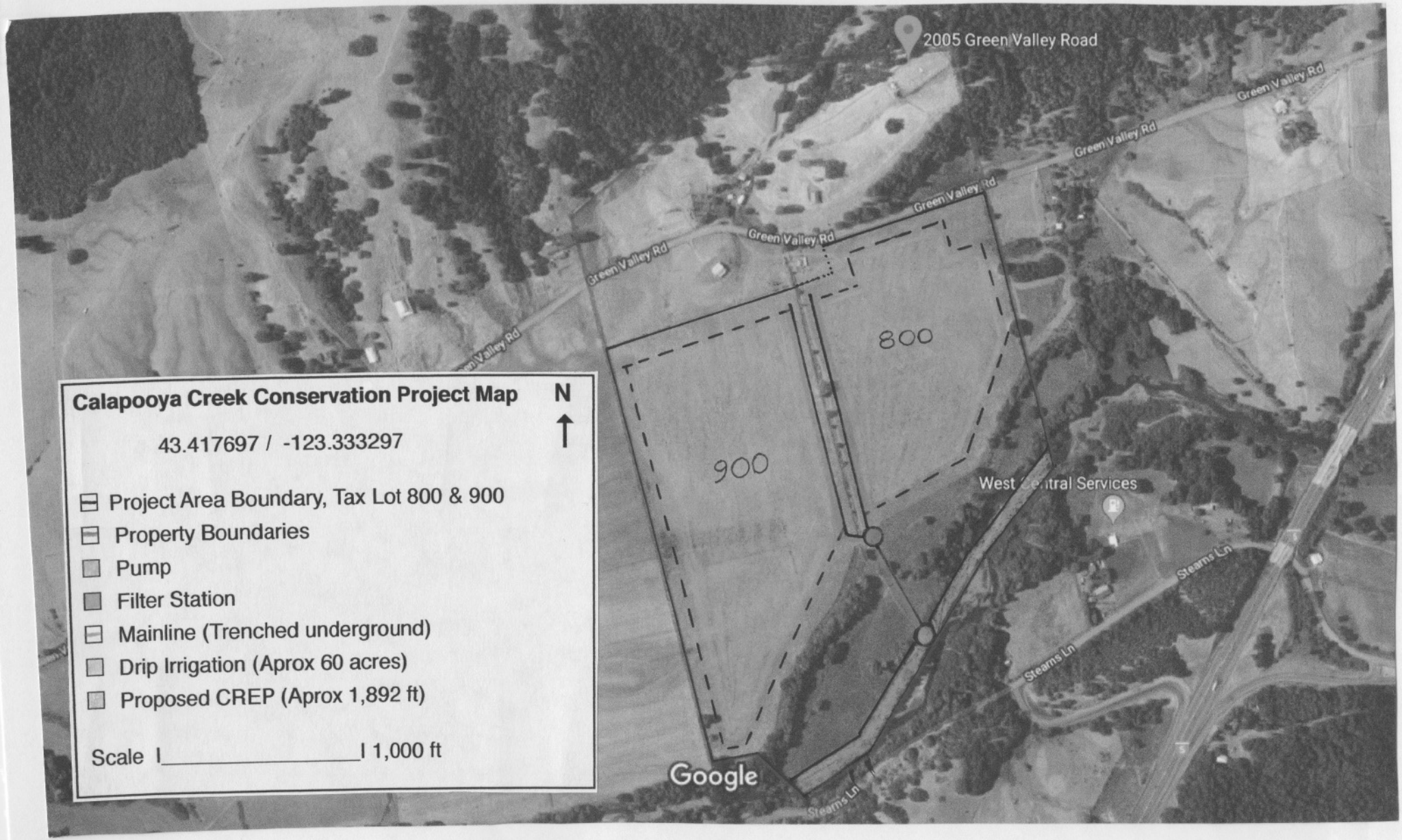
CALAPOOYA CREEK CONSERVATION PROJECT MAP Attachment # 1



ATTACHMENT #2

OREGON
WATER RESOURCES DEPARTMENT

Water Project Grants and Loans

Landowner Agreement

Instructions to Applicants: Work with landowners to complete this form for all properties on which the proposed project would occur. Submit this completed form as part of your grant/loan application. For questions contact WRD_DL_waterprojects@oregon.gov.

