

A scenic view of a river with rapids and a waterfall in a lush forest. The water is a vibrant turquoise color, cascading over dark rocks. The surrounding forest is dense with green trees and moss-covered rocks. The overall atmosphere is serene and natural.

The River Democracy Act

Analyzing the Benefits to Oregon's Drinking Watersheds

McKenzie River, Eugene drinking watershed

Photo: Scott Smorra

Table of Contents

1

Introduction

2

The River Democracy Act

4

Threats to Clean Water

8

Drinking Watersheds in the
River Democracy Act

9

McKenzie River Watershed

10

Tumalo Creek Watershed

11

Rogue River Watershed

12

Clackamas River Watershed

13

Beaver Creek Watershed

14

Findings

Photo: North Fork Willamette River by Eric DeBord

A publication of Oregon Wild (www.oregonwild.org), November 2023

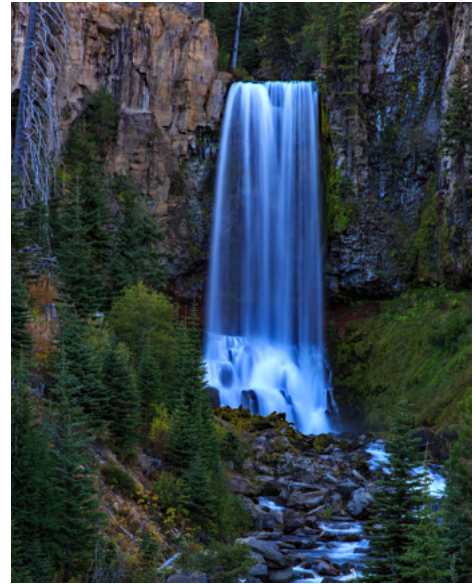
With contributions from KS Wild, Rogue Riverkeeper, Friends of the Kalmiopsis, and Native Fish Society.
Maps by Oregon Wild

For questions about this report, please contact Erik Fernandez (ef@oregonwild.org) or Sami Godlove (sg@oregonwild.org)

INTRODUCTION

This report analyzes the River Democracy Act and where it protects sources of drinking water to communities across Oregon. We identify which watersheds and communities will benefit from the legislation proposed by Senators Ron Wyden and Jeff Merkley. We found that 1,315,000 Oregonians get their drinking water from sources that would receive increased protections from the River Democracy Act.

Oregon is known for its wild rivers, sprawling evergreen forests, cascading waterfalls, and snow-capped mountains. In addition to offering a variety of recreational opportunities, Oregon's river systems provide drinking water to a majority of the state's population. Clean water is vital for everything from protecting human health to sustaining local communities and economies to brewing Oregon's world-renowned craft beer.



Tumalo Creek, Bend drinking watershed.
Photo: Paul Thomson

1,315,000 Oregonians get their drinking water from sources that would receive increased protections from the River Democracy Act.

Streams originating in Oregon's forests provide drinking water to millions of Oregonians. In fact, **71% of Oregonians get their drinking water from streams and rivers**, technically referred to as "surface water sources." Oregon's cleanest water comes from waterways flowing through intact, mature and old-growth public forest lands. These forests act as natural sponges, absorbing, storing, filtering, cooling, and gradually releasing water to streams and recharging groundwater aquifers year-round. The colder, cleaner, and more protected these streams and their surrounding landscapes are, the better the water quality that comes into drinking water intakes further downstream. Intact watersheds protect both the quality and the quantity of surface waters and the consistency of their flows. The healthier and more intact the watershed, the less money communities need to spend on water treatment and filtration.

Healthy watersheds contribute to Oregon's rural and urban economies. Beyond the obvious benefits of safe and cost-effective drinking water, clean, healthy watersheds sustain local farms and agriculture and Oregon's thriving craft beer industry (beer is over 90% water). Fishing, hunting, paddling, mountain biking, and other activities along these waterways support the state's growing outdoor recreation economy.¹

1. [Mojica, J. et al. 2021. *Economic Analysis of Outdoor Recreation in Oregon*. Earth Economics. Tacoma, WA.](#) The study found that, in 2019, outdoor recreation in Oregon supported 224,000 jobs and generated \$15.6 billion in consumer spending.

The River Democracy Act

Created by Congress in 1968, the National Wild & Scenic Rivers System was enacted “to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations”. By designating a buffer on each side of the river (either ¼ mile or ½ mile) **Wild & Scenic River designations prevent new dam construction, new mining claims, clearcut logging, and other activities** that would degrade the river’s water quality and natural values. The goal of this legislation was to better protect recreation, water quality, fish, wildlife, and other values. Currently, 2% of Oregon’s over 110,000 miles of waterways are protected as Wild & Scenic.

