

Lake County Umbrella Watershed Council

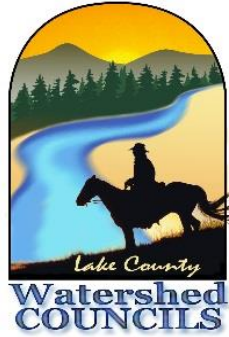
Action Plan



ADOPTED: FEBRUARY 2012
UPDATED: DECEMBER 2018

TABLE OF CONTENTS

Background.....	3
Summary of Limiting Factors.....	4
Priorities.....	6
Opportunities to Improve Watershed Conditions.....	7
Limiting Factor 1: Historic Stream Modifications & Associated Bank Stability.....	7
Limiting Factor 2: Water Quality.....	8
Limiting Factor 3: Fish Passage, Reduced Connectivity, Fish Entrapment.....	8
Limiting Factor 4: Riparian Areas.....	9
Limiting Factor 5: Wildlife.....	10
Limiting Factor 6: Degraded Wetland Condition.....	10
Limiting Factor 7: Noxious Weed Infestations.....	11
Limiting Factor 8: Juniper Encroachment.....	12
Limiting Factor 9: Forest Health Conditions.....	12
Limiting Factor 10: Altered Fire Regimes.....	13



The Mission of the Lake County Umbrella Watershed Council is to promote cooperative watershed restoration across jurisdictional boundaries, to better Lake County's watersheds and people.

Background:

Lake County is 8,000 square miles in size with a population of 8,000 people. Theoretically, this means for every one square mile, there lives one person. People in this region are sparse, which seems to foster one large close-knit community despite distance between isolated, smaller communities.

Natural resources are at the core of Lake County's economy, making the preservation of lakes, streams, forestlands, and rangelands a priority for all. However, this is not driven by economic interests only, as there is a major ecological significance too. Developing, yet protecting the county's natural resources are practices central to sustaining our rural communities for years to come. Who better to lead these efforts than the people who live here and depend on the land?

Formed in the mid-90s, the Lake County Watershed Councils are made up of a group of Lake County residents who assist local landowners in improving and promoting the health of local watersheds. In the mid-90's through 2006, five Councils existed to plan and promote watershed health in each unique watershed (Silver Lake Community, Upper Sycan, Upper Chewaucan, Warner Basin, and Goose Lake Basin). By 2007 representatives from each Council determined that it was more efficient to operate under one umbrella board. At that point, the Lake County Umbrella Watershed Council was established. Board Chair's from each Council became the new Board for the Umbrella Council. As a united group, the Council also established 501 c3 status for the organization.

The goal of the Umbrella Council is to "promote cooperative watershed restoration across jurisdictional boundaries, to better Lake County's watersheds and people." The council provides services and support to all watersheds and sub-councils in the region. Its board of directors and its contracted employees are names familiar to Lake County: Tom O'Leary, Matt Withers, Jack O'Leary, John Taylor, Roger Linton, Pete Talbot, Marci Schreder, Colleen Withers, and Brandi Neider. This group has accomplished much over the course of the years, but not without the help of many partners, local contractors, and willing landowners.

Quality outcomes are reliant on Action Plans to provide guidance towards future Council activities. The Lake County Umbrella Watershed Action Plan presents the goals, objectives, and proposed action items for the protection and enhancement of watershed resources county wide. This action plan is based on a variety of watershed assessments, watershed analysis, stream reconnaissance plans and regional and state documents that provide direction for quality planning in Lake County.

Just as the natural resources within a watershed are related and interconnected, many of the primary issues of concern within Lake County are very closely linked. Water quality and quantity, channel modifications, fish habitat conditions, juniper encroachment, forest health, fire and fire management, and noxious weeds inherently affect and are affected by each other in ways that are important for watershed managers to understand. The conditions that have contributed toward impacting watershed resources are interwoven throughout each analysis, assessment and reconnaissance plan; therefore, action items may appear in multiple sections when issues of concern impact a variety of watershed issues.

The key findings and recommendations within the above document identify and prioritize opportunities that are directed toward improving fish and wildlife habitat and water quality.

