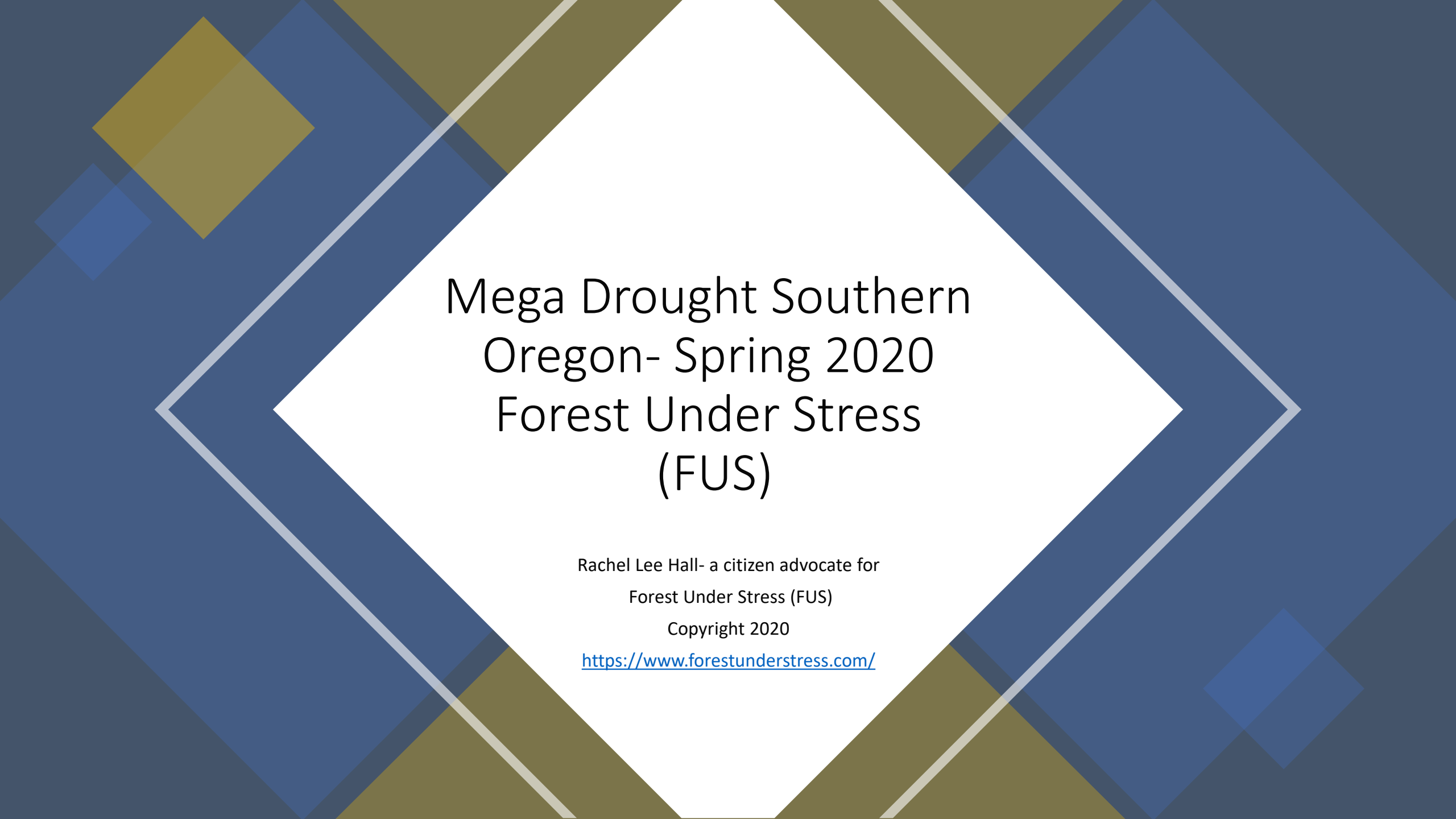




Mega Drought Southern Oregon- Spring 2020 Forest Under Stress (FUS)

Rachel Lee Hall- a citizen advocate for
Forest Under Stress (FUS)