Project and Applicant Information

Project Name: Calapooya Creek Conservation Project

Funding Applicant: Green Valley Farm & Logistics, LLC Co-Applicant (if applicable): _____

Funding Applicant Contact Information:
Name: Rachel and Jesse Dean
Phone Number: (503) 319-7638
Email Address: thegreenvalleyfarmllc@gmail.com

Co-Applicant Contact Information:
Name: _____
Phone Number: _____
Email Address: _____

Landowner Information

Landowner(s) Name: Kurt and Veronica Spencer

Landowner Authorized Representative: Kurt Spencer

Landowner Contact Information (or Authorized Representative)
Address: 6459 Oak Hill Rd, Roseburg, OR 97471
(required) _____

(optional) Phone Number: (541) 913-1802
(optional) Email Address: _____

Property Information

List each property owned by the above-mentioned Landowner on which the project would occur:

County	Tax map	Lot number
Douglas County	1-00 (Attached)	800 and 900

Landowner Acknowledgement

1. KURT SPENCER is/are the legal owner(s) (the Landowner) of the above described property (the Property).
2. I am authorized to act on behalf of the Landowner.
3. I am aware of and agree to the above-mentioned proposed project and grant permission for the Applicant, and the Applicant's agents, to conduct the following activities on the Property. (List activities below)

a.	Installation of new entry gate/access at the eastern corner of the Property.
b.	Trenching for pipe installation from pump station to drip blocks.
c.	Land cultivation for crops
d.	Excavation and trenching of pond site, Riparian restoration activity.

4. I am aware that monitoring information related to the Project is a matter of public record.
5. I certify that the above-mentioned information is true and accurate, I am aware of and agree to the proposed work, and I am authorized to sign as the Landowner or Authorized Representative.

Signature of Landowner or Authorized Representative: _____
Date: 3-29-2017 Print Name: Kurt Spencer

Green Valley Farm and Logistics, LLC
Co-Owners: Rachel & Jesse Dean
2005 Green Valley Rd
Oakland, OR 97462

R Cell: (503) 319-7638
J Cell: (541) 870-6118
Email: thegreenvalleyfarmllc@gmail.com

April 25, 2019

Attachment #3:

In-Kind & Cash Match Funding Documentation

Green Valley Farm and Logistics, LLC has secured private funding to provide cash match funds of $30,300 covering contractual/consulting costs as well as staff salary costs for the irrigation conversion project. In-Kind Matches are secure and will provide $21,402. Of the In-kind cost match, $15,402 includes Jesse Dean, co-owner of the Green Valley Farm's, contractual work for the installation of the irrigation, as well as donated labor and time. $6000 is an in-kind match from Rachel, the other co-owner of Green Valley Farm in Administrative costs, labor, time and supplies completing contractual agreements and providing the opportunities for educational outreach, monitoring and reporting. Funds are privately secured for cash and in-kind matching.

Jesse Dean, Co-Owner — Date: 4-26-19

Rachel Dean, Co-Owner — Date: 4/26/19

April 8, 2019

DOUGLAS SOIL & WATER DIRECTOR
George Seonbuchner
440 Wild Horse Ln, Oakland, Oregon 97462
Phone: (541) 459-5356

OREGON WATER RESOURCES DEPT
725 Summer Street NE, Suite A
Salem, OR 97301

To the Grant Program Coordinator:

This letter of support is on behalf of Jesse and Rachel Dean, of Green Valley Farm And Logistics, LLC, and the proposed "Calapooya Creek Conservation Project." My name is George Seonbuchner and I have been involved with Douglas Soil & Water as the Director for 15 years. I am aware of the project the Deans are proposing and I highly support it.

