

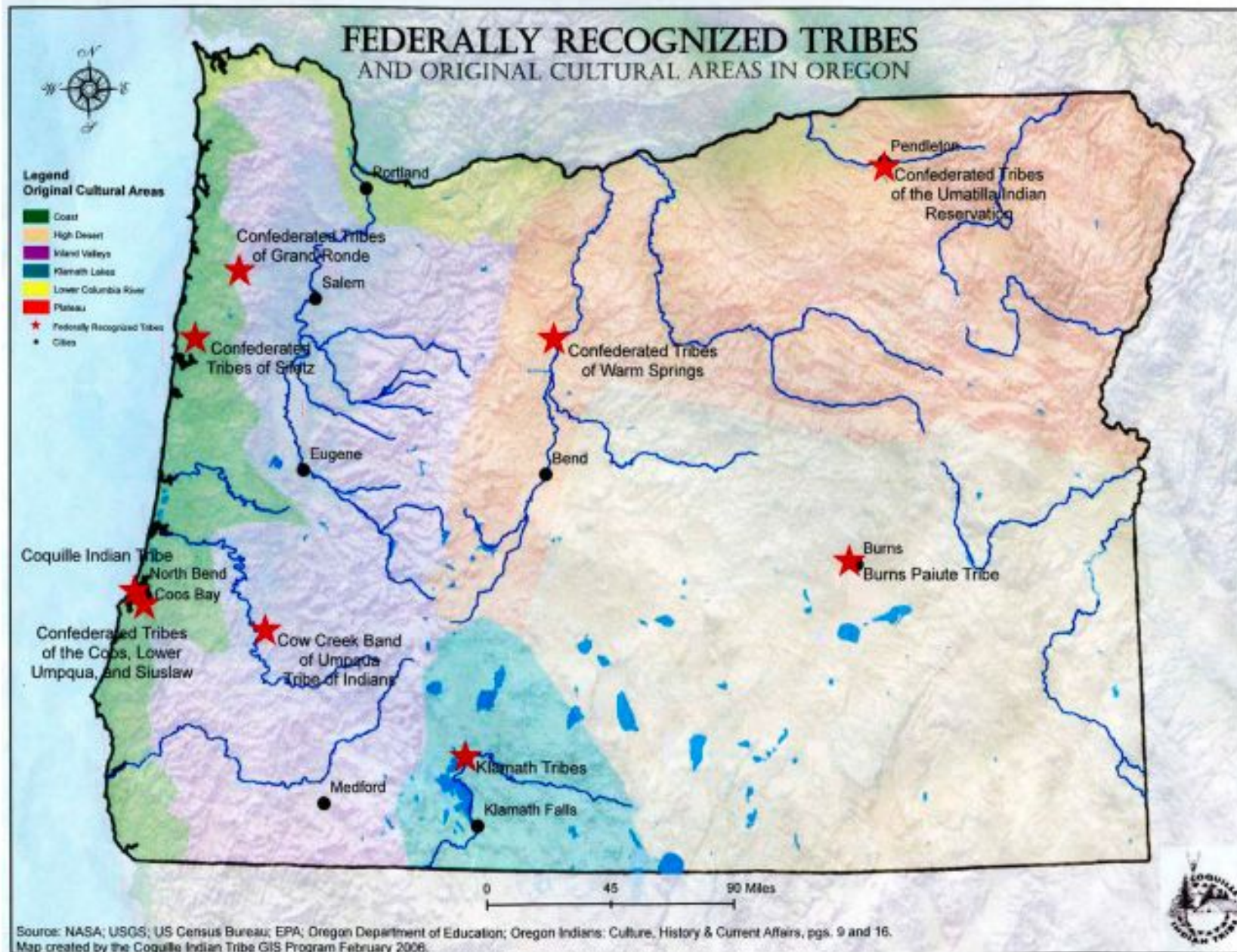
Who is the Voice of Water? What Would the Water Say?