A summary of the key findings within the document is as follows:

Limiting Factors:

1. Historic Stream Modifications and Associated Bank Instability:

Historic stream channel modification is common throughout Lake County. The following practices fundamentally altered stream function: channelization, dams, diversion and loss of floodplain connectivity. As a result, many reaches suffer from poor habitat quality caused by loss of riparian vegetation and increased erosion. For example, 25% of Thomas Creek (10 stream miles) was channelized in the 1940's, resulting in significant loss of riparian wetlands, in-stream habitat and floodplain connectivity. These channelized reaches are important for native fish species. The Lake County Watershed Council has actively collaborated with private landowners and other conservation resource agencies to improve existing conditions.

2. Water Quality:

There are a number of streams throughout Lake County that do not meet the Oregon Department of Environmental Quality's water quality standards for stream temperature. This has placed these streams on the 303d list. These conditions can be attributed primarily to low stream flows in the summer and fall months, low shade levels along streambanks and stream widening in segments located in the valley bottoms.

3. Fish Passage Barriers, Diminished Connectivity, Altered Habitat, and Fish Entrapment:

Aquatic habitats are affected by altered channel and flow conditions, obstructions, and poor riparian condition. Efforts to assess the quality of aquatic habitats are ongoing and obtaining an understanding of natural temperature and water quality dynamics in the ecoregion is a research priority.

Many of the streams have been diked, channelized, and drained for agricultural purposes. In some location's populations are only connected during consecutive high-water years, severely limiting the opportunities for the expression of a migratory life history and inter-population mixing. Lack of a migratory life history and degraded habitat impacts the potential productivity. The Umbrella Council is working aggressively to address passage and screening issues throughout the county. A number of stream reconnaissance plans and assessments with action items have been developed to address fish passage, population persistence among species, opportunities to improve habitat, and species recovery in some of the basins. Project action items have been prioritized based on fish species and habitat potential.

4. Riparian Areas:

Altered riparian function is a common issue found in streams throughout Lake County. Stream channel modifications, increased width to depth ratios, conifer and juniper encroachment, dramatic flows, reduced vegetation, and historical grazing activities have led to stream systems that function at an impaired rate. Long term effects lead to lateral erosion of streambanks, land loss, diminished water quality, and riparian habitat. In addition, invasive plant species can take advantage of the good growing conditions found in riparian zones and will invade these areas. As these plants dominate

native plants, the overall vegetative diversity decreases, resulting in less favorable habitat for most wildlife species and livestock.

5. Wildlife:

Lake County watersheds provide valuable habitat for a variety of wildlife species. Specifically, there are four key habitat types that provide food, shelter and water for the threatened sage grouse, white-headed wood pecker, wintering mule deer and the unique waterfowl that migrate to the SONEC Region- Pacific Flyway in Lake County annually. These habitat types consist of sage brush steppe, aspen stands, open large stands of Ponderosa pine, flood irrigated pastures that mimic natural wetlands and wetland areas located throughout the county. Restoring and maintaining complex habitat types for these species is a priority for area resource managers.

6. Degraded Wetland Conditions:

Most of lower Lake County is made up of both natural and manmade wetlands that provide for important habitat for numerous wildlife species, as well as, providing essential water for agricultural purposes. Protecting and enhancing these wetlands is valuable for the local economy and imperative for sustaining migratory bird populations. If the loss of flood-irrigation and foraging habitat in Lake County continues this could have a negative impact to priority water fowl populations in the Pacific Flyway including Pintails and Greater White-fronted Geese. Continued loss of these critical habitats would result in altered distribution of waterfowl during spring migration, thereby concentrating birds in less productive foraging habitats and increase competition for food resources.

7. Noxious Weed Infestations:

Lake County has identified seven weed protection areas and has identified the threat of noxious weeds within each of those zones. Threats are designated as: 0) Watch for, 1) Establishing, 2) Controllable, 3) Widespread and “x”) Not detected. Currently Lake County has over 25 noxious weed species that spread from the north to the south end of the County. Noxious weeds and annual grass invaders (Ventinada and Medusa head Rye) are negatively impacting uplands, rangelands, and riparian areas. The Umbrella Council is on the Lake County Cooperative Weed Management Area Board. The Council is promoting noxious weed control throughout the county by working cooperatively with the Cooperative Weed Management Area on educational efforts and through restoration and upland enhancement projects.