I have known Rachel for over 20 years and have watched her develop into a small farm operator. Rachel has always been interested in protecting the environment and local streams. Additionally, she currently works with children who have experienced significant trauma and she operates a part-time private practice for the rural community of Oakland, Oregon. I met Rachel's husband, Jesse, when they married about 7 years ago. Jesse is an experienced farmer, carpenter and heavy machine operator. He has actively helped on his father-in-laws ranch (Tor S Ranch) from welding cattle chutes to driving bull wagons and helping make hay. For a month he worked in Eastern Oregon installing and building crepes to keep cattle out of the South Fork of the John Day River. Jesse is a climate-smart farmer interested in natural resource management and water conservation.

I highly recommend that the committee approve the requested grant project. The Calapooya Creek Conservation project will have long term beneficial impacts to our endangered water systems and it continue the livelihood of a small family farm. Together, Jesse and Rachel have proved to be a successful team in managing former projects by completing tasks on time and utilizing their broad background of skills. Please highly consider their request.

Sincerely,

George Seonbuchner
Douglas Soil & Water

THE YEW CREEK LAND ALLIANCE

12 March, 2019

To whom it concerns,

I am writing in support of the Green Valley Farm irrigation conversion project, which includes a plan for water allocation conservation. I am a recently retired Umpqua Community College Science Dept. chair and biology and natural resources professor, a former board member of the Partnership for Umpqua Rivers, and a current board member of Umpqua Watersheds, Inc. and the Yew Creek Land Alliance, Inc.

I have known Jesse Dean since he was a toddler through friendship and collaboration with his parents, Betsy and Tony Dean. Their involvement with Umqpua Watersheds, River Appreciation Day, Umpqua River clean-up days and many other civic projects made them great role models for Jesse, and he is clearly following in their footsteps.

Jesse was raised with strong environmental awareness and a deep attachment to the land he now farms. He is also acutely aware of the effects outdated farming practices can have on the creeks and rivers he has grown up with. As I've watched him grow, I can attest to his friendly attitude, strong work ethic, diverse farming skills and a strong commitment to follow-through. Now raising two boys with his wife Rachel, an accomplished socially active therapist and organic farmer, their family makes a strong impact in our rural community.

YCLA 300 Impala Dr. Roseburg, OR 97470
(541) 672-1914

The project the Deans are proposing will benefit Calapooia Creek, farm productivity, water efficiency, fish and wildlife, and will help support the farming economy of Douglas County. It will create long-term permanent jobs, increased economic activity, and a sustainable living for a family. Switching from traditional cattle production, as was done on their farm in the past, to an agricultural crop will reduce greenhouse gas emissions as well as river bank erosion and sediment runoff caused by cattle grazing. Jesse and Rachel are committed to future projects such as adding native plants, trees, and bird boxes to the creek bank to further improve ecosystem health.

I strongly support this project because I value the conservation-driven farming methods Jesse and Rachel plan, not just for their family but for generations to come. With a warming climate, fluctuating stream flows, and declining runs of protected fish species, the Deans will be making the kind of positive changes in the way we care for and manage our rivers, creeks and wetlands that will make a real difference for future generations.

I hope you move forward with making Jesse and Rachel's project a reality. It will create a positive impact on our watershed that will not only benefit a family now, but an evolving ecosystem that needs sustained support.

Sincerely,

Kenneth Carloni

Ken Carloni, Ph.D.
YCLA Secretary

March 15, 2019

To Whom it May Concern,

I was very interested when Rachel and Jesse Dean (operators of Green Valley Farm in Oakland, Oregon) explained the water project grant they were applying for. I'm sending this email as a letter in support of this project.

I have know Jesse and Rachel Dean for about 27 years. They are both dedicated farmers who are always working to to make the best environmental choices for their family farm business. This grant will help them to reach their environmental goals on the farm.

