

# Annual Report: Lake County Umbrella Watershed Council

## 2019



### Restoring Watersheds Ridge Top to Ridge Top

Lake County WC  
PO Box 848  
Lakeview, OR. 97630

# Annual Report: Lake County Umbrella Watershed Council

## *Meet Our Board of Directors & Staff*

### Our Story

Established in the mid- 1990s, five independent Watershed Councils were formed to represent each distinct watershed in Lake County. The Councils (made up of local residents) assisted landowners with watershed projects to improve and promote watershed health. Over time, the Councils merged to become the Lake County Umbrella Watershed Council.

With the aid of many partners, the Council plans, secures grant funding, implements, and monitors watershed restoration and enhancement projects.

### Our Board

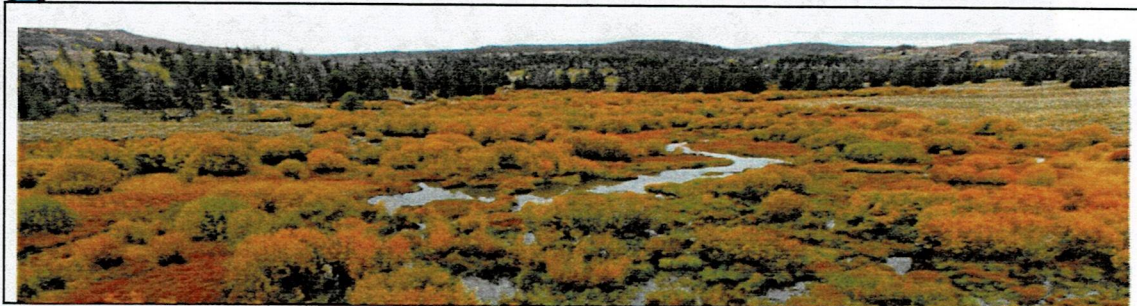
- Tom O'Leary – Silver Lake Community Watershed
- Pete Talbott – Goose Lake Basin Watershed
- John Taylor – Warner Valley Watershed
- Roger Linton – Crooked Creek Watershed
- Matt Withers – Upper Sycan Watershed
- Jack O'Leary – Upper Chewaucan Watershed

### Our Staff

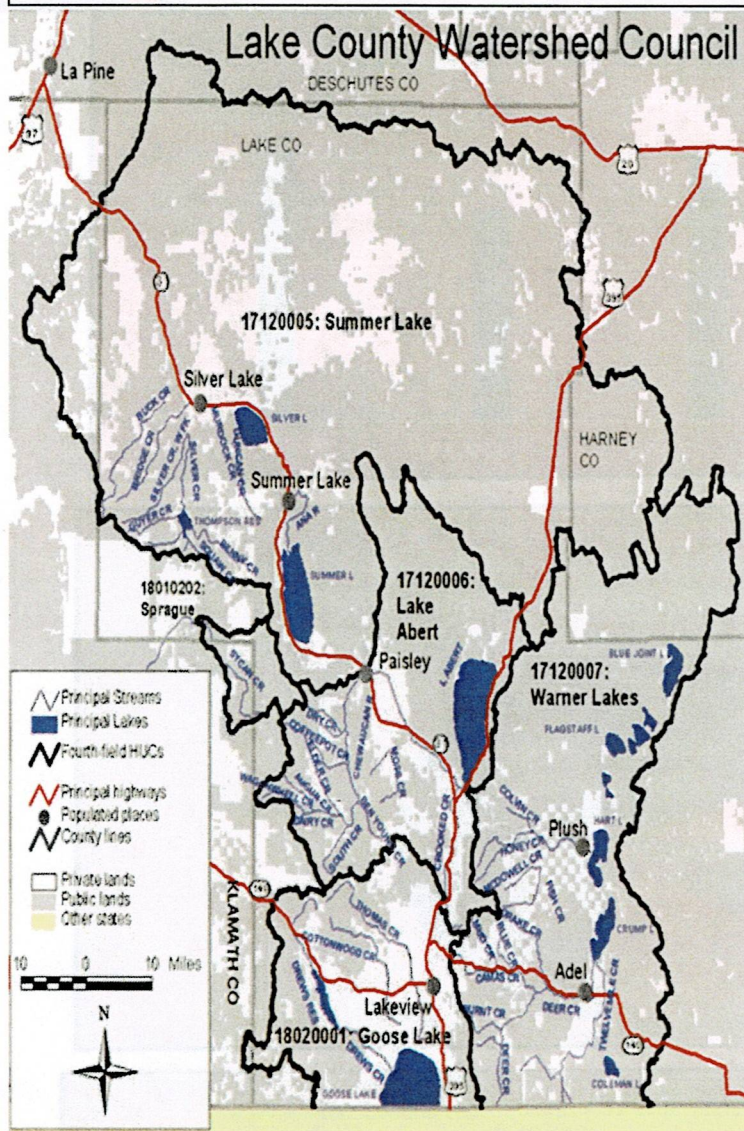
Program Manager & Fiscal Administrator: Colleen Withers  
541-610-3134, [lakecountywscedu@yahoo.com](mailto:lakecountywscedu@yahoo.com)

Project Manager, Stream & Riparian Coordinator: Brandi Neider  
541-219-0493, [bdneider23@gmail.com](mailto:bdneider23@gmail.com)

Project Manager, Uplands Coordinator: Autumn Larkins  
541.817.5649, [lakecountywsc@gmail.com](mailto:lakecountywsc@gmail.com)



## 2019 Projects & Mission Statement



SINCE 2004, THE LAKE COUNTY WC HAS COMPLETED OVER 150 RESTORATION PROJECTS COUNTY WIDE. THE FOCUS FOR 2019 HAS BEEN RESTORATION ACTIVITIES INCLUDING PLANNING, PARTNERSHIP COLLABORATION, DESIGN, IMPLEMENTATION AND MONITORING.

### Implementation

- 1) Warner Basin Aquatic Habitat & Fish Passage
- 2) Deep Creek Fish Passage Part II
- 3) North Warner Forest Health Treatments
- 4) Feldkamp Mule Deer Enhancement