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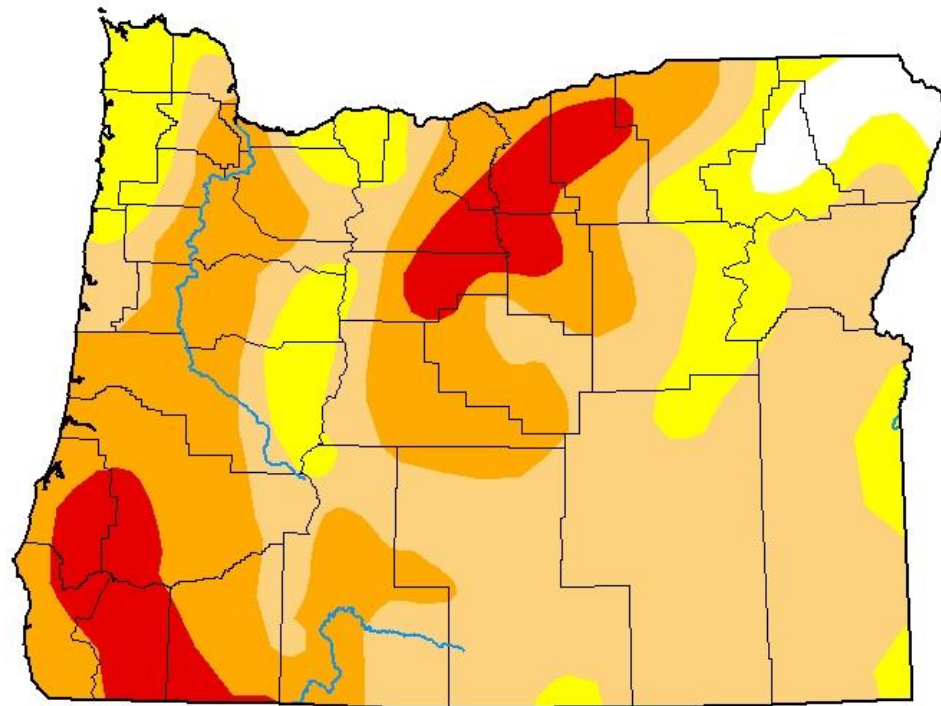
<https://www.forestunderstress.com/>



Photos were gathered during
April and May 2020 from various
lakes and mountains in and
surrounding Jackson County in
Rogue River- Siskiyou National
Forest (RRSNF)

U.S. Drought Monitor Oregon

May 12, 2020
(Released Thursday, May. 14, 2020)
Valid 8 a.m. EDT



Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Richard Tinker
CPC/NOAA/NWS/NCEP



droughtmonitor.unl.edu

Applegate River Valley Hwy. 238

Elevation 1,100' in valley.

- White and gray trees died in the last few years.
- Brown trees with brown needles died last winter.
- Yellowing pine and firs (softwoods) will die this year.
- Vegetative Mass is greater than annual moisture.
- The roots are dueling to supply the terrestrial story.
- With limited moisture the forest went into stress.





Applegate Fire District #9



View enlarged behind Applegate Fire Station 1 sign.



Close up of saddle



Hwy. 238

Near Applegate Fire District- Station # 4.
Elevation - 1,063

Hwy. 238 near Provolt.
Jackson/Josephine County line.
Elevation – 1,181'



Closeup of skyline.