In January of 2021, Senators Wyden and Merkley introduced the River Democracy Act, a proposal to designate 4,700 miles of Wild & Scenic Rivers across the state. In late 2022 they released a compromise version that was scaled back to 3,200 miles. Passage of the River Democracy Act would increase the percentage of Oregon’s waterways designated as Wild & Scenic up to 5%. While many of the River Democracy Act streams supply clean drinking water, not all do. Some waterways in the legislation were included due to other values such as fish, wildlife, recreation, biodiversity, scenery, etc.

The legislation would designate a half-mile protected corridor along either side of the 3,200 miles of streams proposed in Senators Wyden and Merkley’s bill. Each Wild & Scenic river will have its own “Outstandingly Remarkable Values” (ORVs) identified. These values may include water quality (e.g. for clean drinking water), fish, wildlife, recreation, scenery, geology, cultural, wildness, or other values. Management plans are created by the U.S. Forest Service or Bureau of Land Management, with public input, to guide the protection and maintenance of these ORVs, as well as what activities will be encouraged within the corridor.

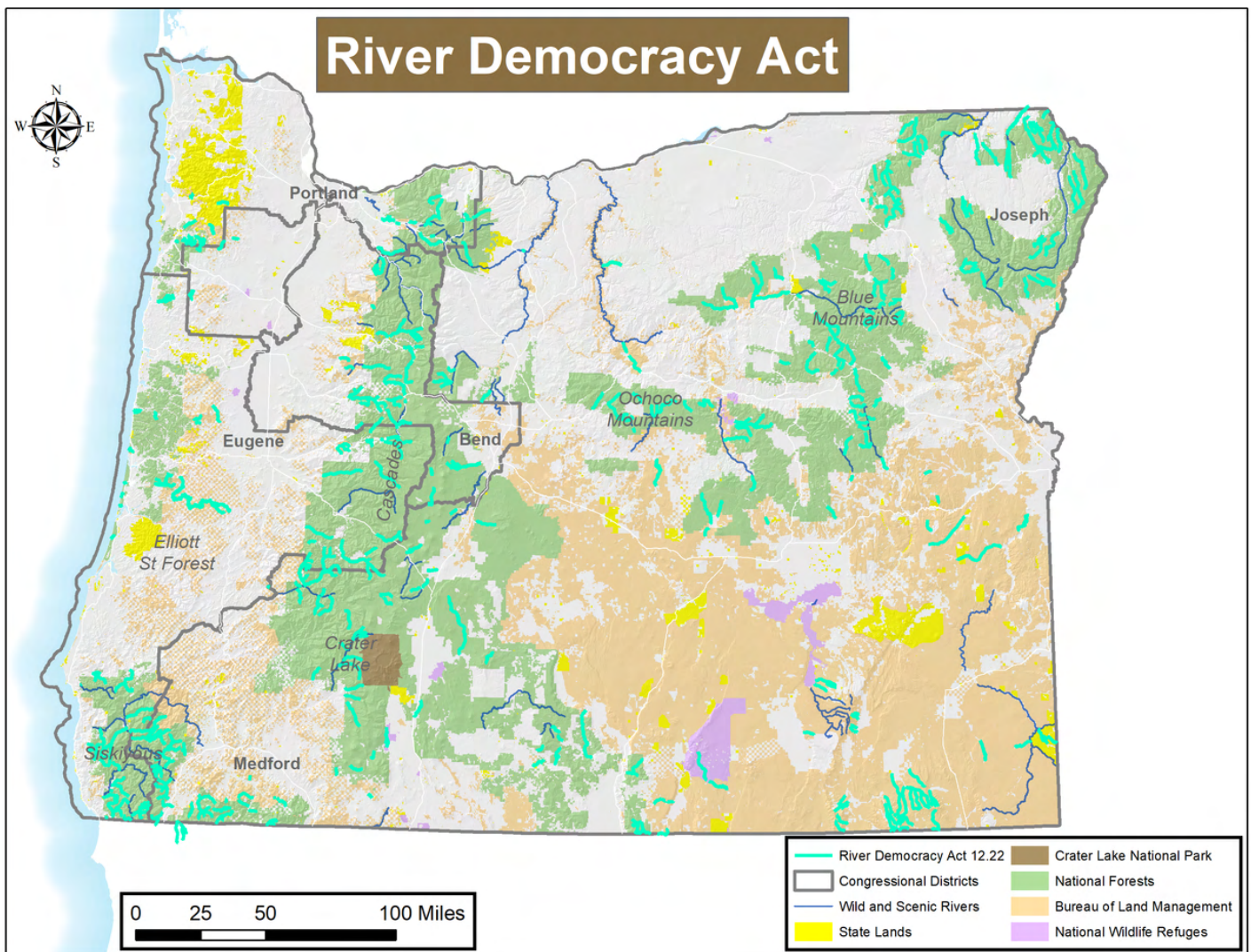


Indigo Creek, Rogue River watershed. Photo: Northwest Rafting Company

While Wild & Scenic River designations can occur on both public and private lands, the designation carries little to no effect on private lands. In the case of the River Democracy Act, the vast majority of streams are on public lands only.