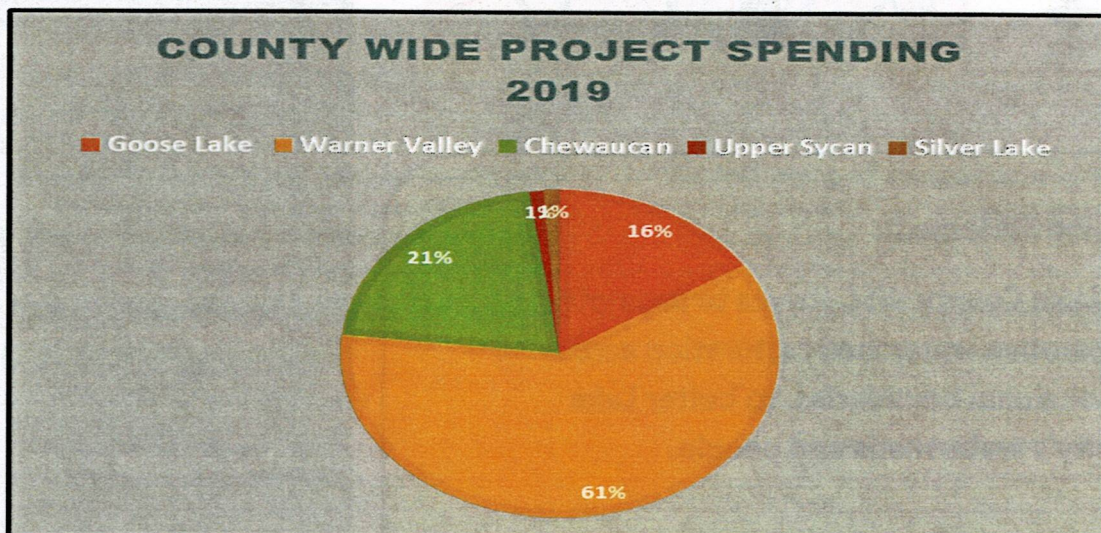
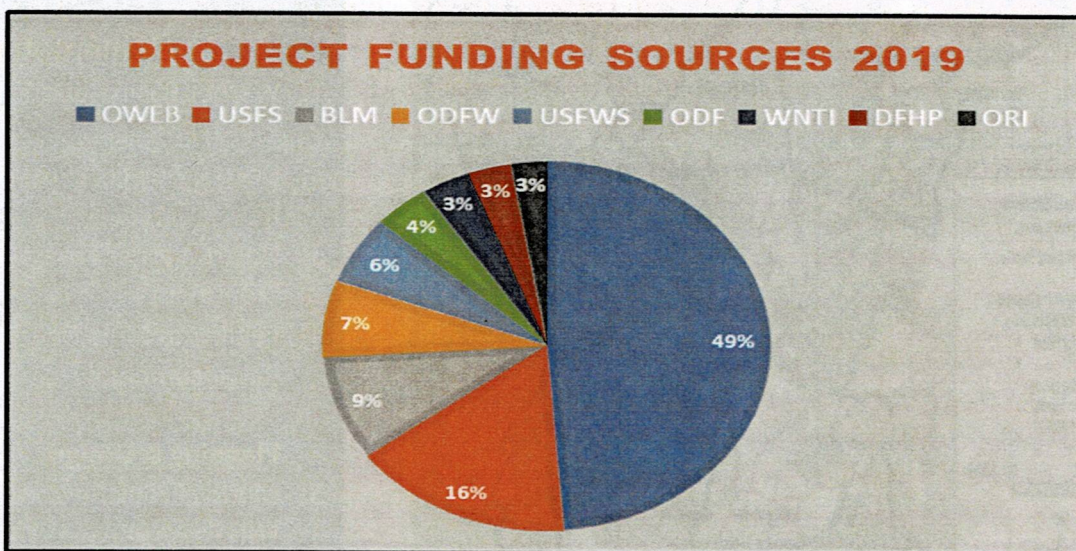
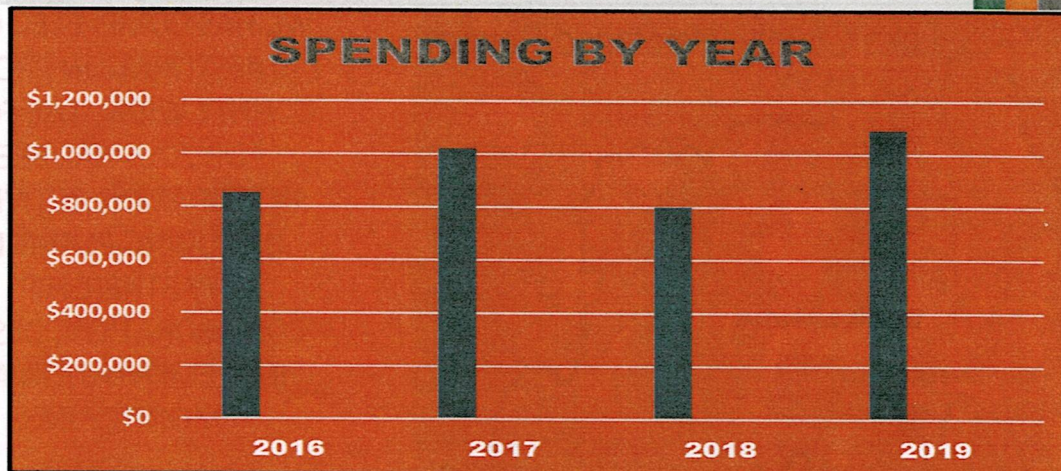
### Planning & Design

- 5) Muddy Creek Restoration & Fish Passage
- 6) Cogswell Creek Restoration & Fish Passage
- 7) Warner Basin Focused Investment Projects
- 8) Thomas Creek & Tributary Streams Reconnaissance and Design Plan
- 9) Cottonwood Creek Stream Reconnaissance & Design Plan
- 10) Thomas Creek Fish Passage
- 11) Thomas Creek Forest Health Survey & Data Collection

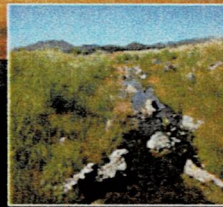
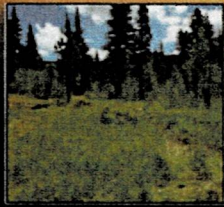
### Mission Statement:

The Lake County WSC strives to promote cooperative watershed restoration across jurisdictional boundaries, to better Lake County's watersheds and people.

# 2019 Funding



## Ridge Top to Ridge Top Restoration



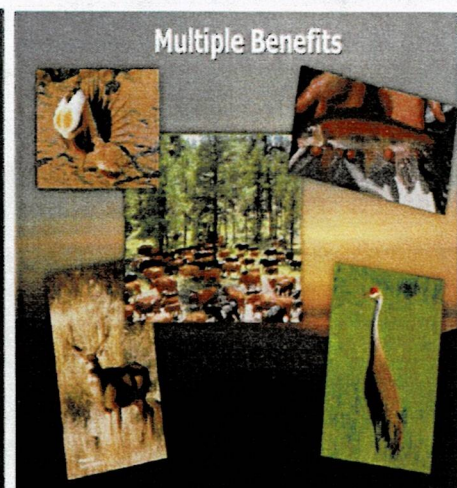
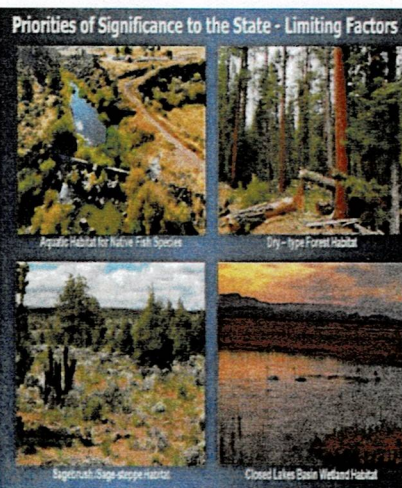
## Holistic Watershed Planning & Restoration

Ridge top to ridge top planning starts in the upland timber stands through forest health thinning and works its way through the landscape to meadows, streams, and lakes in the valley floor where a variety of restoration techniques can improve watershed conditions. These efforts benefit wildlife, aquatic species and working land landscapes.

Lake County is a unique high desert closed basin system that benefits multiple resources.

Many of Lake Counties restoration efforts are tied to resource priorities established by state organizations like the Oregon Watershed Enhancement Board who provide project funding to improve resource conditions on private land.

## Landscape Diversity Leads to Holistic Planning



2019

# Uplands Forest Health Treatments

## North Warner Forest Health Project Phase I

### Open

The North Warner landscape covers 410,000 acres where private landowners and agencies are working across ownership boundaries to promote forest health and fire resiliency. Within this larger landscape, the North Warner Multi-Ownership Forest Health Project encompasses approximately 150,000 acres and focuses on dry forest restoration. This Project is unique due to the extensive stands of old legacy pine intermixed with aspen and meadows, with greater sage-grouse focal habitat immediately adjacent to the north and east. The landscape is at severe risk of uncharacteristically intense disturbance due to heavy fuel loading.

### 2018-2019 Treatments

Partnership collaboration between ODF, USFS, NRCS, OSU Extension, LCUWC and 20 private landowners has led to forest health thinning on 26,000 acres of private and public forestlands. Slash pile burning began last winter and has continued this fall with completion by the end of 2019.