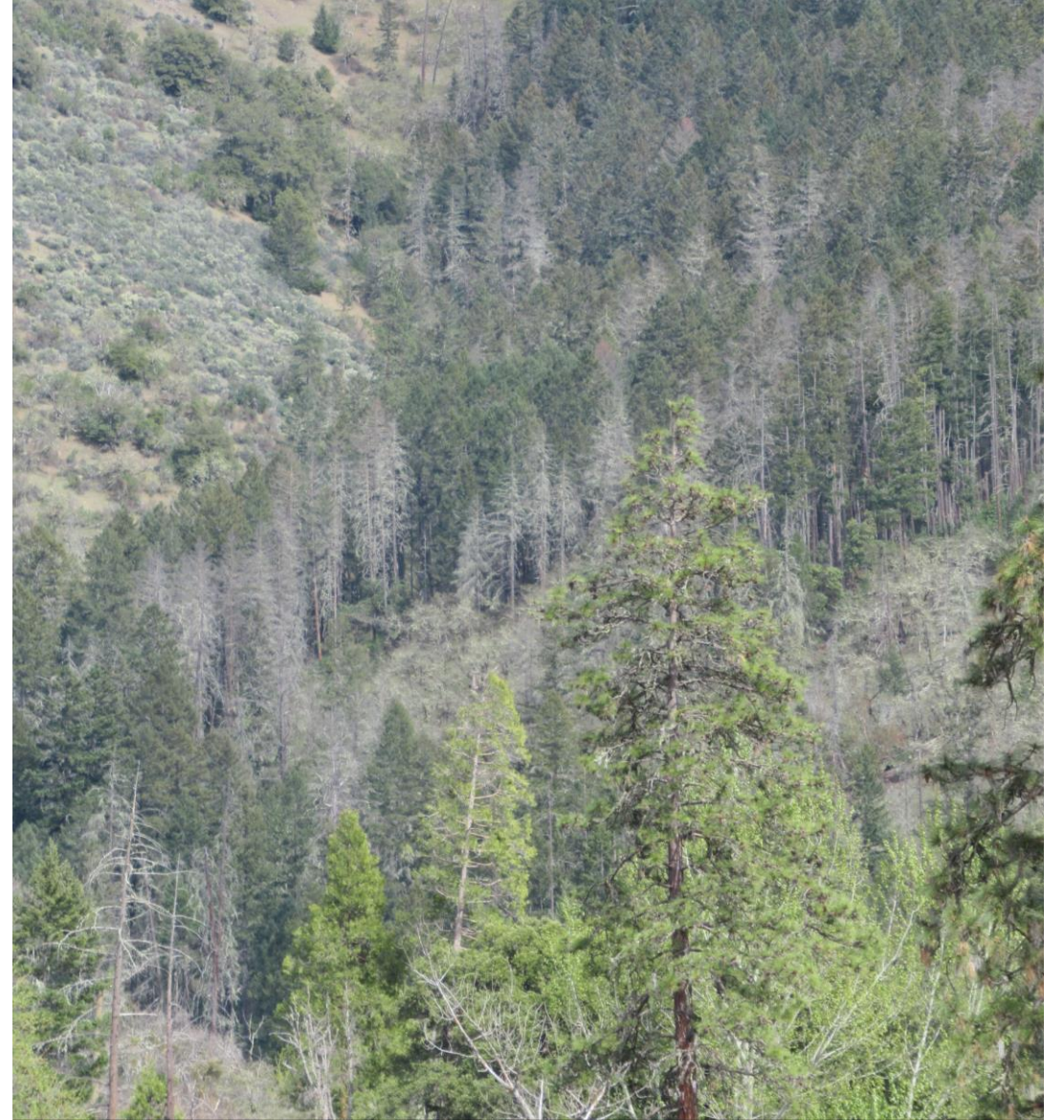
Williams Hwy. near 238. The Applegate River runs along Hwy. 238



Applegate Lake
44/-56 full
Mid April
Elevation 1,949'



Applegate Lake is 2 miles from the Northern California boarder. Matrix is granitic. Supplies irrigation to Applegate valley.



Elevation 1,949' Upper Applegate Road near dam.



Upper Applegate Road near dam.

Hwy 140 driving towards Fish Lake





Hwy 140 near Lake Creek Elevation 1,600'

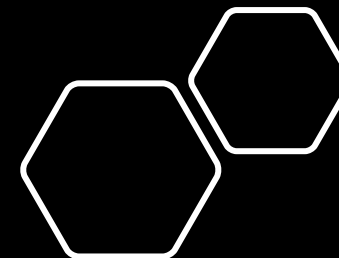
FISH LAKE (EL. 4,635' 1413 M)

Fish Lake was originally a natural lake about one-third its present size. It was formed by a lava dam which flowed from Brown Mountain, the volcano on the south side of the lake.