8. Juniper Encroachment:

Western juniper has significantly expanded its range since the late 1800’s by encroaching onto landscapes once dominated by shrubs and herbaceous vegetation. This expansion affects soil resources, plant community structure and composition, water, nutrient and fires cycles, forage production, wildlife habitat, and biodiversity. Lake County sage brush steppe ecosystems provides extensive sage grouse and mule deer habitat. Encroaching juniper have degraded many of these habitat areas by reducing plant community diversity, limiting water storage, and increasing overland flow of fine sediments. In addition, aggressive juniper and conifer encroachment has led to a reduction in aspen stand health and abundance. Aspen stands are vital to the health of many varieties of wildlife and are a key species in our forest systems. The Lake County Umbrella Watershed Council is actively working with private landowners and neighboring agencies to partner on large landscape scale projects to address juniper encroachment issues. Projects are focused on improving habitat conditions for wildlife, enhancing aspen stands, reducing dense forest canopies, and increasing vegetation abundance and diversity.

9. Forest Health Conditions:

A healthy forest is a key contributor to a highly functioning watershed. Forest landscapes across the Great Basin are suffering from unhealthy management, which increases risk of disease, dense canopy cover, over-crowding and

catastrophic fire. Ultimately, precipitation captured in the top of the watershed affects the health of everything within it. Specific focal areas have been identified in Lake County as high priority treatment areas. These landscapes are unique due to the extensive stands of old legacy ponderosa pine mixed with aspen, open meadows and streams. Greater sage grouse, wood pecker, antelope, and mule deer habitat are also immersed in these areas. The landscape is at severe risk of intense wildlife disturbance due to heavy fuel loading and stand densities which could result in the loss of old legacy ponderosa pine and greater sage grouse focal habitat. In addition, intense wildfire poses a significant risk to local streams through sedimentation and habitat fragmentation impacting endemic Warner sucker, redband trout, nine native Goose Lake fish species, and other aquatic species in our watersheds.

The primary vegetation zones within the project area are: mixed conifer forest, juniper woodlands, sage shrub steppe, and aspen stands. The forest understory and meadow systems should be composed of a healthy mix of grasses, forbs, and shrubs that provide habitat for a multitude of wildlife species and are essential components for healthy working lands, however, many native grasses and forbs have been displaced or out-competed by invasive species, especially western juniper. Concurrently, aspen stands that exist in the upland meadows have also been impacted by pine and juniper encroachment. Today these meadow systems are suffering from drier conditions and loss of natural diversity from the impacts of juniper and mixed conifer encroachment creating dense multi-layer conditions. Some ponderosa pine stands now have over 500 trees per acre, as compared to historical averages of 26-32 trees per acre. Overall, growth rates for trees are low, as water, nutrients, and growing space is limited by competition. The decreased growth rates and decreased stand vigor makes trees more susceptible to insect attack and disease mortality. Unhealthy forest stands affect a watershed's ability to properly capture, store and release water into a landscape. This trickle-down effect adversely impacts a multitude of resources.

10. Altered Fire Regimes:

Fire plays an important role in the natural disturbance and recovery patterns of native species and ecosystems in Lake County's watersheds. Fire suppression activities have altered the historic frequency and intensity of fires in Lake County. Through collaborative planning on a landscape level the Klamath Lake Forest Health Partnership, USFS, BLM, ODF, OSU Extension, and NRCS are implementing forest health treatments that will lead to prescribed fire in the future. These collaborations are establishing Fire Councils in preparation of future treatments.

Priorities:

Prioritizing projects and actions to meet the six limiting factors of Lake County is key to the success of the Lake County Umbrella Watershed Council. In order to prioritize effectively and efficiently the Lake County Umbrella Watershed Council relies on assessments and documents that have been developed for individual watersheds and wildlife management units. The following is a list of documents used to prioritize projects:

- *Upper Thomas Creek Watershed Analysis—1996*
- *Deep Creek Watershed Analysis—1998*
- *Upper Chewaucan Watershed Assessment; A Guide for Sustaining a Healthy Watershed for Future Generations—1999*
- *Upper Sycan Watershed Analysis—2002*
- *Silver Lake Watershed Assessment; Creating a Healthy Watershed through Cooperative Watershed Management—2003*
- *ODFW's Greater Sage Grouse Conservation Assessment and Strategy Plan for Oregon—2005*
- *Drews Creek Watershed Analysis—2006*
- *The Upper Sprague and Sycan Watershed Assessment—2007*
- *Goose Lake Fishes Working Group Conservation Strategy —2008*
- *ODFW Warner Mule Deer initiative--2009*