### Aspen Stand Enhancements

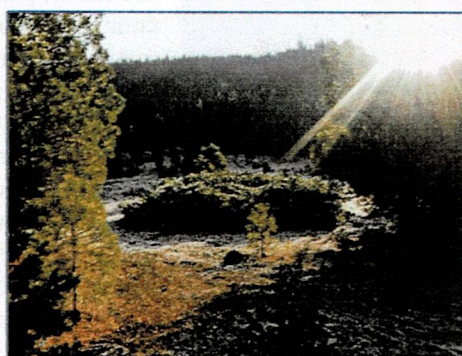
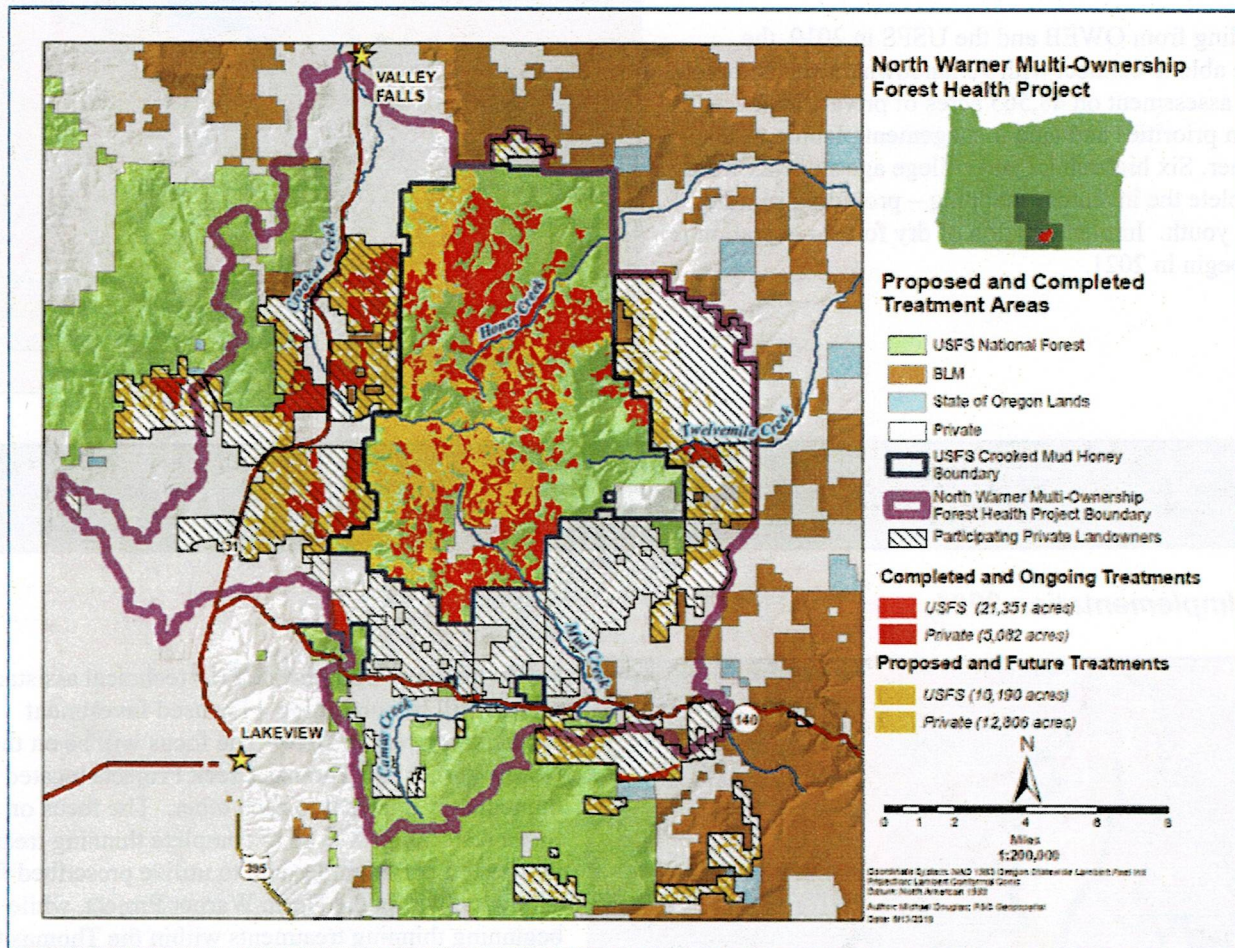
Aspen Stands provide valuable habitat for mule deer and other wildlife. To keep these stands healthy thinning out encroaching conifer and juniper trees is valuable for future recovery and sustainability of the aspen stand. This project removed 40 acres of juniper from within and around the aspen stand perimeter. This project was funded by OWEB and the property owner.



# North Warner Forest Health Project Phase II

## Open

The NRCS and LCUWC were both awarded funding for a second phase of forest health thinning for 2019-2021. Ten new property owners are participating in these efforts, with a goal of thinning another 5,000 acres. The funding and treatment area ties directly into the Fremont Winema's project focal area, which is the Crooked, Mud and Honey Creek watersheds. The National Forest plans to treat another 12,800 acres within this unit.

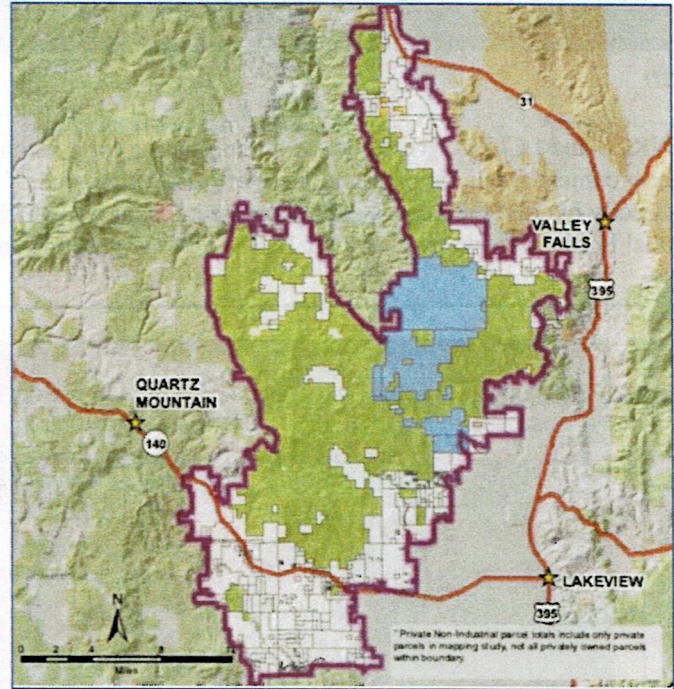


# Thomas Creek Forest Health Project

## Technical Assistance Completed

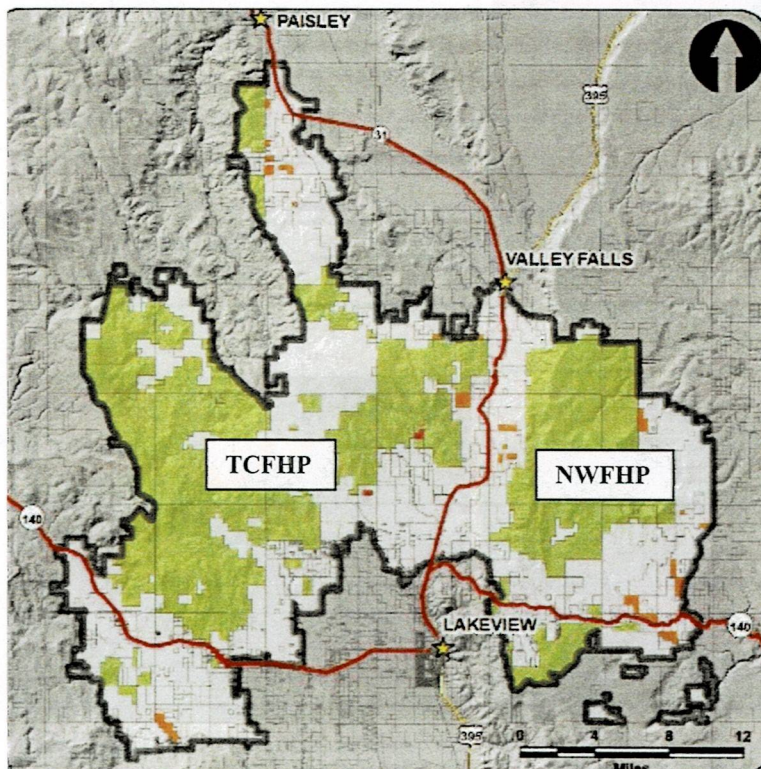
The Thomas Creek Forest Health efforts were initiated in the spring and summer of 2019. Project partners included USFS, ODF, OSU Extension, OWEB, KLFHP, LCRI, Private Landowners and LCUWC. These partners worked to engage Thomas Creek landowners in the forestry survey /data collection phase of the project.

Through funding from OWEB and the USFS in 2019, the partners were able to connect with 90 landowners and complete mapping and assessment on 48,565 acres of private land - with goal to inform priorities and land management planning for each landowner. Six highschool and college age students were hired to complete the inventory mapping - providing summer jobs for local youth. Implementation of dry forest restoration is projected to begin in 2021.