As a resident of Oakland who cares about conservation of our natural resources and support of water dependent native species (and who also personally depends on the Calapooia for drinking water) I am in favor of updating irrigation systems to utilize drip irrigation systems, efficient irrigation pumps, and appropriate fish screens. Protecting a portion of the conserved water in the stream through the OWRD conserved water program will benefit everyone in the watershed and the native species dependent on that water.

In conclusion, I think the Green Valley Farm water conservation project will have many benefits and the Deans are great farmers trying to make the best environmental choices to the benefit of our whole watershed.

Sincerely,

Melody Rudenko
333 NE 2nd St
PO Box 201
Oakland, OR 97462

BioSync Industries LLC
4450 Fort McKay Road
Oakland, OR 97462

April 12, 2019

To: Oregon Water Resources Department
Attn: Grant Program Coordinator

It is with great pleasure that I send this letter to your group on behalf of the folks at Green Valley Farm and Logistics. Our group, BioSync Industries, is an agriculture development company focused on creating biological and economical regenerative projects for our communities.

As per the details and data below, in 2018 we built out a drip system for irrigating a row crop at a pilot farm location. One aspect of the project included converting traditional wheel line watering systems into more efficient and productive drip based irrigation.

This project was designed to first improve efficiencies of both water and energy consumption. The secondary and long term intent of this project was to improve the quality of the soil by reducing the impacts of over watering and nutrient leaching while simultaneously supporting natural biological systems within the soil. This would bring back supportive flora and fauna while simultaneously reducing the need for synthetic additives and control systems. Also of importance, over time, it will improve the quality of water runoff that is reintroduce to the Calapooya Creek thus impacting its entire water path towards the Pacific Ocean. If similar projects can continue to be implemented across these waterways we can begin to improve our water system and habitat corridors at a larger scale.

Mr. Jesse Dean was a key coordinator in this build-out and pilot operation and we are thrilled at the opportunity for him and his wife, Mrs. Rachel Dean, to have the opportunity to continue and build upon this work at their location.

Thank you for your time and we look forward to seeing their project unfold!

Kind Regards,

Ronald A. Spencer, MBA, BArch
Director of Operations
BioSync Industries, LLC
ron.spencer@biosyncindustries.com
541-870-3454

Summary:

Below is our analysis of switching from traditional hand and wheel line type irrigation to a drip line irrigation system.

Water use report:

Traditional and Wheel Lines:	
Run time:	24hrs
Sprinkler Size:	3/8" wade rain
System PSI:	50-60psi
Sprinkler flow rate:	13gpm
Number of sprinkler heads:	21
Total Flow Rate	273gpm
Sprinkler Spacing:	40'
Application efficiency:	65-80%
	*per cesiskiyou.ucanr.edu/files/117599.pdf
Est efficiency Waste:	54.6-95.55gpm
Total Water used daily:	393,120 gallons
Duration:	120 days
Est Total Water Usage:	47,174,400 gallons of water.
Est Efficiency Waste:	9,434,880 - 16,511,040 gallons of water.

Converted Drip Line System:	
Run Time:	8hrs
Drip Sizing:	.710
Spacing:	24"
Drip Emitter Flow Rate	.42gph
GPM per Acre:	40.81gpm
Plot size:	6.81 acres
Total Flow Rate	277.82gpm
Total Water Used Daily	133,353 gallons
Duration:	120 days
Est Total Water Usuage:	16,002,432 gallons

NOTE: Not calculated, energy savings on running irrigation pump at 33.33% compared to the 24hr system from traditional wheel line.

April 19, 2019

Oregon Water Resources Dept.
Attention: Grant Program Coordinator
725 Summer St., NE, Suite A
Salem, OR 97301

Dear OWRD,

I'm writing on behalf of the Dean family of Oakland, OR, who are seeking funding to offset the high cost of converting their farm from heavy-irrigation cattle to a more conservation-minded agriculture approach.