JOIN THE CONVERSATION FOR CLEAN RIVERS

Clean Rivers Coalition

Keri Morin Handaly, Steering Committee

**Johnson Creek Watershed
Council Science Symposium
October 20, 2020**



Steering Committee Members

Alix Danielsen, Hood River Watershed Group

Deborah Topp, City of Salem

Frances Oyung, Rogue Valley Sewer Services

Kaileigh Westermann-Lewis, City of Keizer

Kathryn Rifenburg, City of Albany

Kathy Eva, City of Eugene

Keri Morin Handaly, City of Gresham

Lara Christensen, Oak Lodge Water Services

Nate Woodward, Ecologist

Roy Iwai, Multnomah County

Contact us at cleanriverscoalition.com

Goal 1: Be the Voice of Water



Goal 2: Connect people to their rivers

74%
state they feel
very/somewhat
connected
to their rivers



Goal 3: Connect people's behavior to their rivers

87%
agree that
individuals have
a role in water
protections
behaviors

**“My
actions
have an
impact”**

Goal 5: Move from Awareness to Behavior Change

“I make deliberate choices for the health of my local water”

Goal 6: Fewer toxics in our rivers

Neonicotinoids:
a risk for bees and other animals

The infographic features a central yellow triangular warning sign with a black border. Inside the triangle is a yellow tractor with a corn cob on its back. Below the triangle, the text reads "THIAMETHOXAM, CLOTHIANIDIN AND IMIDACLOPRID". Surrounding the central sign are five colored circular segments, each containing an illustration of a different animal and a label: a yellow segment with two bees and the text "Honey bees, bumblebees and wild bees"; a blue segment with a dragonfly and the text "Water invertebrates"; a green segment with a bird and the text "Birds and bats"; an orange segment with a butterfly and the text "Butterflies and moths"; and a light blue segment with a worm and the text "Land invertebrates".

Honey bees, bumblebees and wild bees

Water invertebrates

Birds and bats

Butterflies and moths

Land invertebrates

THIAMETHOXAM, CLOTHIANIDIN AND IMIDACLOPRID

A hand is shown holding a white spray bottle with a purple nozzle, spraying a dog's head. The dog is lying on the grass. A white sign with the words "WEED KILLER" is partially visible in the foreground.

Guarde el herbicida

No cause daño al lugar donde come, bebe y juega.

Los residentes de Marin son inteligentes - lo suficientemente inteligentes como para usar productos químicos tóxicos no son buenos para nuestros perros y jardines. Los plaguicidas pueden ser perjudiciales para las personas, los animales, los pájaros, los insectos beneficiosos y opciones más seguras que controlan las malezas sin causar daño.

SmartMarin

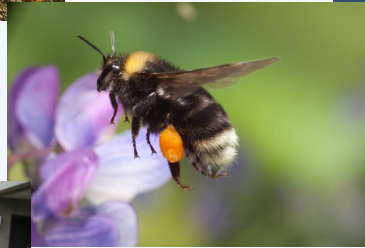
Oregon Pollutant Toxicity Ranking Database: (on NODE)

- ❖ Science Lit Review (100+ papers)
- ❖ DEQ/EPA/OHA Priority Chemicals
- ❖ Data Categories