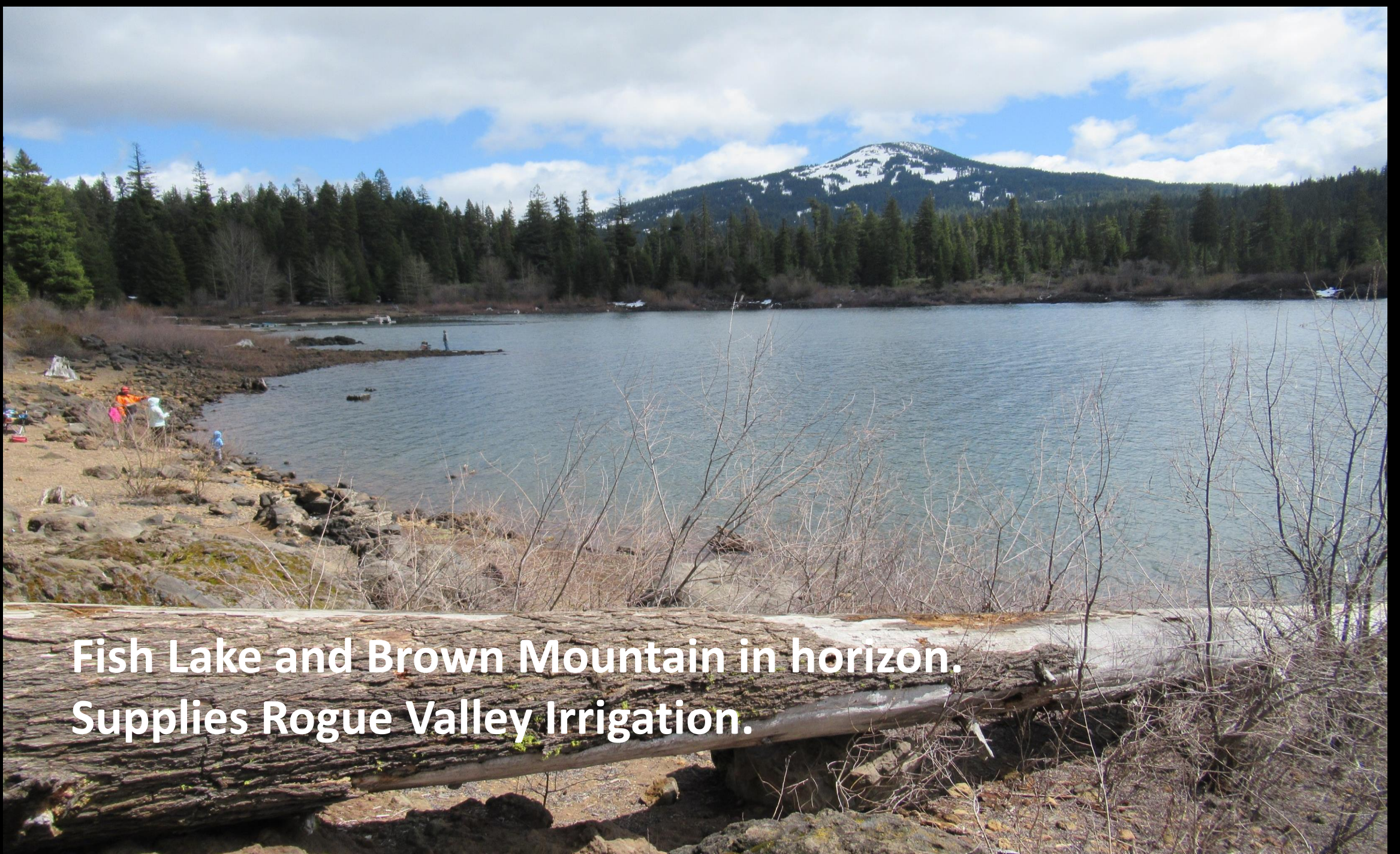
In 1921-22 a dam was built at the west end of the lake. It was built entirely by men and horses. Equipment was hauled by horses pulling mine cars over a narrow gauge railway. Traces of the old roadbed are still visible when the water level is low.

Inflow is provided by two sources. One source is an eleven mile canal that carries water from Fourmile Lake. The other is a number of springs (40) which provide a source of fresh water and supplies the campground water system. Spring flow is 25 cu. ft. per second.

The lake contains 343 surface acres of water when full and can be drawn down to 25 surface acres. This impoundment is a principal water source for the Medford Irrigation District. Normal fluctuation is about 10 feet. The deepest point is approximately 45 feet when full and 28 feet at maximum draw down.



