practices identified below.

Proposed NRCS conservation practices to be applied	
Woody Residue Treatment (384)	
Forest Stand Improvement (666)	Brush Management (314)
Tree/Shrub Site Preparation (490)	Tree/Shrub Pruning (660)

Key partners for this strategy include: Oregon Department of Forestry, Williams RFD, IVFROG, Soil and Water Conservation Districts, OSU Extension Service, AFF Small Woodlands Association, Bureau of Land Management, US Forest Service and Josephine County Stewardship and Fire Planning Committees.

Other potential resources include: ODF/National Fire Plan, Secure Rural Schools Title II and III, private grants, donations, in-kind assistance and volunteer contributions.

2. Surface Water Quality - Agricultural

Work with partners to identify opportunities to provide landowners technical and financial assistance to implement conservation measures to reduce delivery of nutrients, organics and sediment and warmer water to surface waters through the reduction in surface water runoff.

- Improve health of riparian areas and buffering capacity of riparian and near stream areas
- Improve growth and vigor of pasture to promote sustainable permanent cover of desired vegetation
- Protect stream corridors by installing alternative livestock watering facilities
- Improve irrigation system efficiency; reduce runoff and minimize the amount of water withdrawn for irrigation purposes

Resource Benefits	
Humans	✓
Soil	
Water	✓
Air	
Energy	✓
Plants	✓
Animals	✓

This strategy is under development and it will focus on livestock operations and operations using irrigation within one mile of streams currently listed on the 303(d) list maintained by Oregon Department of Environmental Quality. Partners will be involved in the further prioritization of this activity and will play an active role with outreach and technical assistance. Some possibilities also exist to leverage funding and plan complementary work with other partner strategies at the project level of implementation including the use of the Conservation Reserve Enhancement Program in riparian areas.

The Natural Resources Conservation Service will target Environmental Quality Incentive Program (EQIP) funding to support the following conservation practices identified below.

Proposed NRCS conservation practices to be applied		
Fence (382)	Critical Area Planting (342)	Forage Harvest Management (511)
Heavy Use Area Protection (561)	Pasture and Hay Planting (512)	Pipeline (516)
Prescribed Grazing (528)	Pumping Plant (533)	Watering Facility (614)
Tree & Shrub Site Prep (490)	Tree & Shrub Establishment (612)	Irrigation Water Management
Micro-irrigation	Water Control Structures	Irrigation Systems

Additional support for these and other complementary activities will be sought from the Oregon Watershed Enhancement Board, DEQ 319 funding, Small grants, other funding sources, donations, in-kind assistance and volunteer contributions.

Key Partners include: Two Rivers and Illinois Valley SWCDs, Farm Service Agency, Oregon Department of Fish & Wildlife, and watershed councils.

National Initiatives and Conservation Opportunities

In addition to local strategic priorities, we will take advantage of national initiatives to address resource concerns as these programs become available. Currently the following initiatives are available.

1. Organic Production

Conservation funding is available to organic producers and those transitioning to organic production. Financial and technical assistance is available through the Organic Initiative under the Environmental Quality Incentives Program (EQIP). The EQIP Organic Initiative signup is a nationwide special initiative to provide financial assistance to National Organic Program (NOP) certified organic producers as well as producers in the process of transitioning to organic production. Organic producers may also apply for assistance under the General EQIP program that is open to both organic and non-organic producers.

Through the EQIP Organic Initiative signup, farmers, ranchers and dairy operators may apply for financial assistance and technical expertise to plan and install conservation measures, such as the following.

NRCS conservation practices to be applied (Organic EQIP)

Buffer Strips	Conservation Crop Rotation
Cover Crops	Field Borders
Mulching	Nutrient Management
Pest Management	Residue Management
And more	

2. Seasonal High Tunnel Initiative

This program is designed to strengthen local and regional food markets and increase the use of sustainable conservation practices that will improve plant and soil quality, reduce nutrient and pesticide transport and reduce energy inputs.

Seasonal high tunnels are structures made of plastic or metal pipe and covered with plastic or other sheeting. Easy to build, maintain, and move, they provide an energy-efficient way to extend the growing season, reduce or avoid use of pesticides and reduce run off and leaching of nitrogen. Unlike greenhouses, they require no energy, relying on natural sunlight to modify the climate inside to create favorable conditions for growing vegetable and other specialty crops. USDA's Natural Resources Conservation Service (NRCS) is providing financial assistance for seasonal high tunnels.