Legislation was built around a multi-year grassroots process where Oregonians nominated their favorite rivers, drinking watersheds, fishing holes, hiking trails, and kayak routes. Support for the bill includes over 300 Oregon businesses, 50 breweries, 75 community organizations, and 26 fish biologists. Opposition to the bill came from some county commissioners as well as some in the timber industry and Farm Bureau.

Currently, 2% of Oregon's over 110,000 miles of waterways are protected as Wild & Scenic. The River Democracy Act would increase this to 5%.



The December 2022 version of the River Democracy Act includes 3,215 miles of waterways across Oregon. Almost all streams in the bill are on U.S. Forest Service and Bureau of Land Management federal public lands. Source: Oregon Wild

Threats to Clean Water

In recent years, polluted drinking water has been a subject of concern in communities around the country. Despite Oregon's reputation, many waterways and water sources have been degraded by pollution, mining, logging, and other development over the last century. These practices often damage a watershed's ability to produce consistent flows of clean water, sometimes taking decades to recover.

Oregon has also had many drinking water challenges in the past. It was only a few decades ago that clearcutting by the Forest Service and Bureau of Land Management was directly endangering the water quality of communities. For example, in 1977, Congress passed the Bull Run Act, opening the Bull Run watershed (the drinking watershed for the city of Portland) and the nearby Little Sandy River watershed to logging. By 1993, more than 350 miles of roads - mostly to facilitate logging - had been built in the watershed, causing sediment to flow into drinking water reservoirs. Some 37 percent of the Little Sandy watershed was clearcut. Environmental groups, local communities, and city leaders advocated for protecting the city's water source, and in the late 1990s and early 2000s, Congress passed two bills prohibiting logging in these watersheds. As a result of these protections, Portland now enjoys some of the cleanest and safest drinking water of any major city in the United States.

However, access to consistent, safe drinking water is not the case for many other communities around the state. Even today, communities in the Coast Range grapple with the impacts of clearcut logging on private lands that is degrading water quality and quantity. The Warm Springs Tribe has experienced pollution from upstream communities and infrastructure issues for water treatment. Nitrate pollution from agricultural activities plagues communities along the Columbia River and, of course, water quantity issues around the west have been exacerbated by climate change in recent decades. A 2022 study found that **Oregon has the most miles of 'impaired' rivers and streams**—meaning the water is too polluted to meet standards for drinking water, fish consumption, swimming, or to sustain aquatic life—of any state nationwide.²



The Bull Run watershed was protected from logging most recently in 1996, safeguarding the drinking water supply for the city of Portland. However, many other drinking watersheds around the state remain unprotected. Photo: Sam Beebe

2. [Environmental Integrity Project, 2022](#). *The Clean Water Act at 50: Promises Half-Kept at the Half-Century Mark*. p. 18.

Logging

Researchers have documented a direct correlation between industrial logging and increased flooding and peak flows.³ Without a healthy forest ecosystem in place to absorb and slow the release of water, rain and melting snow will tend to run off of heavily logged forests much faster. That run-off causes erosion, carrying with it large quantities of sediment and debris that reduce water quality and cause problems for water filtration systems further downstream.

The quick run-off during winter and spring storms also means there is less water available during the dry summer months when water demand is higher and supplies are lower. Oregon State University scientists have found that clearcut-plantation forestry can reduce water levels during summer months by 50% when compared to adjacent, unlogged old-growth watersheds.⁴



A clearcut in the Oregon Coast Range. Photo: Reed Wilson

Cutting trees also reduces the amount of water that an old-growth conifer forest gathers from fog. This source is significant—accounting for as much as one-third of all precipitation in places like Portland's Bull Run watershed. Moreover, once wide swaths of trees are cut, all of the shade for streams and surface areas is lost, resulting in more evaporation from the soil, further reducing water flows.

3. [Grant et al. 2008](#). *Effects of forest practices on peak flows and consequent channel response: a state-of-science report for western Oregon and Washington*. Gen. Tech. Rep. PNW-GTR-760. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. p. 76; [Jones, J. and Grant, G. 1996](#). *Peak flow responses to clear-cutting and roads in small and large basins, western Cascades, Oregon*. *Water Resources Research* 32(4):959-974.

4. [Segura, C. et al. 2020](#). *Long-term effects of forest harvesting on summer low flow deficits in the Coast Range of Oregon*. *Journal of Hydrology*, 585, 124749; [Jones, J. and Perry, T. 2017](#). *Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA*. *Ecohydrology*, 10:e1790.