## Lake County All Lands Restoration Initiative

### Projected Implementation 2021



Project partners from the TCFHP technical assistance project will be submitting a Focused Investment Partnership grant in 2020. The focus will be on the North Warner and Thomas Creek Projects located immediately adjacent to each other. The focus on dry forest restoration will be to complete thinning treatments in forested communities and to utilize prescribed fire as a follow-up within the North Warner Project, while beginning thinning treatments within the Thomas Creek Project in preparation for future prescribed fire. Treatment plans include thinning of mixed conifer, non-commercial logging, and juniper removal. Slash material is hand or machine piled and burned for cleanup. The total area covers 402,400 acres and includes: 317,00 acres of wildland urban interface, high concentrations of old legacy ponderosa pine forests; and habitat for priority species including, greater sage-grouse, gray wolf, Warner sucker, Great Basin redband trout, Modoc sucker, northern goshawk, Lewis' woodpecker, black-backed woodpecker, and white-headed woodpecker. Within this large landscape, priority areas will be identified to address the severe risk of heavy fuel loading, stand density, and overall forest health.

# Stakeholder Engagement

## Implementation 2020

LCUWC and the Klamath-Lake Forest Health Partnership was awarded a Forest Health Engagement OWEB grant. The project goal is to promote understanding and awareness of forest health conditions and engage landowners in Klamath and Lake counties in a proactive forest management strategy. We will describe and utilize the KLFHP's eight step process to address priority acres and incorporate the future use of prescribe fire on private and public landscapes.

To reach out and engage the over 3,850 private landowners with the perimeter of the four identified project areas (North Warner Forest Health Project, Thomas Creek Watershed Forest Health Project, Chiloquin Community Forest and Fire Project and the Gerber area) will produce several products:

- ❖ A two-page fact sheet (handouts and website distribution)
- ❖ A short film (community presentations, workshops and individual landowner meetings)
- ❖ Implementation of work within identified project areas
- ❖ Follow up newsletters (progress reports and accountability)
- ❖ Host a prescribed burning workshop
- ❖ Continuation of engagement and future forest restoration projects



2019

# Stream and Riparian



Native Redband

## Proactive Solutions

Fish need connections within the waterways during different stages of their life cycle to feed, grow, reproduce, and sustain their populations. When fish cannot access habitat upstream due to barriers and/or water diversion, they cannot reproduce; populations decrease and there is greater potential for the fish species to be listed as threatened or endangered. When a fish species is listed, it can have a big impact on the people who live, work, and depend on the water systems in the area.

Proactive solutions pursued by landowners to incorporate fish passage and screens can help restore and sustain fish populations while maintaining water access. In 2019 the Lake County Umbrella Watershed Council worked with the eleven private landowners, two water user districts, and seven natural resource organizations to explore, plan, and implement fish passage and water use improvements in Lake County.

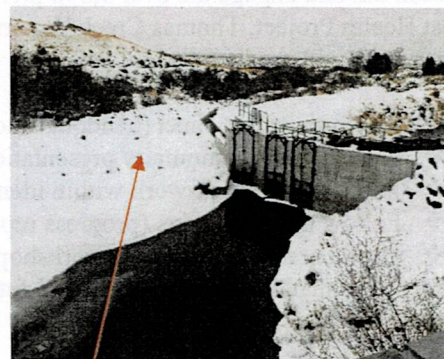


Lake County Agriculture Enterprise

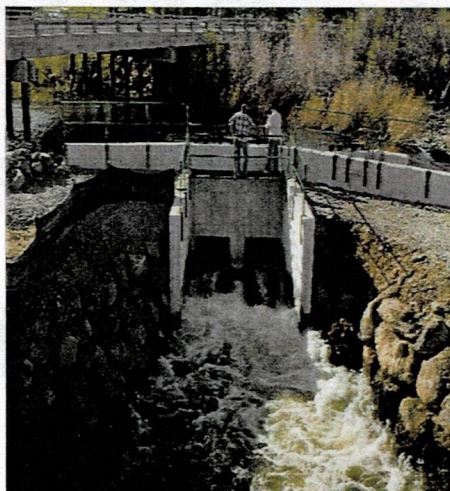
## Deep Creek Town Diversion

Complete – November 2019

The Deep Creek Town Diversion Project is located in Adel, OR. The previous concrete weir functioned to divert water into the Adel Water Improvement District (AWID) canal for irrigation and stock water. The existing headwall and associated diversion head gates to the canal were degrading due to concrete spalling. Improvements to this diversion site would allow for safe and efficient operations while addressing another significant problem. The concrete weir which was valuable to the agriculture community was also a complete fish passage barrier affecting the Warner sucker (Federally threatened), Warner redband trout (Oregon-species of concern), and other aquatic species in the Warner Basin.



Rock ramp installed allowing native fish to travel upstream to seek cold water habitat and refuge during drier years.



New headworks system installed to ensure a safe and effective delivery of water for AWID users.

Design solutions were initiated in 2015 by project partners (Lake County Umbrella Watershed Council, AWID, U.S. Fish and Wildlife Services, Bureau of Land Management, and Oregon Department of Fish and Wildlife) to address both issues of concern.

Implementation began in 2018 with a new and improved head gate system. In the fall of 2019, the existing weir was replaced and joined with a 250 ft long rock ramp. This natural looking design will continue to provide a vertical boundary for diversion while allowing fish to travel upstream, reaching more habitat and cold-water refuge. A sluice way was also put in place to flush deposition and debris, keeping the head gates clear of material. November of 2019 marked final project completion with the help of River Design Group, Ayres Construction, Pardue Construction, Thomas Creek Construction, and Albertson Construction.

## Thomas Creek and Tributary Streams Restoration and Fish Passage

This stream reconnaissance and design project, is located northwest of Lakeview, seeks to improve stream channel function and fish passage on Thomas Creek and three tributary streams including Bauers Creek, Cox Creek, and Camp Creek.

Historical and common practices of the 1940's and 1950's have resulted in the lower watershed to be cleared of vegetation, stream channel straightening, and diversion structures to be placed in Thomas Creek. A half century later the resulting landscape has many challenges. A straight stream channel that lacks vegetation allows for rapid spring run-off to erode banks, cut the channel deeper into the strata, while draining the wet meadow system. Goose Lake native aquatic species desiring to seek refuge and habitat upstream are impeded by barriers structures on their journey.

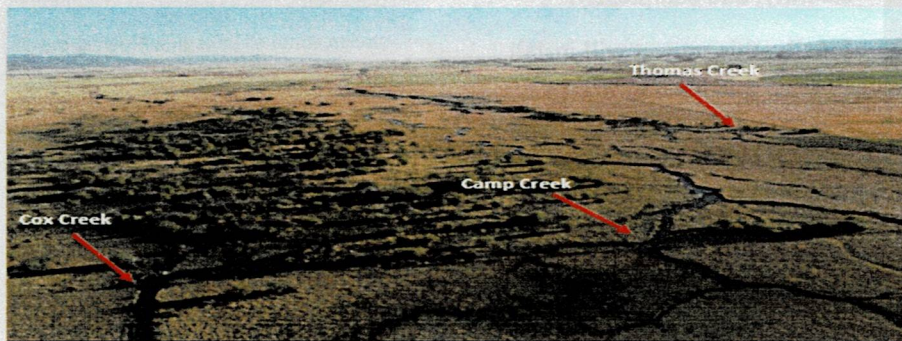
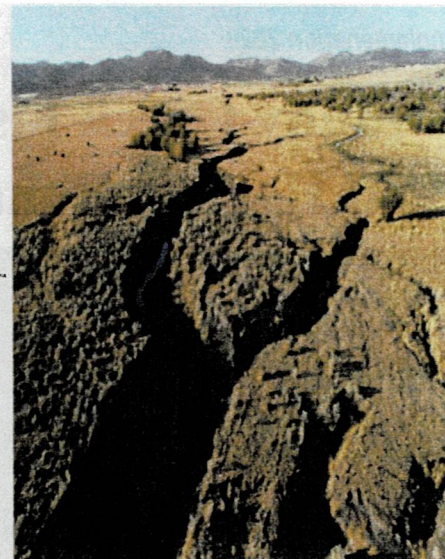


Photo showing the stream complex. While streams strive for equilibrium and stability through flatter terrain, there are many challenges along the way.



Stream incision is the increase of erosion due to straightening of the channel leading to a lower water table and drying of the meadow.

Technical Assistance began the summer of 2019 which focuses on improvement on the stream complex as a whole. Site survey, a project alternatives plan, and conceptual designs are in the works. Once completed a Restoration Grant will be pursued to implement solutions that will restore this system back to its proper function while meeting the needs of the agriculture community and aquatic species.