Fish Lake
Elevation 4,639'
54/-46 full



**Fish Lake and Brown Mountain in horizon.
Supplies Rogue Valley Irrigation.**



Emigrant Lake above Ashland, Oregon.
74/-26 full. Elevation 2,241'.
Supplies Rogue Valley Irrigation Districts.
This lake is charged by mountain lakes/reservoirs.



Howard Prairie Lake.
Elevation 4,526'

An aerial photograph of a vast, dense forest. The trees are mostly evergreens, appearing in various shades of green, with some showing signs of autumnal change in brown and orange. The forest is thick and covers a large area. In the upper left, a small clearing with a white patch, likely snow, is visible. The overall scene is a high-angle view of a natural landscape.

Howard Prairie Lake brownout. Snow on the ground.

*Snow capped Mtn. McLoughlin in horizon of Howard
Prairie Lake.*



Howard Prairie Lake 28/-72 full. Supplies Rogue Valley Irrigation District.



An aerial photograph of a vast, dense forest of evergreen trees. The trees are mostly green, with some showing signs of autumn color change in shades of brown and orange. Patches of snow are visible on the ground, particularly in the upper right and lower right areas of the image. A dark circular overlay with a thin white border is positioned in the upper left corner, containing white text.

Howard
Prairie Hyatt
Lake area.
Snow patches
on ground.



Howard Prairie Lake. Elevation 4,526'



Hyatt Lake. Mtn. McLoughlin 9,495'.



Hyatt Lake



Hyatt Lake. Elevation 5,016'
Supplies Rogue River Valley
Irrigation Districts.

47/-53 full



Brownout with snow on the ground at Hyatt Lake.





Hyatt Prairie Road. Elevation 5,000'. 20 miles east of Ashland. Snow on the ground.