Dams

Dams have been constructed throughout many of Oregon's drinking watersheds because they store water for use during lower summer flows. However, dams also increase water temperature, trap sediments which may contain toxic substances such as pesticides and heavy metals, and often produce large amounts of nutrients and toxic algae.⁵ This can result in pollution downstream and into drinking water intakes as water is released from reservoirs behind dams. Reservoirs on the Deschutes, Klamath, North Santiam, and other rivers have experienced these water quality issues. For example, Detroit Lake, created by a dam on the North Santiam River and the drinking water supply for the city of Salem, has experienced several toxic algae blooms in recent years due to high water temperatures and excess nutrients from runoff. In the summer of 2018, an algae bloom escalated to the level that Salem's water became too dangerous to consume and a drinking water advisory was put in place.

In addition to creating water quality issues, dams also block salmon and other anadromous fish migration and can lead to massive fish kills. A recent example is the Winchester Dam repair and dewatering in August of 2023 which led to a massive fish kill of over half a million Pacific lamprey in the North Umpqua River.



Aerial view of a dam and reservoir on the Klamath River system. Stagnant water behind dams can reach higher temperatures than free-flowing streams, which often leads to toxic algae blooms as seen here.

5. [NOAA Fisheries. 2019. How Dams Affect Water and Habitat on the West Coast.](#)

Mining

Mining of Oregon's rivers has long been prevalent, putting watersheds across the state at risk. Nowhere is the threat more concentrated than in the Wild Rivers area of southwest Oregon.

The Rogue River watershed is a biodiversity hotspot that also functions as a key drinking watershed for multiple communities such as Medford. Yet mining in the Rogue River watershed is fraught with potential disaster. Mining can impact streams and drinking water sources as toxic mining effluent is discharged or seeps through tailings and waste rock impoundments. These pollutants are harmful to fish and other aquatic life. Similar to industrial logging, mining can also increase the sedimentation of streams from road building and the disturbance of soil and rock during the mining process; high levels of sediment, pollutants, and debris in drinking water sources increase water treatment costs.



The Formosa Mine in SW Oregon is a toxic Superfund Site and has polluted many miles of waterways. More info at: <https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.Cleanup&id=1002616#bkgground>

Caveat: The River Democracy Act will not solve all of the threats to drinking water supplies in Oregon. Many of the streams in the legislation are headwater streams on federal public lands, and the Wild & Scenic Rivers Act does not place regulations on private and non-federal lands. Improvements on private land management are also needed to safeguard water supplies. In some instances, community infrastructure also needs investment to ensure safe water supplies.

Drinking Watersheds in the River Democracy Act

Drinking watersheds appear to be intentionally included in the River Democracy Act, such as those that provide drinking water to communities in Eugene, Bend, Medford, much of Clackamas County, and others.

Any activity that would degrade water quality or drinking water is prohibited in designated Wild & Scenic Rivers if “water quality” is listed as an ORV. Wild & Scenic designation also prohibits any damming of designated rivers and restricts new mining claims within the protected corridor. Though logging is not outright prohibited in Wild & Scenic River corridors, the River Democracy Act would prevent clearcutting and other industrial logging practices that are known to degrade water quality and cause harm to river systems. Lighter-touch thinning and ecologically sound forest management could be allowed as long as it doesn't degrade river values. While there are several examples of aggressive logging in Wild & Scenic River corridors, this has been rare since the passage of the 1968 Wild & Scenic River Act.

