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JOAN AMERO



**DESCHUTES
LAND
TRUST**

The Deschutes Land Trust works cooperatively with landowners to conserve land for wildlife, scenic views, and local communities.

THE NEWSLETTER OF DESCHUTES LAND TRUST { VOL 23, SPRING 2019 }

METOLIUS CULTURAL HISTORY

JAY MATHER

In the fall of 2018, the Land Trust acquired a new Preserve along the banks of the Metolius River, the Metolius River Preserve.

As we begin to think about the future of this place, we first think back to its cultural history and importance for local first peoples.

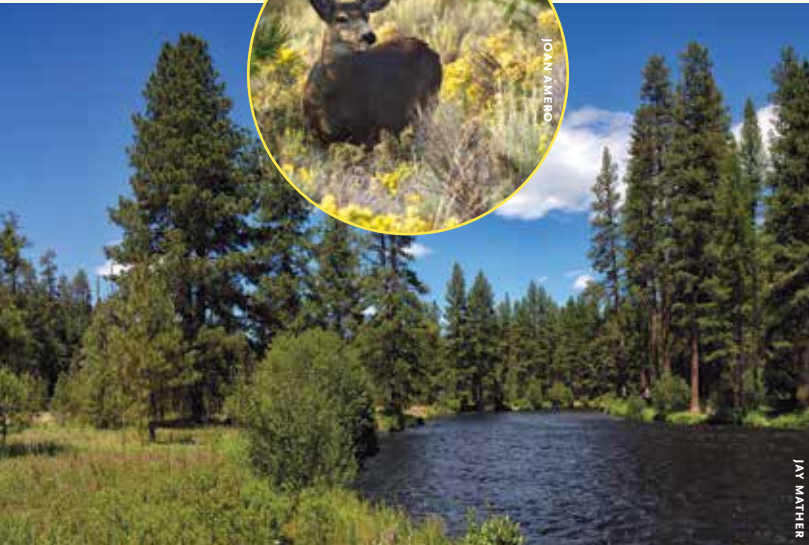
The Metolius is a river that has flowed through time. From its headwaters beneath Black Butte, spring water fills the Metolius as it flows north to Lake Billy Chinook. Translated from the Sahaptin language, the river is named “white fish” in reference to a light-colored Chinook Salmon which historically thrived in the river’s cold and stable waters. Both its beauty and abundance brought Northern Paiute and other peoples of the High Desert and Cascade Mountain regions to the banks of the Metolius to gather, fish, hunt, and find nourishment.

Places like the Metolius River, which are rich with resources, became culturally and often spiritually significant. Tribal elders tell how Black Butte and her husband carried roots, berries, and deer on a journey. During this journey, Black Butte sat to rest, and because the sun was so hot, she began to sweat. While Black Butte rested, her husband, Green Ridge, began to pout. Together their sweat and tears began to form streams. Today Black Butte and Green Ridge’s streams still flow as the headwaters of the Metolius River. Where they flow, you can find the plants, the roots, and the deer that they carried on their journey.

Today, there are peoples of the Confederated Tribes of Warm Springs who come to the traditional lands along the banks of the Metolius to harvest the foods left by Black Butte and Green Ridge. Though we may not all take journeys to the Metolius River for gathering and nourishment, these waters continue to bring important life and homes for the plants, animals, and people around them. The Deschutes Land Trust is honored to continue a long tradition of stewardship and connection with these waters and the lands they flow through at the Metolius River Preserve. —



JOAN AMEND



JAY MATHER



CLIMATE CHANGE SOLUTIONS

JAY MATHER

While it can often be overwhelming to think about climate change and its impacts on Central Oregon, do you wonder what you can do to help? Here are three suggestions:

- 1. Think about your transportation.** Transportation accounts for roughly 1/3 of all greenhouse gas emissions in Oregon. Do your part by walking, biking, or carpooling more. You can also combine errands so you’re driving less frequently. Switching to an electric vehicle can also reduce your emissions. Flying less can make a big impact—combine trips, travel for work less by having online meetings, and choose local vacations.
- 2. Think about what you eat.** Agriculture accounts for roughly 13.5% of greenhouse gas emissions worldwide. Animal agriculture also requires massive amounts of land that might otherwise store carbon as forests, wetlands, peatlands, or healthy soils. You can make a difference by choosing to eat less meat or adopt a plant-based diet. Even eliminating meat from your diet once a week can make a difference!
- 3. Reduce, repair, reuse, recycle.** You can help reduce the emissions that go into producing clothes, household items, and outdoor gear by reducing demand for these goods. That means purchasing fewer things, repairing what you already have, and reusing products. You can also do your part to reduce the demand for single-use plastics (which require petroleum) by carrying your own reusable bags, utensils, napkins, cups, thermoses, and other everyday items.