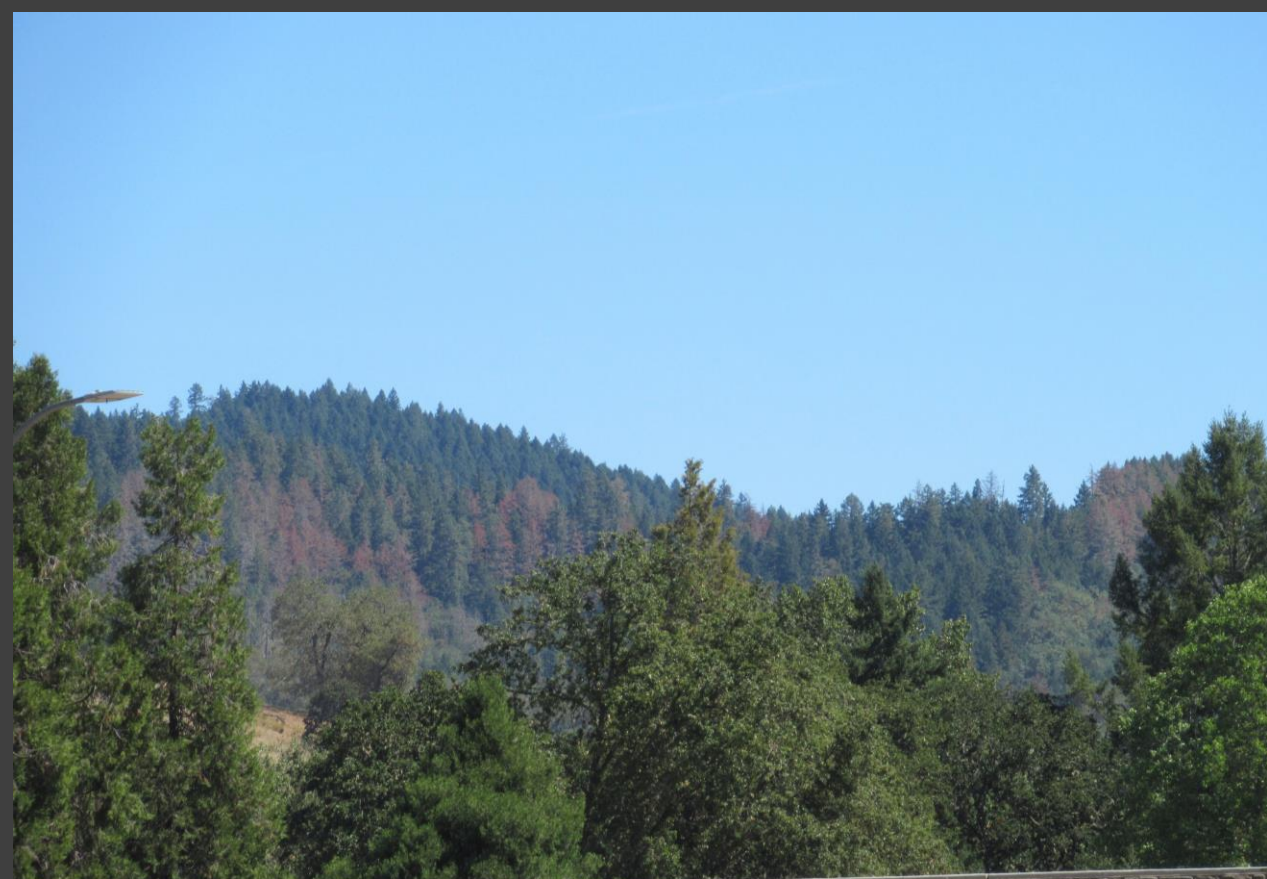


Hyatt Lake above 5,000' with significant brownout.





Tiller Trail Hwy. 227 off Hwy. 62



Tiller Trail Hwy. 227 off Hwy. 62.



Tiller Trail Hwy. 227 off Hwy. 62



Photo enlargement of ridge on Tiller Trail Hwy.

Biomass or designated burns? If burned an increase in wildfire- specific PM_{2.5} and CO₂.





**Biomass for future CoGen mills
and jobs or designated burns
and carbon release?**





Designated burn piles of great number and volume near roads. Off Hwy. 62 Prospect, Oregon.



Designated burn piles of slash west of Hwy. 62, left year after year, because of shortened burn seasons and policy.

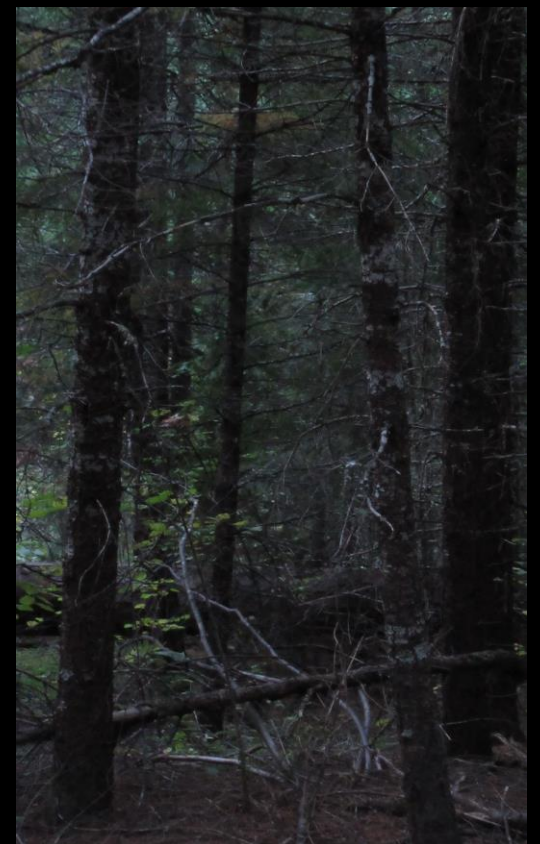
A disturbance in the Natural Fire Cycle caused a major disruption in the Hydrological Cycle. Before a “major” disturbance (25-30) years ago--moisture was greater than or equal to vegetative mass.

The forest was in balance

However, competitive vegetative mass increased demands for annual or limited moisture and mass became greater than moisture.

The forest became unbalanced

Rachel Lee Hall- Forest Under Stress (FUS)



Cluttered neglected forest darkened by excessive vegetative fuel load.

Rogue River-Siskiyou National Forest off Hwy. 62 near Prospect, Oregon. Elev. 2,500-3,300'



Road 68 off Hwy. 62.
Rogue River-Siskiyou
National Forest heading
towards Rogue Umpqua
Divide Wilderness.
Roads are not prudently
maintained to defend
future wildfires.