- ❖ Fish



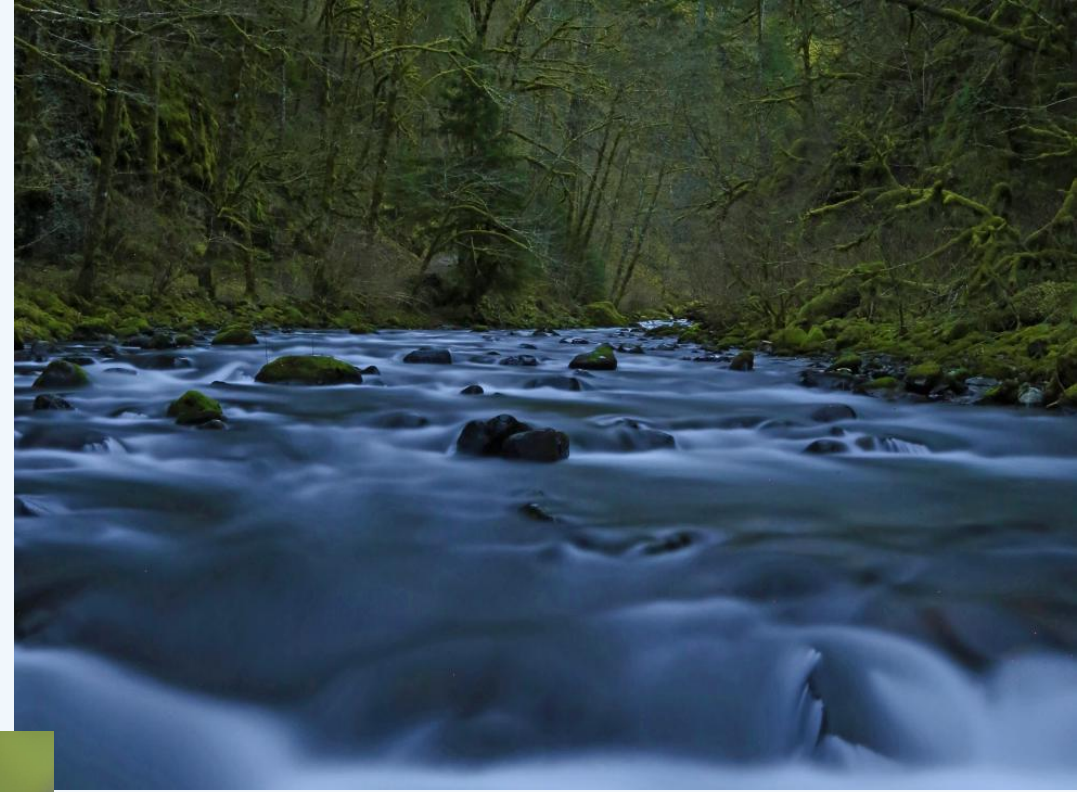
- ❖ Insects



- ❖ Humans



- ❖ (Carcinogens, Endocrine, Reproductive, Mutagen, Bioaccumulative)



Oregon Conservation Strategy

Data Primary Sources

- National Pesticide Information Center (NPIC)
- Open Chemistry Database (PubChem)
- EPA Ecotox
- CDC National Biomonitoring Program
- IRIS –US EPA
- TOXNET & EXTOXNET
- Bee Toxicity List (MN Dept of Ag, Xerces, EPA, PNW Extension, NC Dept of Ag)
- ATSDR
- TEDX Endocrine Disruptor Exchange

Ranking System: no data (-) 0, 1, 2

- Chemicals with more (-) may overestimate their risk
 - A goal of the project was to identify data gaps

Animal Toxicity	Human Toxicity	KOC/Solubility = Surf Water Risk
0 = practically non-toxic 1 = moderately toxic 2 = acutely toxic - = no data	- = Not classifiable 0 = Prob NOT 1 = Possible 1.5 = Probable 2 = Known	0 = not mobile/soluble 1 = moderate mobile/sol 1.5 = mobile 2 = very mobile/soluble - = no data

Scoring (example)

POC	Human Average	Animal Average	Surface Water	Overall Avg	Normalized Score
DDT, DDE, DDD, (DDX)	Carc (1.5) Mut (2) Endo (-) Repro (1) Dev (1) (Bioacc) (2) 1.3	Fish (2) Insect (2) 2.0	KOC (2) Solub (0) 1.0	 1.5	(Overall/Max (SumOverall))*10 9

Oregon Water Sampling Results Included

Pesticide Stewardship Partnership data (2012-2017)

Carpenter, K. D., Kuivila, K. M. (2016)

Storm-event-transport of urban-use pesticides to streams likely impairs invertebrate assemblages.