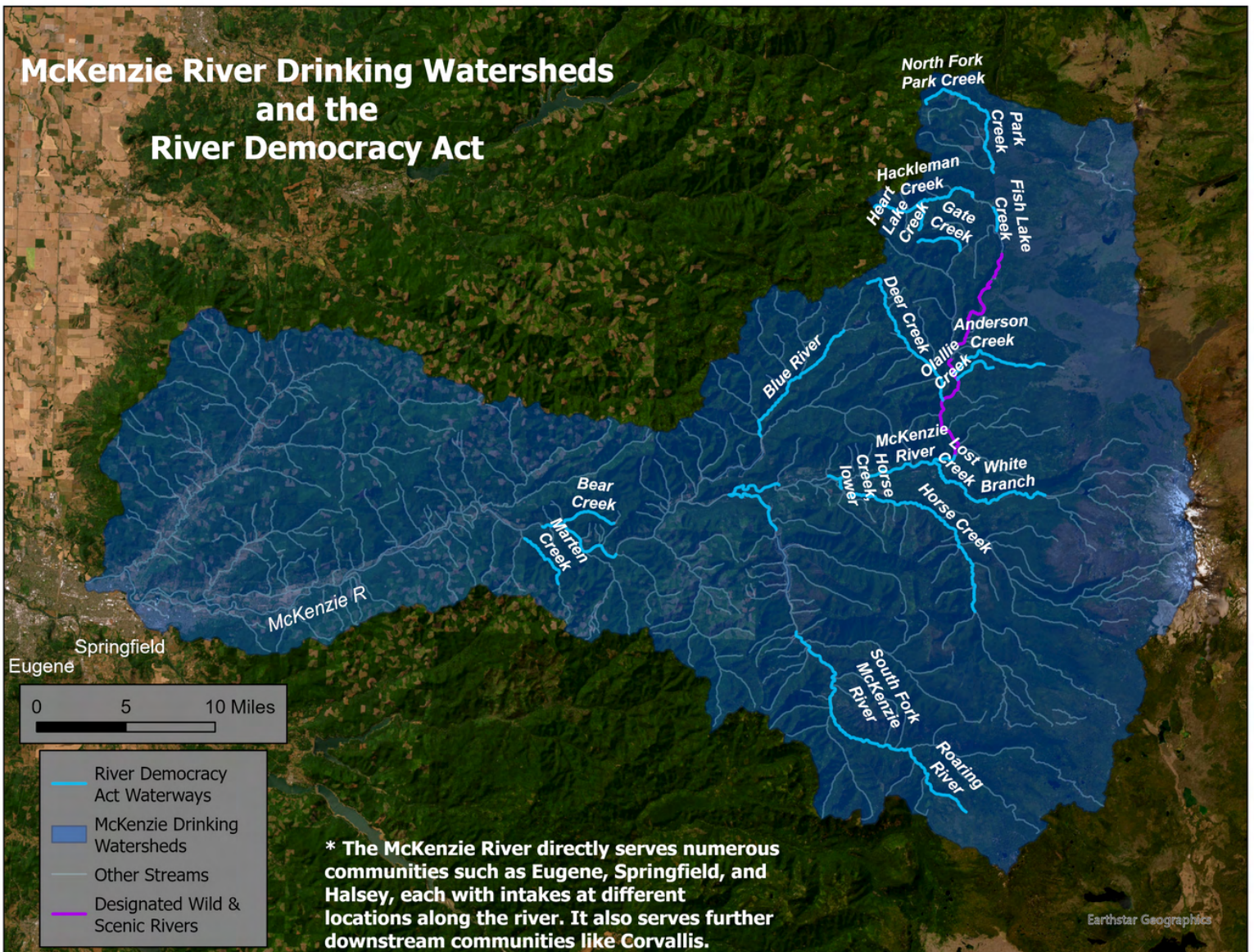
Wild & Scenic designation can also make it easier to secure highly competitive state and federal funding dollars for restoration projects. This funding can be used for in-stream, riparian, and forest restoration projects that help restore a watershed's ability to absorb, store, and filter clean drinking water.



Many of the streams included in the River Democracy Act are sources of drinking water for communities across Oregon. *The drinking watersheds with intakes along the lower Columbia skewed the maps and are thus not shown. This includes the towns of Rainier and Clatskanie. Source: Oregon Wild