Having nearly 20 years of experience in aquatic and terrestrial restoration and management, I was approached by the Dean family to help them collaborate with various entities to promote sound land/stream stewardship through education and outreach efforts.

My experience includes:

- Board of Directors of The Partnership for the Umpqua Rivers (watershed council)
- Board of Directors and staff of Umpqua Watersheds, Inc. (conservation group)
- Steering Committee of the Umpqua Focused Investment Partnership

In addition, I have: supervised local AmeriCorps Members teaching environmental science in Douglas County; aided Umpqua Community College on long-duration science fieldtrips; and have been a partner (fiscal Mgr.) in the Oregon Youth Conservation Corps.

Throughout this experience, my emphasis has been to educate the public on ecologically-sound restoration and conservation principles and practices. Through collaboration with local entities, we hope to be able to show other local landowners a better option for sustainable agriculture practices while promoting water conservation of the Calapooya Creek, one of the most highly-degraded drainages of the Umpqua Basin.

For this project, I have reached out to several entities. I have asked The Partnership for the Umpqua Rivers to review the 1,892ft of stream frontage to consider it for a salmon habitat restoration project, I have contacted the Douglas Soil and Water Conservation District to discuss an agreement with the NRCS CREP program, and have engaged the Umpqua Natural Leadership Stem Hub [UNLSH] to consider educational opportunities, including long-term monitoring, for their students. Other partners may include Umpqua Community College, Yoncalla HS Natural Resources, and Oakland HS FFA.

In my experience, Douglas County has been a very difficult place to find landowners who are willing to accept water conservation practices. Not only are the landowners willing to change their land and practices, they are willing to go the extra mile by allowing others to access their property for educational purposes. If implemented, this project will allow us to demonstrate sound water conservation, riparian restoration, and aquatic restoration on a working farm to students of all ages.

Best regards,

Alan Bunce

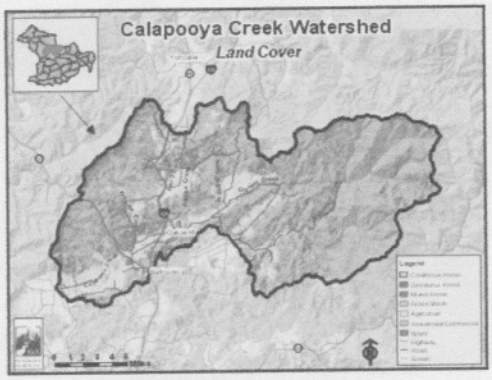
Calapooya Creek Watershed

Key Statistics

Size (acres)	157,282
Percent public ownership	8
Miles of anadromous salmonid streams	171
Highest elevation (feet)	4,443
Lowest elevation (feet)	320

Location and Size

The Calapooya Creek fifth-field watershed is located in the north-central Umpqua Basin and is 157,282 acres. The watershed stretches a maximum of 13 miles north to south and 27 miles east to west. Calapooya Creek is 36 miles long and is a tributary to the Umpqua. River.



E&S Environmental Chemistry
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Landscape and Features

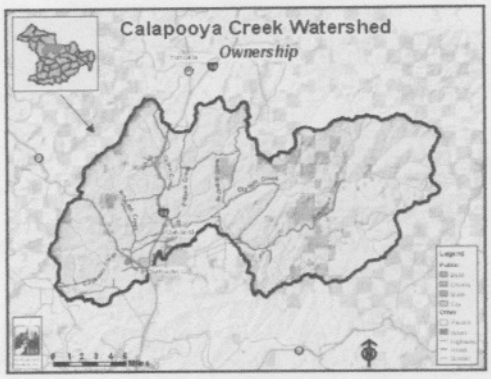
In the western portion of the Calapooya Creek Watershed, the landscape is mostly broad floodplains and terraces with gentle to moderate slopes. Elevation for most of the area ranges from 500 to 1,000 feet. The lowest point in the watershed is 320 feet where Calapooya Creek meets the Umpqua River in the southwest. In the eastern portion of the watershed and along the extreme western border, elevations range from 1,500 to 4,000 feet. Middle Mountain, located on the watershed's eastern border, is the highest point at 4,443 feet.