## COTTONWOOD CREEK RECONNAISSANCE AND DESIGN

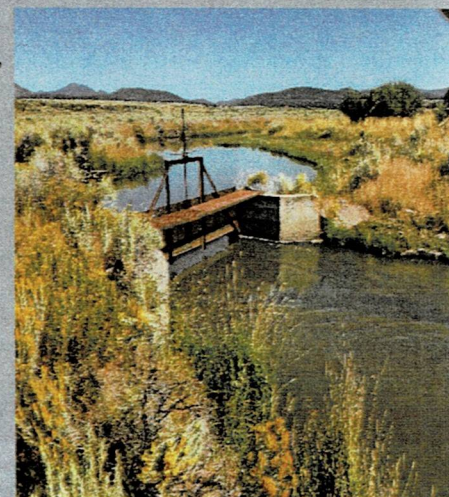
Cottonwood Creek, one of Goose Lakes largest tributaries is located seven miles west of Lakeview. The creek begins its journey on the National Forest and flows from Cottonwood Meadow Lake to Cottonwood Reservoir, it continues its path to Goose Lake at valley bottom. The creek plays a vital role in providing for the fish, wildlife, and people in the Goose Lake Basin. The creek water is a valuable source of life and livelihood.



One of the 67 leaky headgates on the canal system.

With the support of four private landowners, the Lakeview Water Users, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife, and the Lake County Water master - the LCUWC is pursuing a technical assistance opportunity to address fish passage and screening along with irrigation concerns to improve water use efficiency.

Technical assistance will provide the group with design alternatives and preliminary cost estimates for each problematic element along an eight-mile stretch of Cottonwood Creek. The group will then be able to review, evaluate, and select preferred design alternatives to meet fish passage, screening, and irrigation efficiency goals.



Point where Cottonwood Creek is diverted down the North Canal irrigation system .

# Muddy Creek Fish Passage and Habitat Enhancement

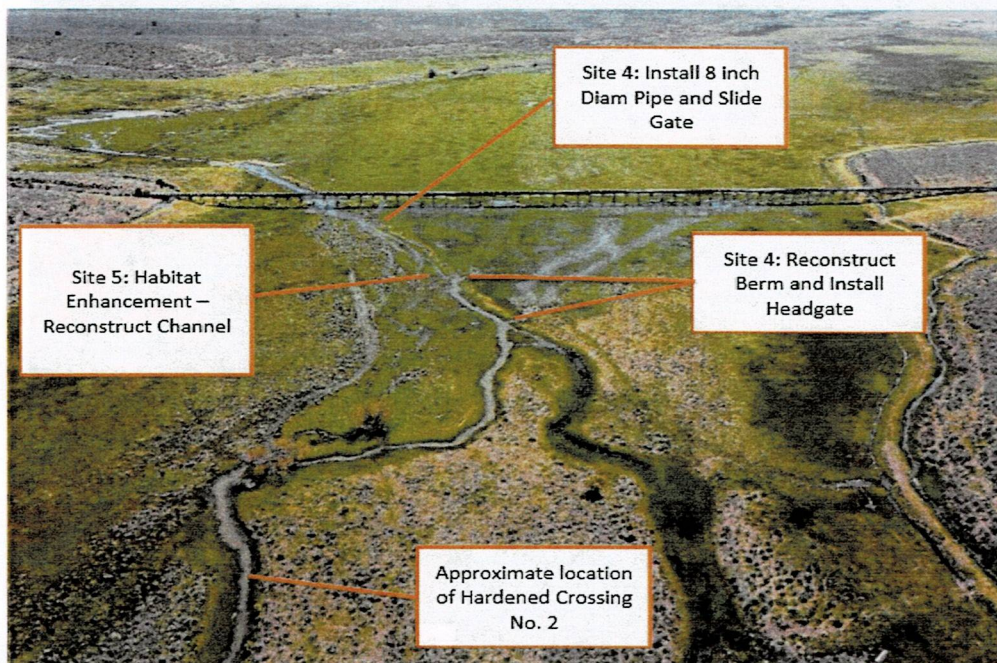


Photo of existing spill way that will be reconstructed to provide a roughened channel for fish to travel up and into Juniper Reservoir.

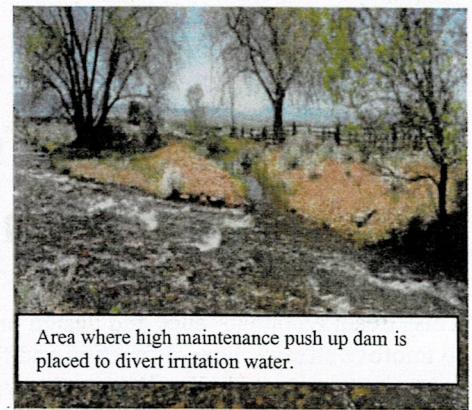
The Muddy Creek Fish Passage and Habitat Enhancement project is located in the Goose Lake Watershed, ten miles west of Lakeview. This project focuses on restoring fish passage for Goose Lake redband trout in the lower Muddy Creek system where an existing reservoir, constructed in 1965, prevents fish from utilizing the lower five miles of the stream, and ultimately reaching Cottonwood Creek and Goose Lake.

Concurrently, several other small barriers (2 culverts, 2 earthen dams) will be addressed to provide passage as well. The second part of this project will improve habitat conditions throughout the stream reach by improving stream flow conveyance by adding sinuosity to the stream and defining the creek bed, stabilizing headcuts, and installing woody material for shade, stability, and complexity.

Finally, this project will install riparian fencing and willow stakes/clumps in key locations where grazing impacts have degraded the stream system. This project will greatly improve current stream conditions and enhance a fishery that has not functioned since the mid-sixties. Project partners include: Oregon Department of Fish and Wildlife, US Fish and Wildlife Service, KV Bar Ranch and the Lake County Umbrella Watershed Council.



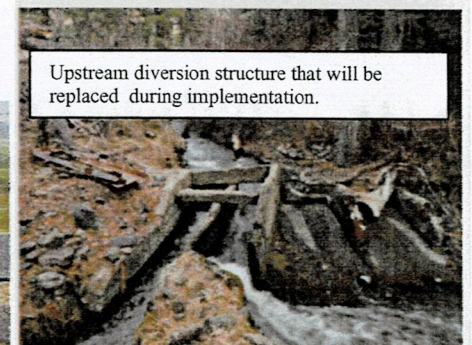
Aerial view of Muddy Creek. Photo displays several restoration sites below the spillway.



Area where high maintenance push up dam is placed to divert irrigation water.

## Cogswell Creek Fish Passage and Stream Restoration

Cogswell Creek is a steep to low gradient stream south of Lakeview flowing out of the Warner Mountains into Goose Lake. There are multiple irrigation diversions and a road culvert that pose multiple problems including, fish passage, altered sediment transport regimes, and in stream push up dams that require constant maintenance. The only consistent stream flow is in the upper reaches of the stream to which fish access is limited.



Upstream diversion structure that will be replaced during implementation.

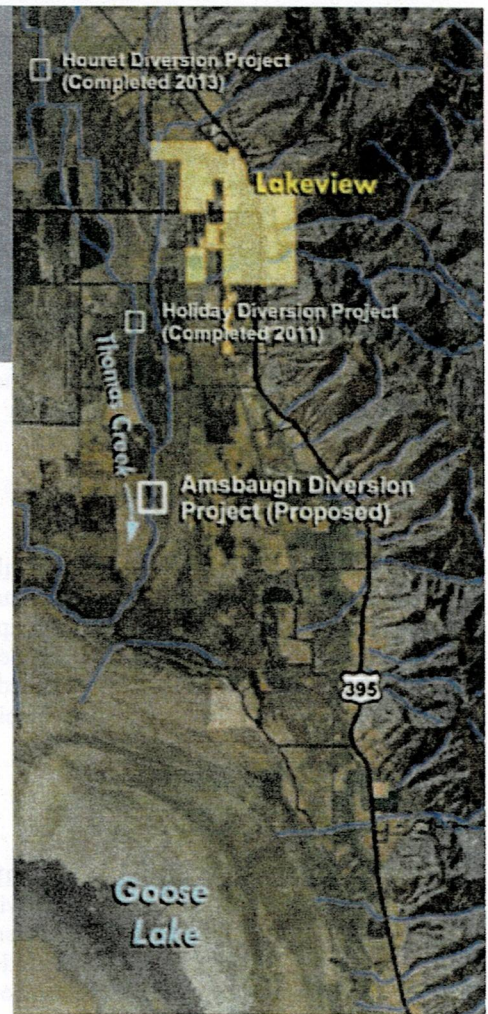
The restoration components will include: replacement of push-up diversions with stream simulation concrete wall diversion with closeable head gates, replacement of failing concrete diversion with new diversion which allows for fish passage, replacement of a perched culvert barrier with pre-fabricated steel bridge, installation of a screen and pipeline on the primary ditch of concern for fish entrapment, and install instream fish habitat features.