- *ODFW Warner Sucker Recovery Plan-- 2009*
- *Inner Mountain West Joint Venture Management Guide—2010*
- *Upper Thomas Creek/Cox Flat Assessment--2012*
- *Crooked Creek Stream Reconnaissance and Action Plan—2012*
- *Upper Deep Creek Stream Reconnaissance and Action Plan – 2015*
- *Goose Lake Stream Reconnaissance and Action Plan – 2017*
- *Warner Basin Aquatic Habitat Strategic Action and Design Plan - 2018*

In order for the Council to consider a project, it must meet the management objectives of the listed resources and/or address one of the Council’s ten limiting factors.

Opportunities to Improve Watershed Conditions:

The Lake County Umbrella Watershed Council (LCUWC) is committed to building partnerships with private landowners and other conservation specialists to achieve the goal of planning and implementing holistic watershed restoration projects throughout Lake County. The restoration efforts that that have been on-going in the County for decades now have taught us valuable lessons to assess project effectiveness. The LCUWC supports actions that meet the following objectives:

- Assessment: To evaluate current health of the watershed and its relevance to the social, economic, and ecological resources of the county.
- Awareness: To provide awareness, understanding and education of the value of healthy watersheds and the restoration actions that can improve or enhance each specific resource.
- Enhancement: To lead efforts and implementation actions that improve, restore and protect watershed function for Lake County’s streams, wildlife, fish, and people.

To meet these objectives the Lake County Umbrella Watershed Council seeks to:

- Collaborate with local stakeholders to restore, protect and enhance watershed resources.
- Achieve a balance between conservation actions, the local people, and the working landscapes that embody Lake County.
- Provide educational and learning opportunities for those interested in restoring and protecting Lake Counties Watersheds.
- To plan and implement priority restoration actions throughout Lake County.

The following section lists the types of projects the LCUWC plans to implement within each watershed to address the limiting factors outlined within this action plan.

Limiting Factor 1: Historic Stream Modifications & Associated Bank Stability

Issue:

In the 1940’s many stream systems throughout Lake County were channelized or modified to improve agricultural production. It was also common to remove woody vegetation from streams to improve irrigation practices. Many

ranches have adapted and become dependent on the modifications that were created along stream systems. In numerous areas this has led to degraded riparian and streambank condition affecting water quality, fish habitat conditions, and a decline in riparian vegetation. The Council annually works alongside property owners to improve and stabilize these conditions, while maintaining the integrity of the farm or ranch. Streambank stabilization, willow plantings, bank re-contouring and grazing management are all things that can be done to improve these systems.

Action Items:

- Provide educational opportunities to landowners regarding grazing management alternatives, off-site water opportunities, riparian fencing, vegetation plantings, and bank stabilization techniques.
- Provide technical assistance to landowners interested in addressing riparian and streambank issues on their property. Utilize area reconnaissance plans and assessments to determine core issues. Follow through with plan development, data collection, and survey of priority treatment areas.
- Assess opportunities for a larger landscape level project.
- Collaborate with state and federal agencies to develop alternatives for addressing issues.
- Obtain grant funding for project implementation to address associated issues. For instance (willow plantings bank shaping, riparian fencing, bioengineering, grazing management, off-site water, headcut repair, and erosion control.
- Provide pre and post treatment monitor to determine effectiveness of the project.

Priority Areas:

Will be determined through reconnaissance plans and assessments and by working with area resource specialists.

Limiting Factor 2: Water Quality

Issue:

Water quality conditions in Lake County are linked to water quantity and flow levels. The water quality parameters monitored by the Oregon Department of Environmental Quality including stream temperature are affected by low flow conditions found county wide.

Action Items:

- Monitor water quality parameters, primarily stream temperature to understand changes and impacts on stream systems.
- Provide opportunities for property owners to plan and implement projects that provide shade and complexity to their streams.
- Present information on current watershed issues at local events that provide awareness to the general public.

Priority Areas:

Priority areas are currently outlined in the Lake County Limiting Factors Analysis and watershed assessments for each watershed in the county.