There are three highways within the Calapooya Creek Watershed: Interstate 5, Highway 99, and Highway 138. All of the City of Oakland and the northwestern portion of the City of Sutherlin are within the watershed. According to census data, the population of the City of Oakland was 954 people in 2000.

The most common land use in the Calapooya Creek Watershed is forestry, with 64% of the land base used for public or private forestry. Agriculture constitutes 33% of the land use and mostly occurs in the western half of the watershed. Land ownership is primarily private (91%), with public ownership mostly administered by the Bureau of Land Management.

Current Conditions

The Calapooya Creek Watershed provides habitat for winter steelhead, cutthroat trout, coho, and fall chinook. Many introduced fish species such as smallmouth bass have established populations in the Umpqua River. Although warm-water fish have been reported in the Calapooya Creek Watershed, these introduced fish have not been able to establish resident populations within Calapooya Creek or its tributaries.



E&S Environmental Chemistry
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In the western portion of the watershed and along most of Calapooya Creek, riparian areas are primarily thin strips of hardwoods with brush and blackberries. Conifer forest-dominated riparian areas are more common in the eastern portion of the watershed and along the watershed's extreme western edge. During the summers of 1993 through 1995, the Oregon Department of Fish and Wildlife conducted stream habitat surveys in the Calapooya Creek Watershed. Survey results showed that throughout the watershed, streams had poor levels of large woody debris and poor riffles.

Photo courtesy of Partnership for the Umpqua Rivers

In the Calapooya Creek Watershed, seven streams are considered water quality limited for habitat or flow modification. These streams are: Bachelor Creek (flow), Calapooya Creek (habitat), Coon Creek (flow), Dodge Canyon Creek (habitat and flow), Oldham Creek (flow), Pollock Creek (flow), and Williams Creek (habitat and flow).Two streams within the Calapooya Creek Watershed are on the Oregon Department of Environmental Quality (ODEQ) 303(d) list for violating water quality standards. Calapooya Creek is listed for temperature, dissolved oxygen, pH, and fecal coliform. Cook Creek, a very small tributary that flows through the northwestern portion of the City of Sutherlin, is listed for copper, lead, iron and manganese.

In 2000, ODEQ concluded that the Bonanza Mine, which was active from the late 1800s until 1960, is a significant source of mercury and arsenic contamination in Foster Creek, Banks Creek, and Calapooya Creek. Concentrations of mercury and arsenic in the soils at the Bonanza Mine site present a health risk to people living on the property.

Tailings from the Bonanza Mine were used to construct a Weyerhaeuser railroad grade; the grade is now Red Rock Road, which is not surfaced. Red Rock Road follows Calapooya Creek throughout most of the eastern half of the watershed. Red Rock Road's mercury and arsenic concentrations exceed safe levels for residential exposure. The road appears to be a potential source of continuous metal contamination to Calapooya Creek.

Specific UBWC Enhancement Opportunities for the Calapooya Creek Watershed

1. Actively seek out opportunities with landowners, businesses, and resident groups in key areas to enlist participation in the following restoration projects and activities:

- Improve irrigation efficiency and instream water leasing (all streams with water rights, such as Bachelor Creek and Oldham Creek
- Instream structure placement (esp. Hinkle Creek and streams above Gassy Creek including Calapooya Creek and Riparian planting, blackberry conversion, fencing, and alternative livestock watering systems in the following areas:
  - Calapooya Creek from Dodge Canyon to Oldham Creek.
  - Oldham Creek.
  - Pollock Creek.
  - Cabin Creek.