Solving climate change requires contributions from every part of society. **We hope you will join us in working to reduce our collective impacts on the planet!** —



BEND BIKES

PROTECTING MONARCH BUTTERFLIES

Did you know there are more than 100 species of butterflies in Central Oregon? One of those is the magnificent monarch butterfly. These darlings of the butterfly world are best known for their incredible migration journey, but are also unfortunately becoming known for their struggles in a changing world.

Monarchs are directly linked to milkweed plants. Female monarch butterflies lay their eggs ONLY on milkweed leaves; if there is no milkweed around when they are ready to lay eggs, they simply won't lay eggs. Milkweed is also the only food that monarch caterpillars eat on their way to transforming into a butterfly. Of all the plants from which monarchs sip nectar as adult butterflies, milkweed makes up about 1/3 of their food. Milkweed is absolutely critical to monarchs, from egg to caterpillar to adult butterfly.

Every year, Western monarch butterflies migrate from as far north as Canada down to southern California, where they overwinter. This amazing feat is made possible by having milkweed along the entire migration route.

Western monarchs overwinter on the southern California coast for several reasons. The wet air helps prevent them from drying out. Eucalyptus trees and palms can support their large overwintering populations. Temperatures don't fluctuate much.

But monarchs are in trouble. As recently as the 1990's, more than 1 million monarchs were recorded overwintering in southern California. In the winter of 2017-18, around 150,000 monarchs were counted. This past winter, a startling 20,456 monarchs were recorded. Why are their populations dwindling so drastically?



SHOWY MILKWEED IS CRITICAL TO MONARCH SURVIVAL. PHOTO: DARLENE ASHLEY.



A MONARCH ALMOST READY TO LEAVE ITS CHRYSALIS. PHOTO: LAND TRUST.



A MONARCH TAGGED AND READY FOR RELEASE. PHOTO: JAY MATHER.

Habitat loss is a big factor in monarch population declines. Without milkweed available, monarchs simply cannot survive. In Central Oregon, we have two types of native milkweed—showy and narrowleaf. Narrowleaf has been almost completely removed from our area, and showy milkweed is found in limited numbers. Another factor is harmful pesticides, including neonicotinoids. All pollinators are struggling to a certain extent because of the pesticides that are sprayed and then ingested by pollinators when drinking nectar.

Climate change is also a struggle for the specialized monarch. Changes in weather means larger storms during the winter in southern California, affecting their survival. Increased carbon dioxide in the atmosphere is also changing a compound found in milkweed, which could mean that the milkweed of the future is inedible to monarchs.

But don't despair! The Land Trust is ready to help monarchs survive! We have been planting native milkweed at our Preserves to ensure that monarchs have something to lay eggs on and to eat. We have also planted native flowers that monarchs use for nectar, ensuring that adult butterflies have the energy to continue their migration. Last year, Stewardship Director Amanda Egertson also attended a rearing workshop and learned how to raise monarch butterflies. She then released the monarchs she raised at Camp Polk Meadow Preserve and other areas in Central Oregon. Responsible captive rearing can help more monarch eggs reach adulthood.

Read on for how you can help this beautiful and delicate creature!!

WHAT YOU CAN DO TO HELP

- 1 Plant Native Milkweed!** Local milkweed can be purchased at Winter Creek Restoration in Bend and Clearwater Native Plant Nursery in Redmond. Make sure to only plant the local showy milkweed and narrowleaf milkweed.
- 2 Plant Native Blooms.** Monarchs need nectar once they are adults, so planting a variety of flowers that will bloom throughout the summer and into the fall helps monarchs continue their migrations. See our native plant list via the link below.
- 3 Become a Citizen Scientist.** Get involved with monarch advocate groups to help track, educate, and advocate for our monarchs! Start with the Monarch Advocates of Central Oregon (MACO), Xerces Society, and Monarch Joint Venture. Details via the link below.
- 4 Join the Land Trust!** We are committed to doing our part to help monarchs. This includes planting native milkweed and other native flowers at our Preserves, pulling non-native weeds, and keeping an eye out for monarch eggs. Help with these projects or become a member of the Land Trust today!

LEARN MORE: [DESCHUTESLANDTRUST.ORG/MONARCH-BUTTERFLIES](https://deschuteslandtrust.org/monarch-butterflies)

LAND TRUST

As homeowners in fire-prone Central Oregon, most of us work to create and maintain defensible space around our homes.

This means we clear brush, trees, and other flammable materials near our houses, so we can help firefighters keep fire away from our homes. As a local Land Trust, it's important we also do our part to manage our lands and our forests in a way that complements these efforts, while at the same time improving overall forest health and wildlife habitat.

An example of this is the forest restoration work we completed at Whychus Canyon Preserve several years ago when we thinned more than 100 acres. We targeted small-diameter juniper to help reduce the threat of wildfire for our neighbors while also helping the remaining ponderosa pine and aspen thrive. We are already seeing the benefits of this work, as native wildflowers and bunchgrasses have spread into the thinned areas and populations of aspen and pine are rebounding.