Limiting Factor 3: Fish Passage, Reduced Connectivity, Fish Entrapment

Issue:

Historic irrigation practices have led to fragmented stream systems throughout the county. Drop board irrigation systems and other instream structures are impeding migration of many key fish species. In addition, very few irrigation ditches in the county are screened to prevent fish entrapment. The combination of the two issues has the potential to negatively impact native fish populations. In addition, many roadways throughout Lake County contain culvert crossings that are undersized and perched. These conditions lead to isolated populations of fish and prevent aquatic species from accessing better habitat in the headwaters. Developing alternatives that will provide for passage at culvert locations and passage and screening at irrigation structures is critical to native fish species and the ranching community who depend on irrigation water to sustain agriculture practices.

Action Items:

- Provide educational opportunities to landowners about the importance of passage, screening and culvert replacement.
- Provide technical assistance to landowners interested in addressing fish barriers and installing fish screens on their property. Determine possible alternatives, understand flow regimes and specific aquatic species requirements.
- Collaborate with partners to assess cross boundary conditions. Utilize opportunities to address more than one issue at a time, multiple barriers may exist within one stream segment or system.
- Obtain grant funding for implementing projects to address fish barriers and install screens
- Monitor the project to assess effectiveness.

Priority Areas:

Priority areas for fish passage and screening will be determined by key fish species. Current high priority watersheds include Goose Lake Basin and Warner Basin.

Limiting Factor 4: Riparian Areas

Issue:

Beneficial Riparian function along many of the streams in Lake County has been altered. The multiple issues associated with riparian conditions have led to accelerated stream flows, increased erosion, and a hydrological disconnection between the stream and associated riparian areas. A healthy stream floods, moderately erodes and deposits within a riparian area, giving it shape and structure. Riparian areas typically recover high flow events rapidly if functioning properly, however the long-term effects of channelization, removal of woody material, and loss of vegetation can lead to streambank incision, loss of floodplain, diminished habitat for fish and wildlife, and increased stream temperatures. These modifications significantly alter the movement and storage of water that is so important to the riparian system. Water withdrawals from streams also may reduce base flow, depriving riparian areas of moisture. Riparian plant composition, habitat structure, and productivity are determined by the timing, duration, and extent of flooding.

Action Items:

- Utilize stream reconnaissance plans and assessments for specific streams to evaluate and develop project treatments to improve riparian area condition.
- Reach out to property owners who manage land within focal streams identified in plans and assessments to provide education and opportunity to improve riparian corridors.
- Provide technical assistance to landowners interested in addressing riparian area function. Determine possible alternatives, understand flow regimes and specific aquatic and wildlife species requirements. Understand the

property owners' goals and objectives and find balance in conservation practices and livestock management needs.

- Collaborate with partners – technical assistance opportunities. Utilize opportunities to address more than one issue at a time. Several restoration treatments may be possible within the stream reach or segment.
- Obtain grant funding for project implementation to provide riparian fencing, off site water, water gaps, riparian plantings, flood plain development, streambank stabilization and noxious weed treatments.
- Monitor the project to assess project effectiveness.

Priority Areas:

The priority areas for riparian restoration is county wide, Silver Lake Basin, Chewaucan Valley, Warner Valley and Goose Lake Basin.

Limiting Factor 5: Wildlife

Issue:

Lake County watersheds provide valuable habitat for a variety of wildlife species. Focal species are sage grouse, mule deer, white headed woodpecker and wetland water birds. Priority habitat types to preserve and enhance are sage brush steppe, aspen stands, flood irrigated pasture, wetlands, and open large Ponderosa pine stands. Enhancing and maintaining these special areas is a priority for area resource managers.

Action Items:

- Raise awareness and provide landowners with information about the impacts on these habitat types.
- Collaborate with local agencies to inventory and assess wildlife habitat conditions.
- Plan and implement projects that improve these habitats on small- and large-scale restoration opportunities.

Priority Areas:

Priority areas include: Goose Lake Basin (mule deer habitat, wetland waterfowl), Warner Basin (sage grouse, white headed wood pecker, wetland waterfowl), Chewaucan & Crooked Creek Watersheds (mule deer, white headed woodpecker, waterfowl), Silver Lakes Basin (mule deer).