Road 68 off
Hwy 62. Rogue
River- Siskiyou
National Forest.

**Scaffolding and a cluttered
forest are a campfire
waiting for a match or
lightning strike.**



Let me be clear. “Aggressive forest management” does not equate to “indiscriminate logging”, as some might suggest. It does mean removing the right amount and types of vegetation from our forests that have become clogged up, enabling forested landscapes to become more resilient to disturbances [for example, wildfires]. Simply put, aggressive forest management, including timber harvesting; salvage; hazardous fuel reduction; and prescribed fire when feasible, will help ensure effective fire management which in turn will help reduce global warming.

M.T.Rains.

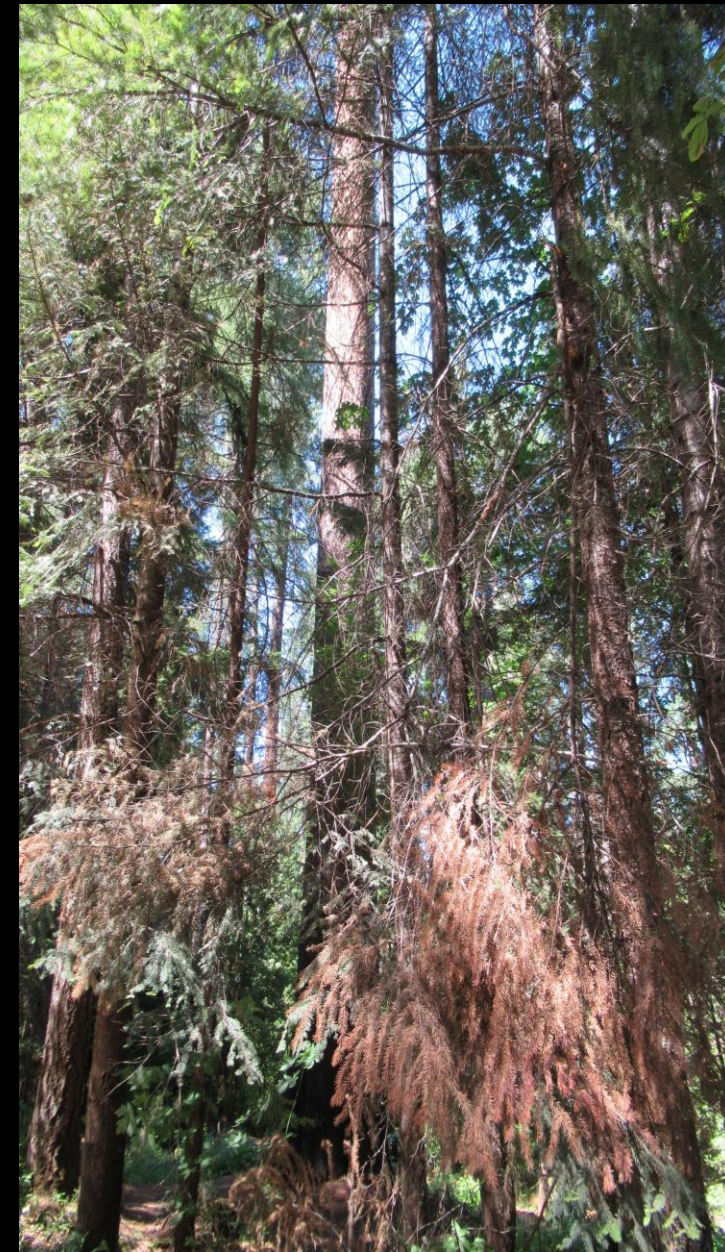
Michael T. Rains, a retired Deputy Chief of the U.S. Forest Service and a board member of the National Wildfire Institute (NWI)

Michael T. Rains, who was Director of the Northern Research Station at Newtown Square, Pennsylvania for 15 years and, concurrently, Director of the Forest Products Laboratory at Newtown Square for three years. He retired from the U.S. Forest Service in 2016. In earlier capacities, he was Deputy Chief of the Forest Service for State and Private Forestry, Washington, D.C.; Director of State and Private Forestry for the Northeastern Area, Radnor, Pennsylvania; and Director of Information, Resources Management and Business Operations for the Forest Service, Washington, D.C.