Enviro Monit Assess 188:345

Carpenter, K. D., Sobieszczyk, S., Arnsberg, A. J., &

Rinella, F. A. (2008). ***Pesticide occurrence and distribution in the lower Clackamas River basin, Oregon, 2000-2005.*** U.S. Geological Survey.

Carpenter, K. D., & McGhee, G. (2009). ***Organic Compounds in***

Clackamas River Water Used for Public Supply Near Portland, Oregon, 2003-05. US Department of the Interior, US Geological Survey.

Oregon Department of Environmental Quality. (2015). **Statewide Water Quality Toxics**

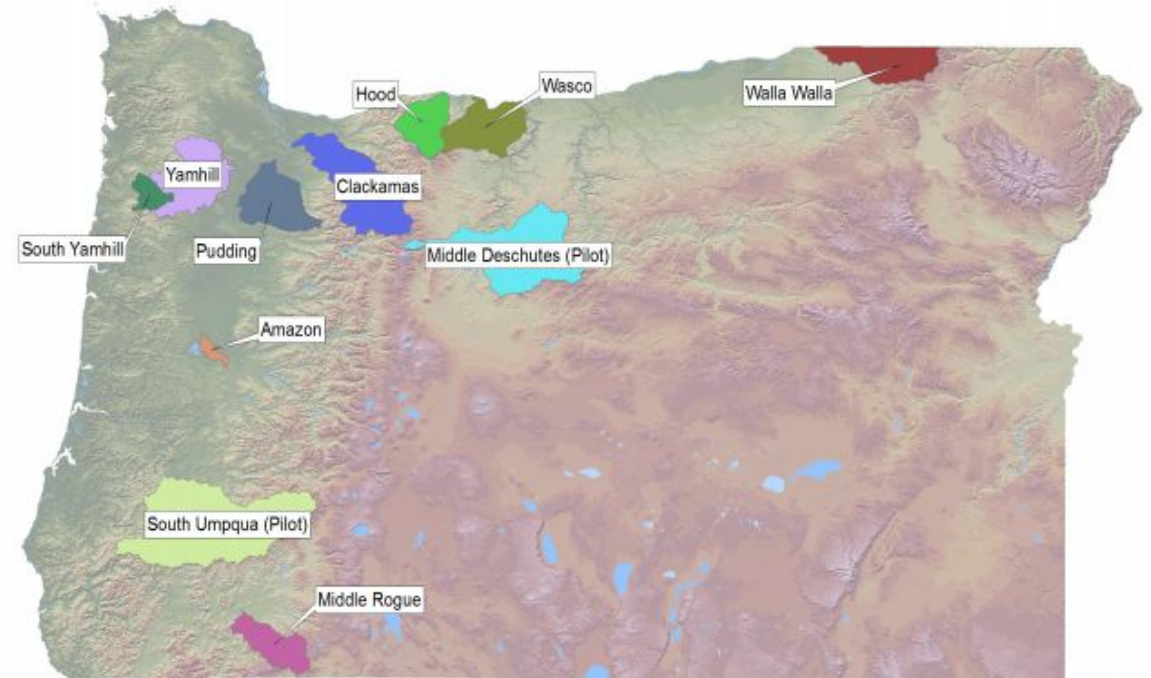
Assessment Report. Retrieved from <http://www.oregon.gov/deq/filterdocs/WQToxicsAssessmentReport.pdf>