Now we plan to conduct similar work at Aspen Hollow Preserve, a 58-acre property along Whychus Creek, northeast of Sisters. The Preserve is a mix of juniper and ponderosa pine forest interspersed with small aspen groves. Our forest restoration goal here is to thin the small-diameter juniper, as well as some of the pine, to mimic historic conditions and improve the health of the remaining pine and aspen. It will also benefit the native grasses and wildflowers, provide improved habitat for wildlife, and help reduce wildfire danger for our nearby neighbors.

Normally we would begin this forest restoration work by cutting and piling the small-diameter trees in the spring, drying the piles over the summer, and then burning them in the winter. But our resident golden eagles take precedence at Aspen Hollow Preserve, so we like to keep things quiet while they're raising their young from February–June. Our hope is that, once the eagle young have left the nest, we can begin our forest restoration work. This cut, pile, and burn process will all be done by hand since the terrain is fairly inaccessible, making it difficult to remove trees without causing significant disturbance.

In the coming years, we plan to implement similar work at Willow Springs Preserve and Whychus Canyon Preserve. These projects will likely coincide with stream restoration work at each Preserve so we can use some of the thinned trees in and around Whychus Creek as part of restoration efforts. Stay tuned for more details on these projects! —

JOAN AMERO

LEARN MORE: [DESCHUTESLANDTRUST.ORG/RESTORING-HEALTHY-FORESTS](https://deschuteslandtrust.org/restoring-healthy-forests)

RANDY TOMER

Looking up at the Cascade range, it is clear to see that geology has had a huge impact on the shape of Central Oregon. But if you dig deeper you may find some less common features that also reveal the powerful beginnings of our region:

Hoodoo. These tall, sculpture-like formations are revealed by years of erosion and weathering. Hoodoos form when softer layers of rock are capped by harder layers that are more resistant to erosion. Vertical fractures form and the softer layers of rock are worked away over time. The harder layers form a cap, leaving behind what appears to be impossibly stacked boulder spires. Building these capped wonders can take up to millions of years. Eventually the eroding will be so severe that the caps will begin to fall, but until then, they remain standing and remarkably balanced.

Where to find: *Whychus Canyon Preserve, Alder Springs, Rimrock Ranch*

Basalt Column. Neat and orderly, these structures show us the wonderful patterns that can be found in nature. Volcanic lava can cool to basalt in this incredible hexagonal shape. The contraction of the rock (as it cools) causes it to fracture into jointed columns. Differences in cooling circumstances can cause these columns to be taller, take different geometric shapes, and even curve.

Where to find: *Aspen Hollow Preserve, Alder Springs*

Fault. Faults are fractures as a result of differential rock movements. They work locally and on the planetary scale of Earth's tectonic plates. Though they often work under the radar, fault lines are places where faults can be seen from the surface. These fractures can be seen throughout the Cascade Range. Faults are evidence that even our rocks are on the move.

Where to find: *Whychus Canyon Preserve, Alder Springs, Rimrock Ranch*

Thanks to Daniele McKay and Derek Loeb for their geological contributions to this article! —

LEARN MORE: [DESCHUTESLANDTRUST.ORG/GEOLOGY-GUIDE](https://deschuteslandtrust.org/geology-guide)

HOODOO

JIM YUSKAVITCH



BASALT COLUMN

JAN MATHER



FAULT LINE

JOAN AMERO

Get to know your Land Trust!

The Deschutes Land Trust has been working cooperatively with landowners since 1995 to protect 9,115 acres in the region for wildlife, scenic views, and local communities. Interested in learning more?



Explore Our Lands

Join us March-November for a free, guided hike at one of our protected lands. Learn more about the Land Trust and the nature of Central Oregon: deschuteslandtrust.org/hikes

Volunteer With Us

Donate your time to tend trails, count birds, stuff envelopes, or help on hikes! Make your community a better place by volunteering with the Land Trust today: deschuteslandtrust.org/volunteer

Share Your Land Trust Experience

Help build a community with a strong conservation ethic. Invite the Land Trust to speak at your book club or neighborhood gathering! Follow the Land Trust on social media and share your photos with us so others can see just how special Central Oregon's protected lands are to you! Details: deschuteslandtrust.org/loveyourlands

Together we can chart the future of Central Oregon and make our community a better place to live. Learn more about what we do, where we work, and how we protect land in Central Oregon: deschuteslandtrust.org



THE DESCHUTES LAND TRUST IS PROUD OF OUR GENEROUS FAMILY OF SUPPORTERS. JOIN US TODAY: [DESCHUTESLANDTRUST.ORG/JOIN](https://deschuteslandtrust.org/join)

LANDS IN TRUST PROTECTED FOREVER

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