# Thomas Creek Fish Passage

The focus of this project is restoring fish passage connectivity in Thomas Creek, the largest tributary to Goose Lake. The Thomas Creek – Amsbaugh Diversion is located 10 miles southwest of the town of Lakeview in Lake County. The Diversion was established approximately fifty years ago to provide irrigation and stock water to one of the largest ranches in the Goose Lake Basin, flood irrigating 1500 acres of pasture and hay ground. Today, the ranch is managed much the same. The structure is located 5 miles upstream from Goose Lake and is the first and last artificial barrier within the forty-mile stream tributary. The concrete weir is a complete upstream barrier due to the structure's vertical height, preventing aquatic species from reaching quality habitat and cooler water temperatures during the warm summer months.

This project is a priority due to the multiple restoration and fish passage projects that have already been completed along Thomas Creek and its tributary streams. Providing fish access at this point will fully open the 40 mile stream stretch.

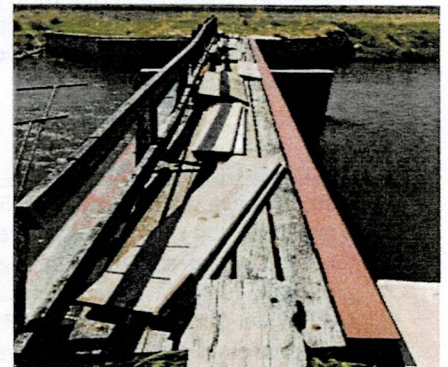
An alternatives analysis and 60% fish passage design have been completed for the Thomas Creek-Amsbaugh Diversion. The proposed fish passage solution includes installing a bypass channel and improving the 50 ft. irrigation diversion by installing a rail car bridge for operational safety and maintenance. Project partners include the Amsbaugh Ranch, ODFW, USFWS and LCUWC.



Map showing importance of this final diversion to allow full upstream access.



Photo of the current diversion structure with a dated and non-functioning fish passage to the right. Design plans include a bypass channel around the diversion for fish passage.



Crossing will be replaced by rail car bridge allowing tractor to aid in raising and lowering diversion boards.

## IT'S A PROCESS

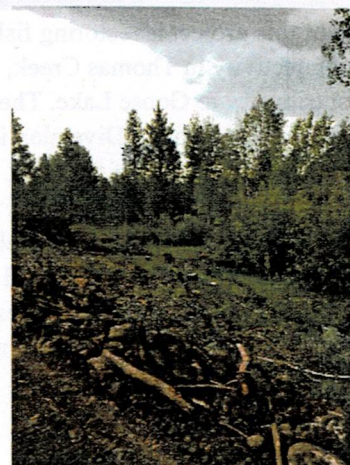


# Small Grants

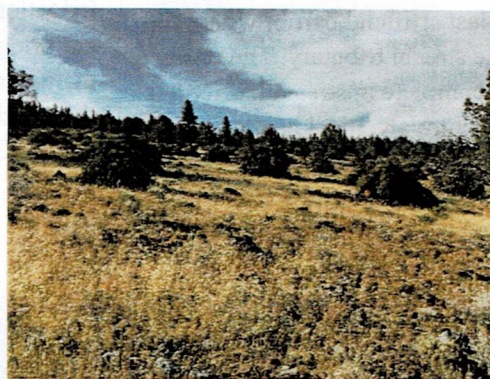
The Small Grant Program is a competitive program funded by the Oregon Watershed Enhancement Board that awards up to \$15,000 for on the ground restoration primarily on private lands. The program allows landowners to become familiar with the granting and restoration process while focusing on specific watershed improvements on their property. These projects must meet the criteria for priority watershed concerns such as: Instream Process and Function, Riparian Process and Function, Wetland Process and Function, Upland Process and Function, Water Quantity/Irrigation Efficiency, Road Impact Reduction, Urban Impact Reduction

## 2019 Projects

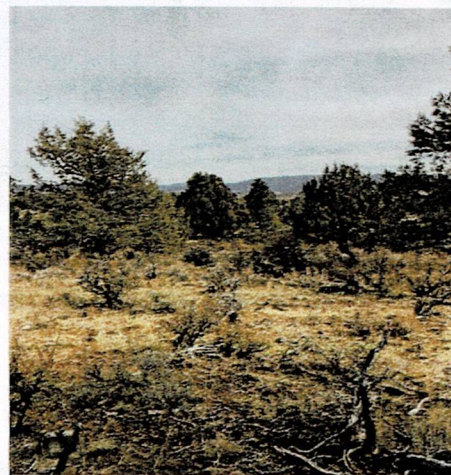
- ❖ **KV Bar Ranch Aspen Stand Enhancement:** Complete in June 2019 the project addressed juniper encroachment around the threatened aspen grove. Project goals targeted vegetative diversity in the riparian and meadow systems while providing sustainable wildlife habitat for a wide diversity of species. To reach this goal, 42 acres of juniper were cut and machine piled. Juniper piles will be burned when conditions allow. Juniper treatment will accomplish each stated goal, allowing for desired conditions to prevail.



- ❖ **Feldkamp Upland Enhancement Phase II and III** Completed in August 2019 with the goal of improving mule deer habitat by removing approximately 20 acres of phase II juniper encroachment. This particular property lies on the foothill of the Goose Lake basin in-between pine forest above and meadows below. By removing juniper at this particular location will allow grasses and shrubs a chance to rebound and flourish providing better feed and cover for the mule deer in this area. The removal of juniper will release water back into the system, providing for spring flow, green meadows, and allow for greater vegetation diversity. Within this project area there were several small bunches (2-3 juniper) that were left un-cut allowing for some cover on the landscape.



- ❖ **Maxwell Upland and Wildlife Enhancement** This project is currently open with the goal of enhancing habitat for mule deer populations and upland birds, increasing water availability, maintaining the shrub/steppe component through healthy ponderosa pine stands, and preventing juniper encroachment into the meadow. Located in the Goose Lake Watershed on the Maxwell Ranch where there is a transition zone from ponderosa pine forest, shrub/steppe slopes, to open meadows. Water runoff leads into Bauer's Creek which flows through the meadow adjacent to the identified project area. Western juniper trees in this transition zone are currently a combination of phase I and phase II post settlement juniper stands, where western juniper is co-dominant with mahogany, bitter brush, sage brush, and perennial grasses. This project will include hand felling 87 acres of juniper at ground level. Juniper trees that display old-growth characteristics will not be cut as they were established prior to fire suppression. These old-growth junipers will continue to provide habitat for wildlife species. Once cutting has taken place, juniper will be hand and machine piled and then burned once cured.



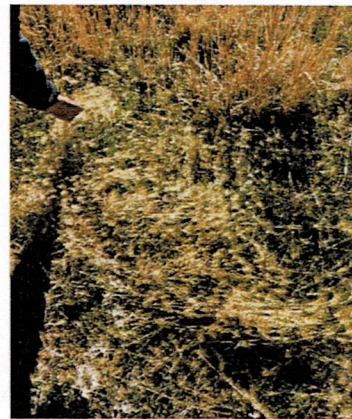
# Proposed Projects

The LCUWC will be applying for several small grants for the 2019-21 biennium. Below are a few of the currently proposed projects:

- ❖ **Hadley Creek Upland and Riparian Restoration:** Hadley Creek is a year round non-fish bearing creek that begins up high on winter rim and runs the canyon through the Withers Ranch where it disappates into the meadow just above Summer Lake. As the creek extrudes out of the canyon drainage it has carved its way along the foothills where grasses, willow, and other shrubs line its edge. Watershed problems the landowner seeks to address include: Phase I Woodland Juniper Succession, riparian health and stream bank erosion.



- ❖ **Heide Upland and Aspen Enhancement:** This property has encroaching juniper trees that are effectively choking out a mature aspen stand and subsequently depriving the meadow below of sufficient water. Additionally we have identified an invasive medusahead infestation adjacent to the meadow which left untreated could negatively affect the wet meadow function.