Limiting Factor 6: Degraded Wetland Condition

Issue:

Most of Lake County's low lands lie within the Southern Oregon-Northeastern California (SONEC) management area of the Inner Mountain West Joint Venture. This region is an area of continental significance for waterfowl, serving as a major fall/spring staging "hub" during migration. Much of the natural hydrologic cycle has been altered by dams and waterway diversions in the SONEC region. Natural flooding has been replaced by human-induced flooding for agriculture production purposes, which in fact, largely mimics the natural cycle and continues to provide many of the

historical wetland benefits. Recent science from the USGS and IWJV have proven that traditional agriculture practices including flood-irrigation, haying and grazing combined with natural snowmelt runoff creates ideal conditions for spring migratory waterfowl. In particular, short grasses with shallow ponding produce an abundance of available seeds, invertebrates, and green vegetation for waterfowl. The issue with most of the flood irrigated lands in Lake County is that the irrigation systems are old and dilapidated. Many of the systems were put in over 75 years ago and no longer function efficiently. These valuable wetlands are being lost as a result of the inefficient irrigation systems. If the loss of flood-irrigation and foraging habitat in the SONEC region continues this could have a negative impact to priority waterfowl populations in the Pacific Flyway. Continued loss of these critical habitats would result in altered distribution of waterfowl during spring migration, thereby concentrating birds in less productive foraging habitats and increase competition for food resources. Conserving wetland throughout Lake County will help establish long-term wetlands needed by migrating water birds.

Action Items:

- Provide educational opportunities to landowners about the importance of improving wetland conditions.
- Provide technical assistance to landowners interested in improving wetlands on their property
- Work with Ducks Unlimited and other organizations promote waterfowl and wetland programs in Lake County.
- Obtain grant funding for implementing projects to address the loss of wetlands
- Collaborate with state and federal agencies and Ducks Unlimited to develop alternatives for addressing the loss of wetlands.
- Provide technical assistance to landowners for implementing wetland and irrigation improvement projects.
- Provide pre and post treatment monitoring

Priority Areas:

The priority areas for wetlands enhancement will be Silver Lake Basin, Summer Lake Basin, Chewaucan Valley, Warner Valley and Goose Lake Basin.

Limiting Factor 7: Noxious Weed Infestations

Issue:

Noxious weed and annual grass invasion are an issue throughout all of Lake County, like many areas of the state. The Council feels it's very important to address weed issues right alongside other restoration opportunities. Lake County is very fortunate in the fact that much of the landscape is still intact and vegetated with native ground cover; however, there are still many areas where that is not the case. Every year Lake County landowners lose thousands of dollars through loss of land and chemical to treat infested areas. Wildlife are also greatly impacted through loss of habitat. Lake County has one of the most active Cooperative Weed Management Areas in the state, and the Council was a founding member of that organization in 2004. To help address weed issues in the county the Council serves an active role on the Cooperative Weed Management Area board.

Action Items:

- Play an active role on the Cooperative Weed Management Area Board.
- Participate in the early detection, rapid response program in the County by detecting new species.
- Include noxious weed treatment on restoration projects that have noxious weeds present or pose a threat to having them introduced.

- Work with private landowners to treat noxious weeds on their property. Provide education and give them the resources to address issues.

Priority Areas: High priority areas for weed treatment include roads, waterways and restoration project areas with disturbed soils. Mule deer winter range and sage grouse habitat are also a high priority for noxious weed treatment.

Limiting Factor 8: Juniper Encroachment

Issue:

Decades of fire suppression in Lake County watersheds has led to the expansion of juniper woodlands. Juniper encroachment led to landscape conditions where juniper became the dominate species. Habitats that were once covered with grass and shrubs in the uplands and sedge/willow/aspen in the riparian zones are now heavily impacted by this invasive species. As junipers expand across the landscape native grasses and shrubs become less abundant. Junipers have the ability to utilize ground water in a highly effective way, leaving very little water for native grasses and shrubs in an area of with such limited water as this one. If the trend of fire suppression and associated juniper expansion is not reversed, it is expected that riparian vegetation such as aspen will continue to decline, and upland shrubs and grasses will continue to be crowded out, leaving more soil exposed and surface erosion. Degraded upland conditions will lead to poor wildlife habitat and overall watershed condition.