McKenzie River Watershed - 211,000 Oregonians

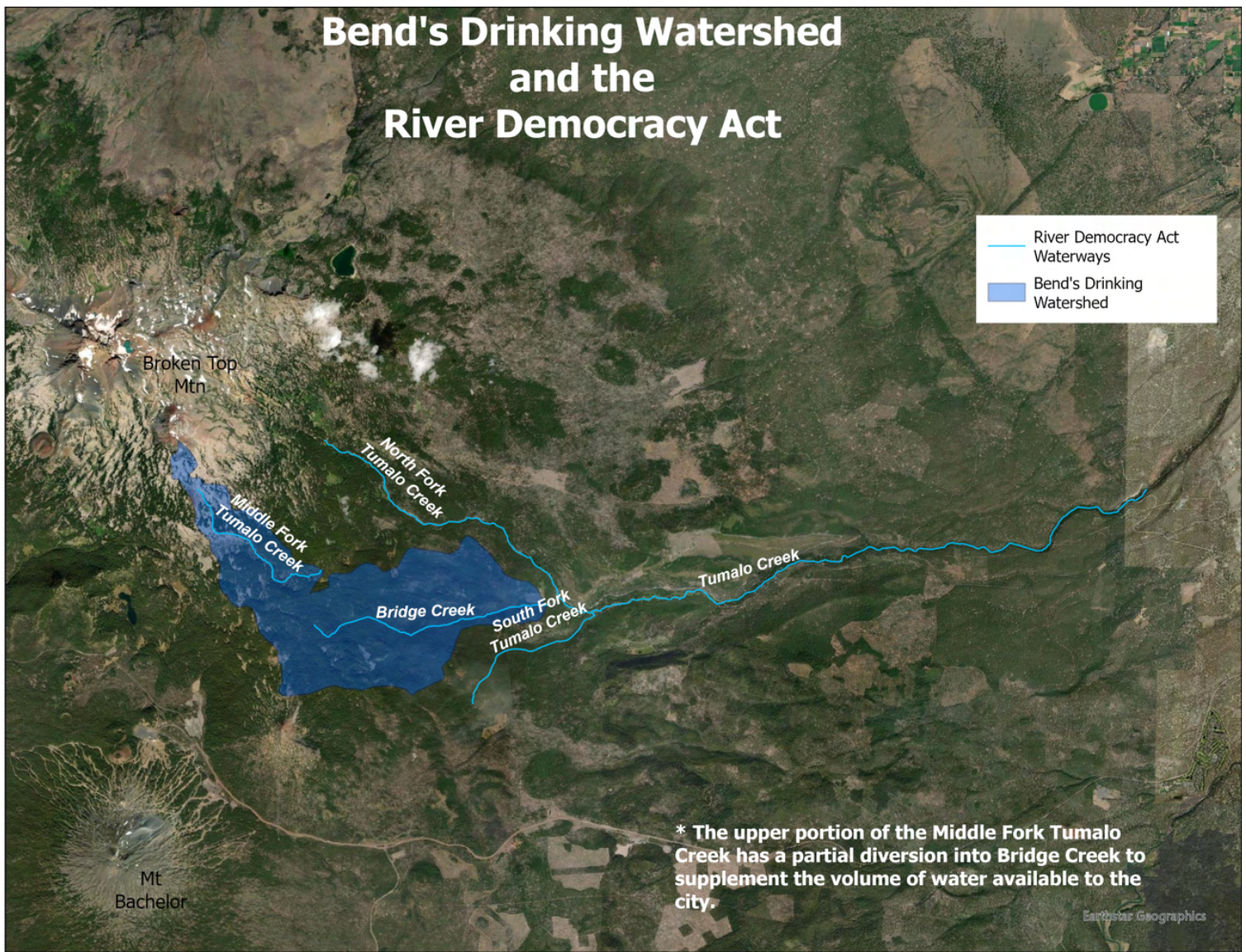
The McKenzie River provides clean drinking water to 211,000 Oregonians in the communities of Eugene, Springfield, Halsey, and Deerhorn. While portions of the mainstem McKenzie have been designated as Wild & Scenic for many years, other sections have not. Numerous substantial tributary streams feed the mainstem McKenzie, many of which are included in the legislation. The River Democracy Act would protect 108 miles of waterways in the McKenzie watershed, including sections of the mainstem and tributaries like the South Fork McKenzie River, Hackleman Creek, Olallie Creek, and Marten Creek. The McKenzie is also a popular recreational destination for everything from camping to rafting to mountain biking, hiking, fishing, and hunting.



Source: Oregon Wild

Tumalo Creek Watershed - 103,000 Oregonians

The Bridge Creek tributary to the well-known Tumalo Creek provides clean drinking water to 103,000 Oregonians in the city of Bend. Water is in high demand and short supply on the drier side of the Cascade Mountains, making this watershed key to the region and the fast-growing community of Bend. The River Democracy Act includes Tumalo Creek, Bridge Creek, and several other key forks of Tumalo Creek.