- ❖ **Theall Upland Enhancement:** This proposed project is located in the Goose Lake Basin approximately 15 miles west of the town of Lakeview. The identified property lies above Willow Creek which run to Drews Creek - one of Goose Lake's largest tributaries. The property has a diversity of overstory trees - including ponderosa pine, white fir, cedar, and Western juniper. Understory is made up of these same tree species along with a mixture of mountain mahogany, bitter brush, and sage brush. Ground cover is dominant in perennial grasses. The landowner desires to take a proactive approach to his watershed concerns by reducing Western juniper encroachment and thinning mixed conifer stands that are overstocked. In return the goal is to reduce threat to biodiversity and habitat loss while reducing the risk of catastrophic wildfire.



2019

# Monitoring



## Projects in Monitoring Status 2019

### Project

Upper Sycan Juniper Treatment – Phase III

Albertson Upland Enhancement- Phase III

Rosa Creek Headcut Stabilization

Chewaucan River Streambank Stabilization

Houret Ranch Fish Passage

Camp-Thomas Creek Fish Passage and Restoration

Howard Creek Tributary Culvert

Crooked Creek Restoration – Phase II

Paisley Town Weir Fish Screen

Twentymile Creek- MC Diversion Fish Passage

Upper Deep Creek Fish Passage

## Post Implementation Reporting

Post implementation monitoring and reporting is required for all Oregon Watershed Enhancement Board restoration grants. Post monitoring provides insight and impact of the project over a 3 – 5 year period and allows restoration practitioners to learn from success and failure.

A monitoring report includes the following:

- A brief description of whether the project continues to meet goals and any maintenance or modifications
- Accounting of costs associated with project maintenance and reporting
- Summary of public awareness activities since last report
- Lessons learned from the project
- Pre- and post-project photographs

In 2019 the Lake County Watershed Council (LCUWC) reported on eleven past restoration projects across the County. Pre and post photos are captured at selected points of reference. A point of reference will include location coordinates, photo point direction, and a distinctive landmark.



*Elder Creek Fish Passage Project was completed in 2017. The previous culvert was replaced with a larger culvert and stream simulated channel. A one-year monitoring report was completed by LCUWC in 2018. A two year report will be completed in 2020 with final reporting in 2022.*

## Uplands Monitoring 2019 Example

Upland restoration projects will capture overstory and understory vegetation density and type, water and spring development, along with habitat characteristics. The below photos were taken pre and post implementation on the Alberstson Upland Enhancement Project near Yocum Valley.



*2017: Photo point shows a dense stand of mixed conifer with very little grass and shrub ground cover. Stand density such as shown leads to greater competition among resources which greatly effect biodiversity and wildlife habitat. Left untreated a potential wildfire would be detrimental.*



*September 2019: Photo point shows the same stand that has been thinned and opened, releasing ground water and allowing sunlight to penetrate ground floor. Grasses and shrubs are beginning to rebound. This forest stand has been made more resilient to a potential wildfire.*

## STREAM AND RIPARIAN MONITORING 2019 EXAMPLE

Stream and Riparian restoration projects will capture channel width, bank erosion conditions, stream bed partical size, change in deposition, vegetation biodiversity, habitat characteristics and soundness of construction. The below photos were taken pre and post implementation along Rosa Creek in the North Warners.



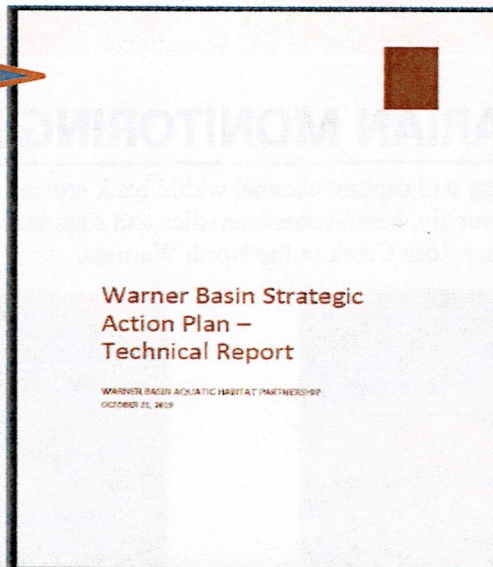
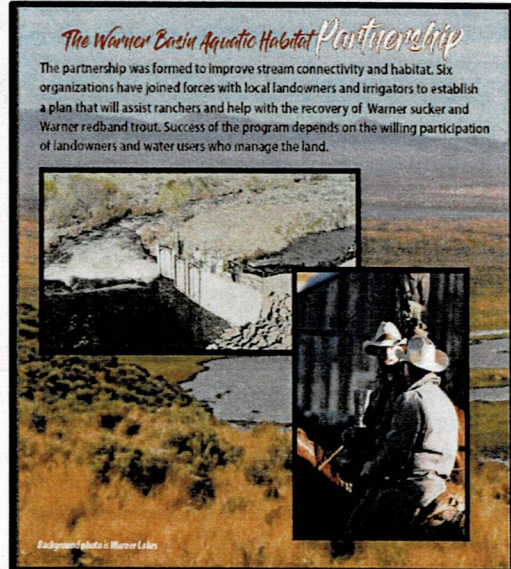
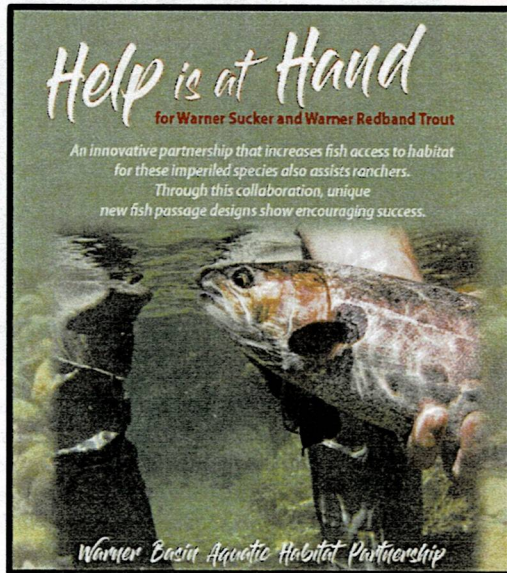
*2017: Creek demonstrates channel incision or the process of downcutting into the stream channel. The stream becomes disconnected from its floodplain while water table drops.*



*July 2019: Woody material was added to the creek channel to slow water velocity during spring runoff. Photo shows how the material was able to catch sediment and raise water level through meadow system.*

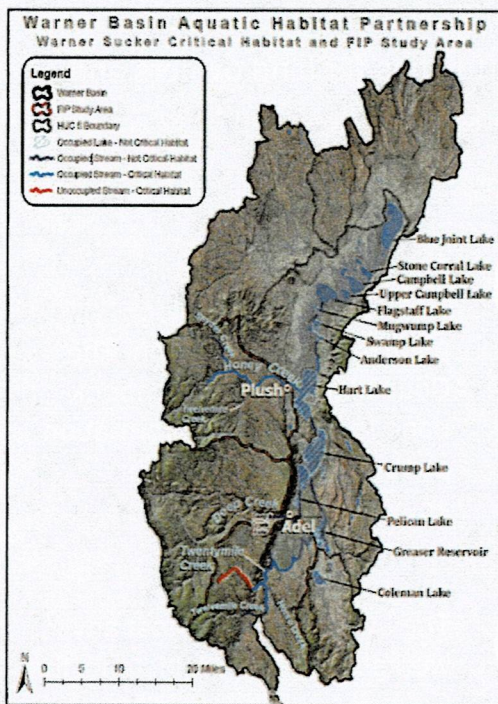
# Telling the Story Grant

The Lake County Umbrella Watershed Council and Warner Basin Aquatic Habitat Partnership was selected as one of six organizations in the state to receive funding to tell the story of the Warner Basin fish passage improvement projects. This project focuses on the relationships between the ranching community, area resource managers, and the unique high desert fish found in the Warner Basin. Several forms of media were developed to reach a broad audience. A short film was produced by Wahoo Films, a publication was created for a variety of functions and a technical report was written to share with those interested in design and monitoring elements of the projects.