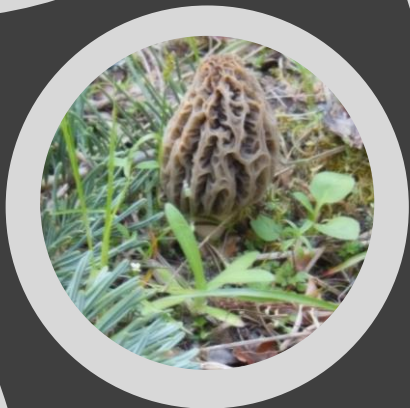


Butte Falls fire plume.

Mr. Rains attended five universities: Humboldt State at Arcata, California; the University of Mississippi at Oxford; Georgia State in Atlanta; the John F. Kennedy School of Government, Harvard University, Cambridge, Massachusetts; and West Chester University at West Chester, Pennsylvania. His undergraduate degrees are in forestry, economics and labor relations, and his master's degrees are in public administration, watershed management and secondary education.



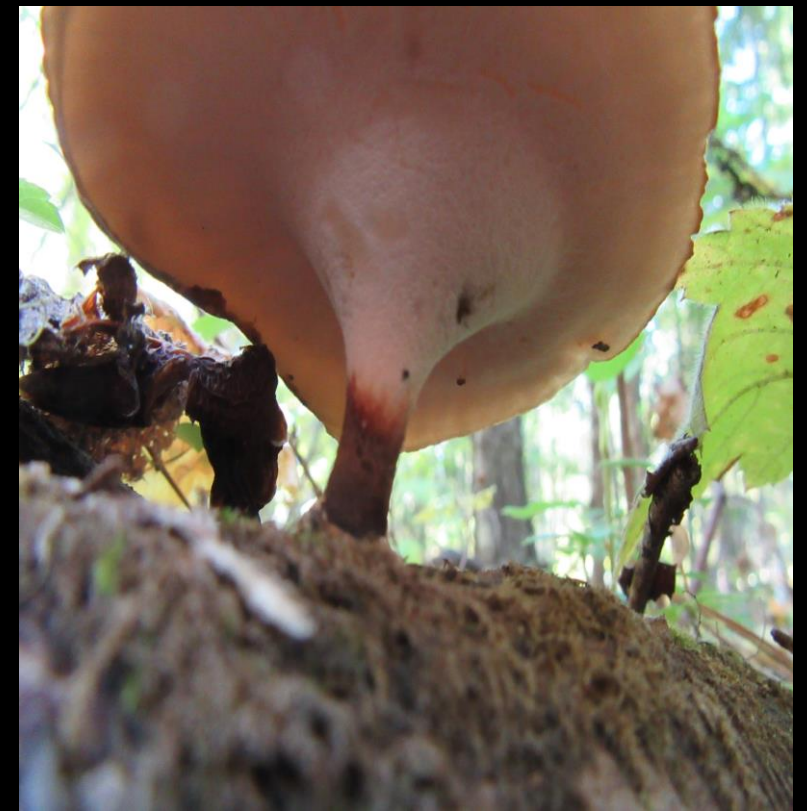
Sugar Pine Fire 2018. Tallest Sugar Pine in the World- 265' Umpqua N.F.



Fungi, mycelia, and rootlets of the forest:
a biological comment.



Tuber oregonense White-2020.



For the most part we see the fruiting of mycelium as mushrooms we gather to consume or admire. However, a niche in nature occurs below ground with the exchange of nutrients that takes place between mycelia and tree rootlets. In the soil horizons mycelium surrounds the rootlets of the host tree with a sheave called hyphae. While the mycelia aids the rootlets in absorption of nutrients and minerals (which the rootlets carry to the terrestrial story for a resilient forest) the exchange also provides the fungus with moisture and organic compounds (such as carbohydrates) that are critical for its survival. This is especially true during drought years. As the soil dries out from the competitive vegetative terrestrial demands for nutrients and moisture, which the mycelia cannot deliver, there is less moisture and nutrients to supply the terrestrial story and the exchanged is endangered, therefore, the forest goes into decline, loss of resiliency, brownout-finally succumbing to wildfires.

– Rachel Lee Hall a Conservationist