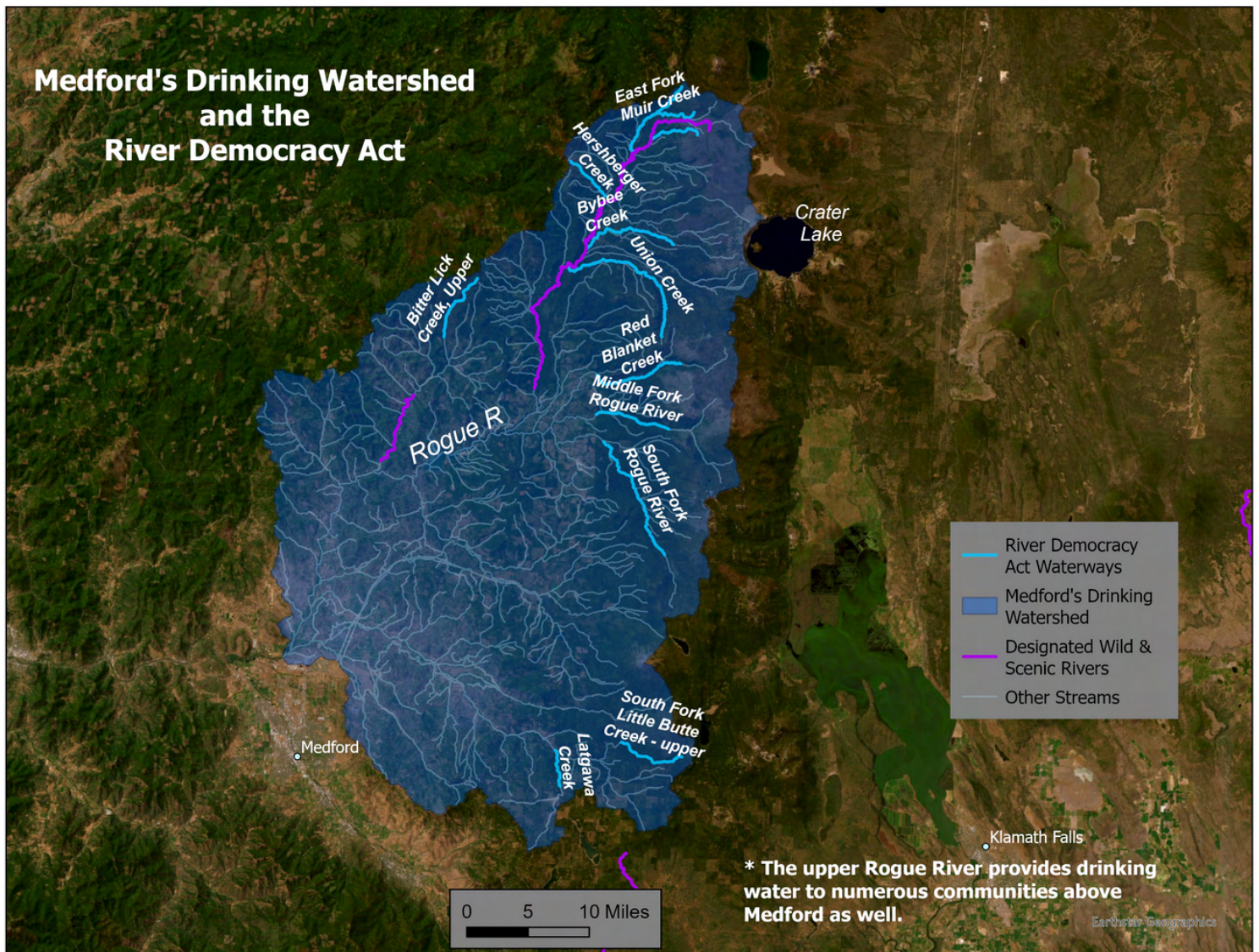


Source: Oregon Wild

Rogue River Watershed - 140,000 Oregonians

Medford, southern Oregon's largest city, and several other communities rely on drinking water from Big Butte Springs, coming off the volcanic slopes of Mt. McLoughlin. During water usage peaks in the summer, the Medford Water Commission utilizes the Rogue River to supplement water supplies to serve 140,000 Oregonians. The communities of Gold Hill, Grants Pass, Gold Beach, Cave Junction, and Shady Cove also source their drinking water from the Rogue River watershed (not shown on map).