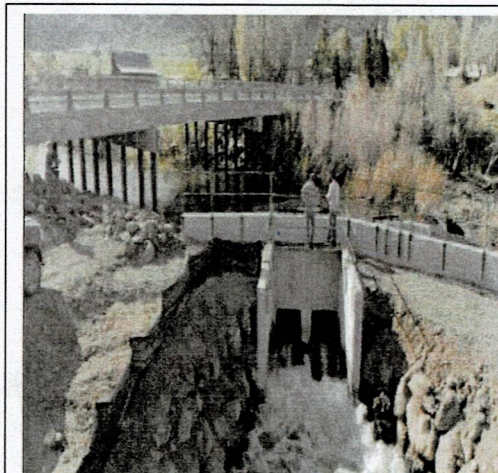
## Warner Basin Aquatic Habitat Partnership Focused Investment Project



The Warner Basin is an area of extremes. Spring rains and snowmelt lead to high flashy stream flows, but by mid-summer water may be just a trickle. This high desert system is important to area farmers and ranchers as well as the native fish species that have adapted and survived these rugged conditions for years. This project focuses on improving fish passage and habitat in three primary tributaries, Twentymile, Deep, and Honey Creeks. Each stream hosts the life cycle of the Warner sucker, and Warner Lakes Redband trout.

Four years ago, the Warner Basin Aquatic Habitat Partnership (Lake County Watershed Council, Lakeview SWCD, BLM, ODFW, USFWS, and USFS) came together to begin addressing fish passage within the Warner Basin. To date, all fish passage projects have been completed on Twentymile Creek, one project has been completed on Deep Creek and two fish passage improvement projects were completed on Honey Creek.

In 2018 the WBAHP was granted a Focused Investment Program Grant from the Oregon Watershed Enhancement Board. In the next six years, the partnership will address ten additional fish passage projects at irrigation diversions located on Deep and Honey Creeks. The overall goal is species recovery for the Federally Listed Warner sucker and increased populations for the Warner Lakes Redband Trout. Concurrently, irrigation structures will be improved, easier to maintain and safer to operate in the future.





## Education & Outreach

# 2019

The Lake County Umbrella Watershed Council seeks to educate the next generation of watershed stewards through meaningful educational experiences. Our goal is to enhance education and provide students with hands-on knowledge of their local watersheds. Additionally, the Council seeks to provide support and opportunities for land owners and managers by coordinating project tours and educational workshops.



### OUTDOOR SCHOOLS

The LCUWC hosted the North Lake Outdoor School, where over 160 K-6 students learned about holistic watershed restoration, and assisted the AD Hay 5th grade class with their Outdoor School this Fall.



### WEBSITE & FACEBOOK

The LCUWC updated its website with new colors, photos, and information. The Council now has a Facebook page to help share information about the Council and its activities.



### PROJECT TOURS

The LCUWC hosted several, small group project tours in 2019. One group examined former LCUWC projects along the Chewaucan River and other groups toured projects and potential projects in the Warner Basin.



### WORKSHOPS

The LCUWC did not host any workshops in 2019. Instead, the Council participated in forest health workshops and a bio-char demonstration. Look for LCUWC-hosted workshops in 2020. Don't hesitate to ask for specific topics!



### HIGH SCHOOL FIELD WORK

The LCUWC collaborated with Mr. Counts' high school field biology class to conduct monitoring on a previously completed LCUWC stream restoration project.



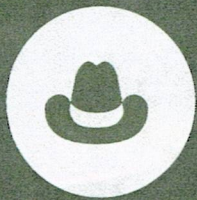
### NEWSPAPER ARTICLES

The LCUWC shared articles regarding a new staff member, forest health projects, and an upcoming Focused Investment project. Look for more updates in 2020!



# Education & Outreach

# 2019



## LAKE CO. FAIR BOOTH

The LCUWC designed an informational booth for the Lake Co. Fair & Round Up. The showcased the Council's collaboration with Lake County land owners and its many partners.



## ANNUAL GATHERING

The Council and its LCCWMA partner annually host the Weeds and Watersheds Gathering, an informational event showcasing accomplishments of both groups and featuring an educational guest speaker.



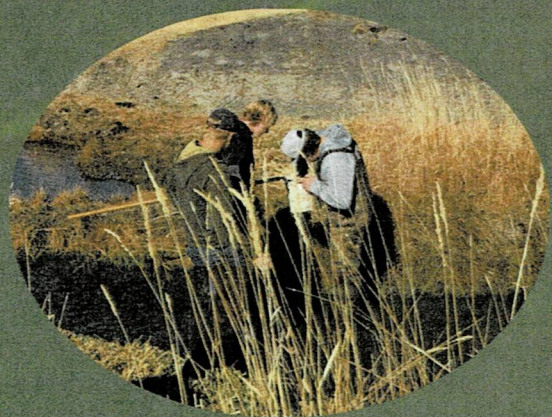
## BROCHURES

The Council created several informational brochures to share with the public. The brochures provide information about the Council itself and the opportunities it can provide for land owners and partners.



## FILM COLLABORATION

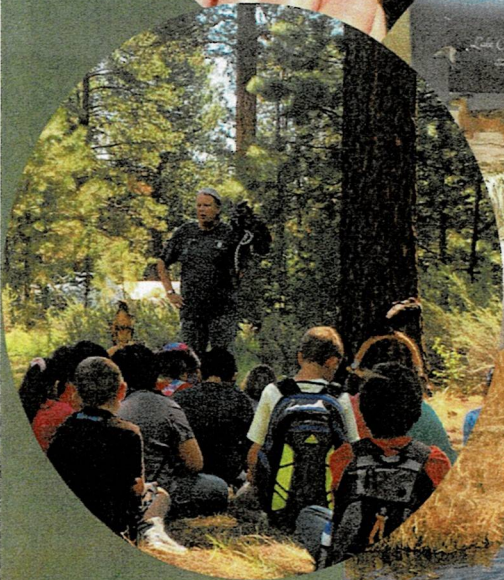
The Council participated in the development of an educational documentary about the Warner Basin Fish Passage Projects. The film will be shared via YouTube, Social Media, websites, film festivals, special events, and more.





## Education & Outreach

# 2019





# 2019 By the numbers...



226

LAND OWNERS  
SERVED



728,402

STREAM &  
RIPARIAN DOLLARS



361,558

UPLAND & FOREST  
HEALTH DOLLARS



14

COLLABORATIVES &  
PARTNERSHIPS



1,300,000

TOTAL PROJECT  
DOLLARS



16

LOCAL  
CONTRACTORS



14

PROJECTS COMPLETED



2,667,242

2020 FUNDING  
SECURED

## Planning Strategies for 2020:

- Landscape Level Projects
- Stakeholder Outreach
- Maintain Working Landscapes
- Forest Health
- Improve Stream Channel Function and Aquatic Habitat
- Enhance Upland Conditions for Wildlife
- Reduce Noxious Weeds and Annual Grass Invaders
- Improve Water Storage
- Maintain & Develop Quality Collaboratives & Partnerships to Reach Conservation Goals for Lake County

## Conservation Challenges -Lake County:

- Desert Fish
- Juniper Encroachment & Risk of Fire
- Drought
- Impaired Sage Grouse Habitat
- Invasive Annual Grasses
- Water Storage
- Habitat for Wetland Water Birds
- Streambank Condition – Lack of Vegetation

**Our goal is to improve restoration practices so that complex issues are resolved. To do this restoration must be flexible and long lasting. Partnerships, landscape level projects and quality restoration projects will help us meet these goals.**

## Management Considerations

### Landscape Scale Restoration for Conservation, Restoration & Utilization

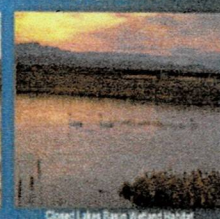
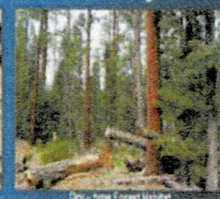
#### Management Considerations:

- Fish Habitat & Passage
- Stream Temperature
- Stream Channel Instability
- Streambanks
- Fires
- Noxious Weeds
- Habitat for Mule Deer
- Climate – Drought
- Forest Health
- Wetlands & Waterfowl
- Riparian Vegetation
- Declining Sage – Steppe Habitats
- Working Landscapes



## High Priorities

### Priorities of Significance to the State - Limiting Factors



## Watershed Council Goals

### Quality Planning Followed by Action

#### Managing Persistent Problems while Creating Resilient Landscapes systems

1. Collaborative decision making = Right people at the table
2. Scale = big enough to matter, small enough to work in
3. Science = based vision of how the ecological system works & what success looks like.
4. Monitoring = evaluate management performance
5. Creative and Adaptive = diverse group of stakeholders