Action Items:

- Assess current encroachment levels in key watersheds.
- Provide technical assistance to landowners interested in treating juniper.
- Obtain grant funding for treatment.
- Coordinate treatment efforts with partners including: ODFW, USFS, BLM, USFWS and ODF.
- Assist landowners with project prescriptions, layout and contracting.
- Conduct post-treatment monitoring.
- Conduct follow up treatments if needed and assist with slash treatment and pile burning.

Priority Areas:

The highest priority for treating juniper will be in current and historic sage grouse habitat and in important mule deer winter range areas. The Council will rely on ODFW biologists and plans for prioritizing projects.

Limiting Factor 9: Forest Health Conditions

Issue:

A healthy forest is a key contributor to a highly functioning watershed. Forest landscapes across the Great Basin are suffering from unhealthy management, which increases risk of disease, dense canopy cover, over-crowding and catastrophic fire. Ultimately, precipitation captured in the top of the watershed affects the health of everything within it. The landscape is at severe risk of intense wildlife disturbance due to heavy fuel loading and stand densities which could result in the loss of old legacy ponderosa pine and greater sage grouse focal habitat. In addition, intense wildfire poses a significant risk to local streams through sedimentation and habitat fragmentation impacting aquatic species.

The forest understory and meadow systems should be composed of a healthy mix of grasses, forbs, and shrubs that provide habitat for a multitude of wildlife species and are essential components for healthy working lands, however, many native grasses and forbs have been displaced or out-competed by dense timber stands and juniper. Concurrently,

aspen stands that exist in the upland meadows have also been impacted by pine and juniper encroachment. Today these meadow systems are suffering from drier conditions and loss of natural diversity from the impacts of juniper and mixed conifer encroachment creating dense multi-layer conditions. Some ponderosa pine stands now have over 500 trees per acre, as compared to historical averages of 26-32 trees per acre. Overall, growth rates for trees are low, as water, nutrients, and growing space is limited by competition. The decreased growth rates and decreased stand vigor makes trees more susceptible to insect attack and disease mortality. Overstocked pine stands and juniper encroachment have negatively impacted watershed processes. As our forests increase in number and size, a greater proportion of moisture (rain or snow) reaching the site is affected by canopy interception and the overland flow of water. These conditions have reduced infiltration rates and have increased erosion rates, which leads to fewer plants, less soil cover, more opportunity for overland flow and soil erosion, greater nutrient loss, and overall less productive sites. Unhealthy forest stands affect a watershed's ability to properly capture, store and release water into a landscape. This

Action Items:

- Follow USFS in large landscape scale opportunities to treat timbered land across boundaries.
- Collaborate with a wide range of partners on private and public land to plan and address issues.
- Provide educational opportunities for landowners regarding forest health issues and proper management.
- Provide mapping and inventory on private land to assess conditions, develop priorities and design treatment prescriptions.
- Obtain grant funding to address forest health implementation.
- Assist with contracting, project layout, and oversight of projects.
- Assist with pile bringing and future prescribed fire.
- Monitor project areas for project effectiveness
- Educate property owners regarding future maintenance and weed treatments.
- Collaborate with Fremont- Winema National Forest and ODF to address the National Cohesive Wildland Fire Management Strategy.
- Plan large landscape scale project across boundaries utilizing the USFS Integrated Landscape Restoration

Priority Areas:

Current priority areas include Crooked, Mud, Honey, and Thomas Creek Watersheds.

Limiting Factor 10: Altered Fire Regimes

Issue:

Fire plays an important role in the natural disturbance and recovery patterns of native species and ecosystems. Lake County watersheds have evolved with and in response to fire. The widespread public has limited access to information regarding the natural role that wildfire plays in Lake County.

Action Items:

- Raise community awareness about the roles that fire and fire suppression play in our forests.
- Support efforts made by our partners to provide workshops and develop educational brochures and news articles to begin education efforts.
- Support and participate in establishment of community fire teams.
- Plan trainings for local staff (private individuals and agencies) to develop these teams (future TRES Training).

Priority Areas:

Focal areas include the Crooked, Mud, Honey, and Thomas Creek Watersheds, which encompass over 600,000 acres. These watersheds are considered the highest priority areas for treatment, however, watersheds county wide is in need of forest health treatments followed by prescribed fire.