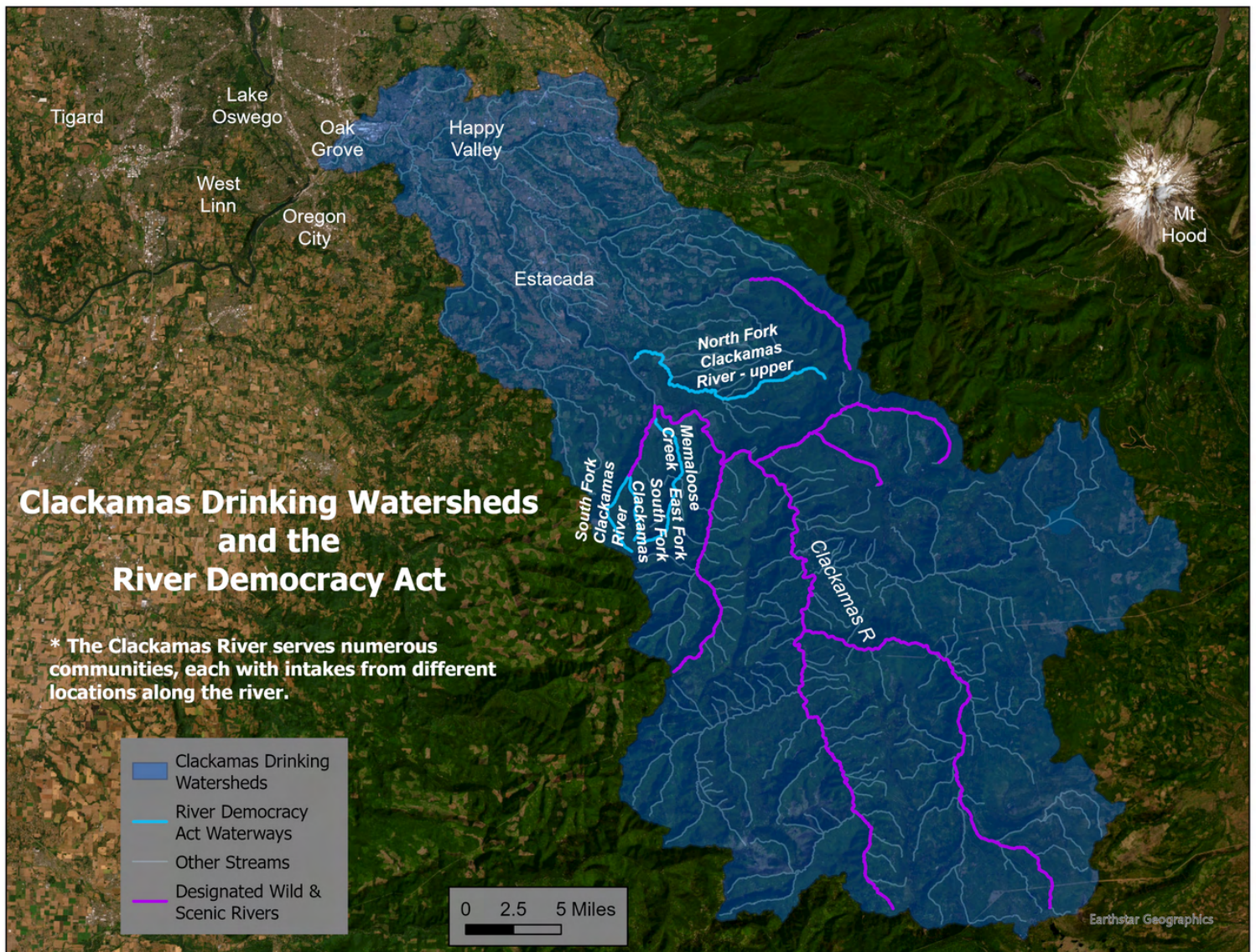
Portions of the Rogue River were included in the original 1968 Wild & Scenic Rivers Act. However, other key stretches of the river, and most of its tributaries, still lack safeguards. The River Democracy Act also includes key tributaries to the Illinois and Applegate Rivers, which feed into the Rogue. The South Fork Rogue River, which joins the mainstem above Medford's water intake system on the Rogue, is also included in the latest version of the River Democracy Act.



Source: Oregon Wild

Clackamas River Watershed - 317,000 Oregonians

Numerous communities source their drinking water from the Clackamas River. This includes Lake Oswego, Oregon City, West Linn, Estacada, and Milwaukie. In total, the Clackamas watershed provides drinking water to 317,000 Oregonians. While portions of the mainstem Clackamas River have long been protected as Wild & Scenic, many tributaries still lack safeguards. Key tributaries like the North and South Fork Clackamas River, as well as Memaloose Creek are included in the River Democracy Act.



Source: Oregon Wild

Beaver Creek - 13,500 Oregonians

Beaver Creek in the Blue Mountains of eastern Oregon serves as the emergency and backup water supply for 13,500 Oregonians in the community of La Grande. The watershed in the past was used as a primary source for drinking water. Given drought and climate change, it seems likely this water source will continue to be important for the community long term.



Source: Oregon Wild

Findings

Oregon total population: 4,200,000

Population receiving drinking water from surface water sources: 2,989,483

Population receiving drinking water from River Democracy Act connected streams: 1,315,000



South Fork Rogue River. Photo: Pricilla Macy

Communities benefiting from the River Democracy Act protection of their drinking water supply*:

Albany	Halsey	Prairie City
Amity	Happy Valley	Rainier
Beaver	Harbor	Richland
Bend	Hermiston	Rogue River
Brookings	Idleyld	Roseburg
Cave Junction	Jefferson	Salem
Cottage Grove	Jennings Lodge	Shady Cove
Country View Mtn Home Estates	La Grande	Sheridan
Creswell	Lake Oswego	Siletz
Damascus	Lebanon	Springfield
Deerhorn	Lincoln City	Stayton
Detroit	Lowell	Sweet Home
Eagle Point	Lyons	The Dalles
Elkton	Medford	Tigard
Estacada	Milwaukie	Toledo
Eugene	Molalla	West Linn
Gates	Monmouth	Willamina
Gladstone	Newport	Wilsonville
Gleneden Beach	Oak Grove	Yachats
Glide	Ontario	
Gold Beach	Oregon City	
Gold Hill	Pendleton	
Grants Pass	Powers	

**This includes communities of 30 or more residents. We suspect the DEQ municipal drinking water data that was used as a source for this analysis may have omitted some smaller communities. If you see any communities not listed that should be please communicate that to Erik @ Oregon Wild ef@oregonwild.org. Some communities have a River Democracy Act stream in close proximity to their water source intake, others may be further away in the headwaters.*

**This mapping analysis was done using Department of Environmental Quality GIS data for surface drinking water. DEQ did not map surface drinking watersheds on Tribal lands in Oregon.*