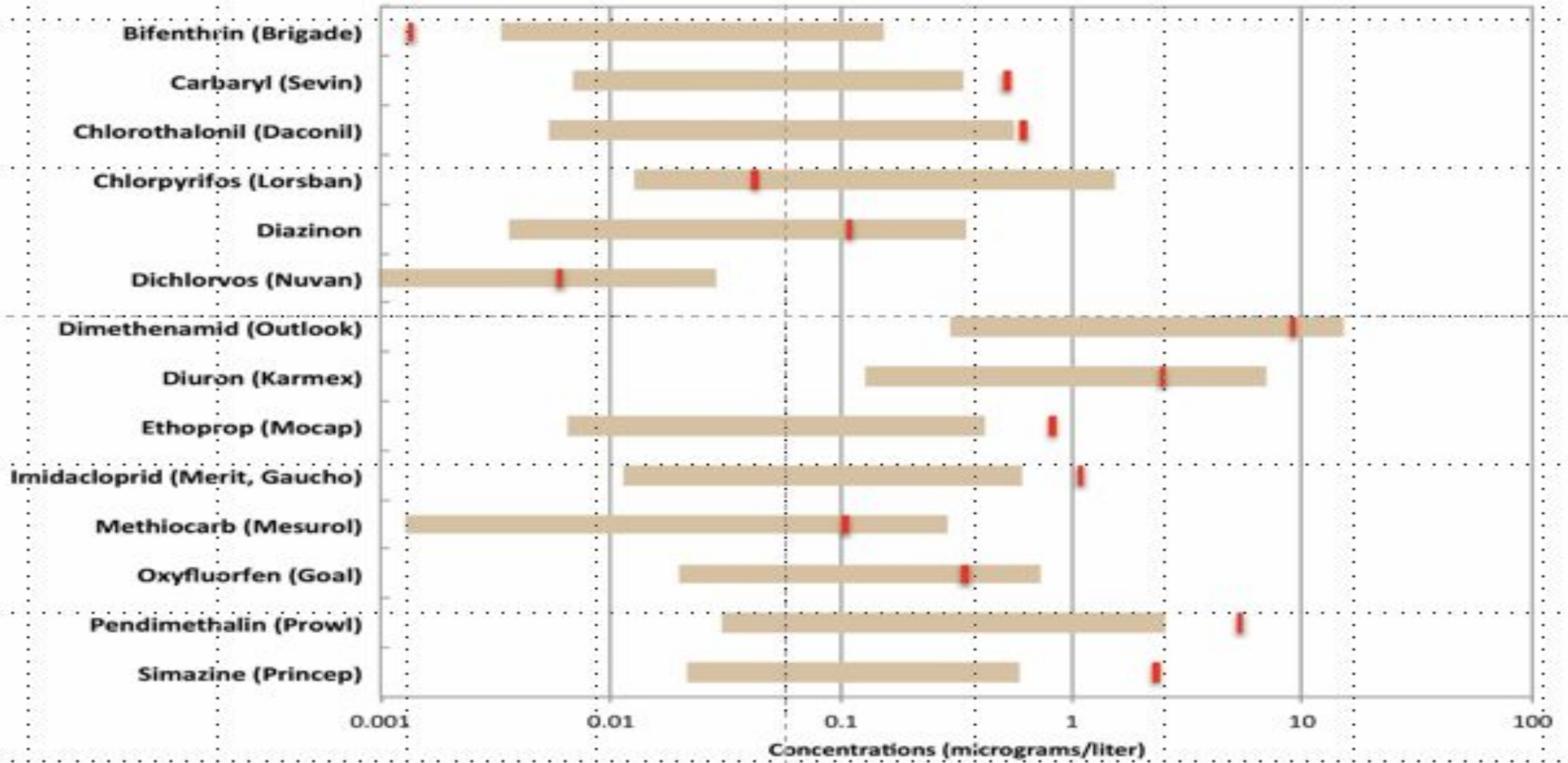
Stewart, S. Oregon Department of Environmental Quality. (2012). **Drinking Water Source Monitoring Project Phase I and Phase II**

(2008-2010). Retrieved from <https://www.oregon.gov/deq/FilterDocs/dwpSourceMonPhase1-2Rpt.pdf>

Temple, W. B., & Johnson, H. M. (2011). **Occurrence and distribution of pesticides in surface waters of the Hood River basin, Oregon, 1999-2009.** U. S. Geological Survey.

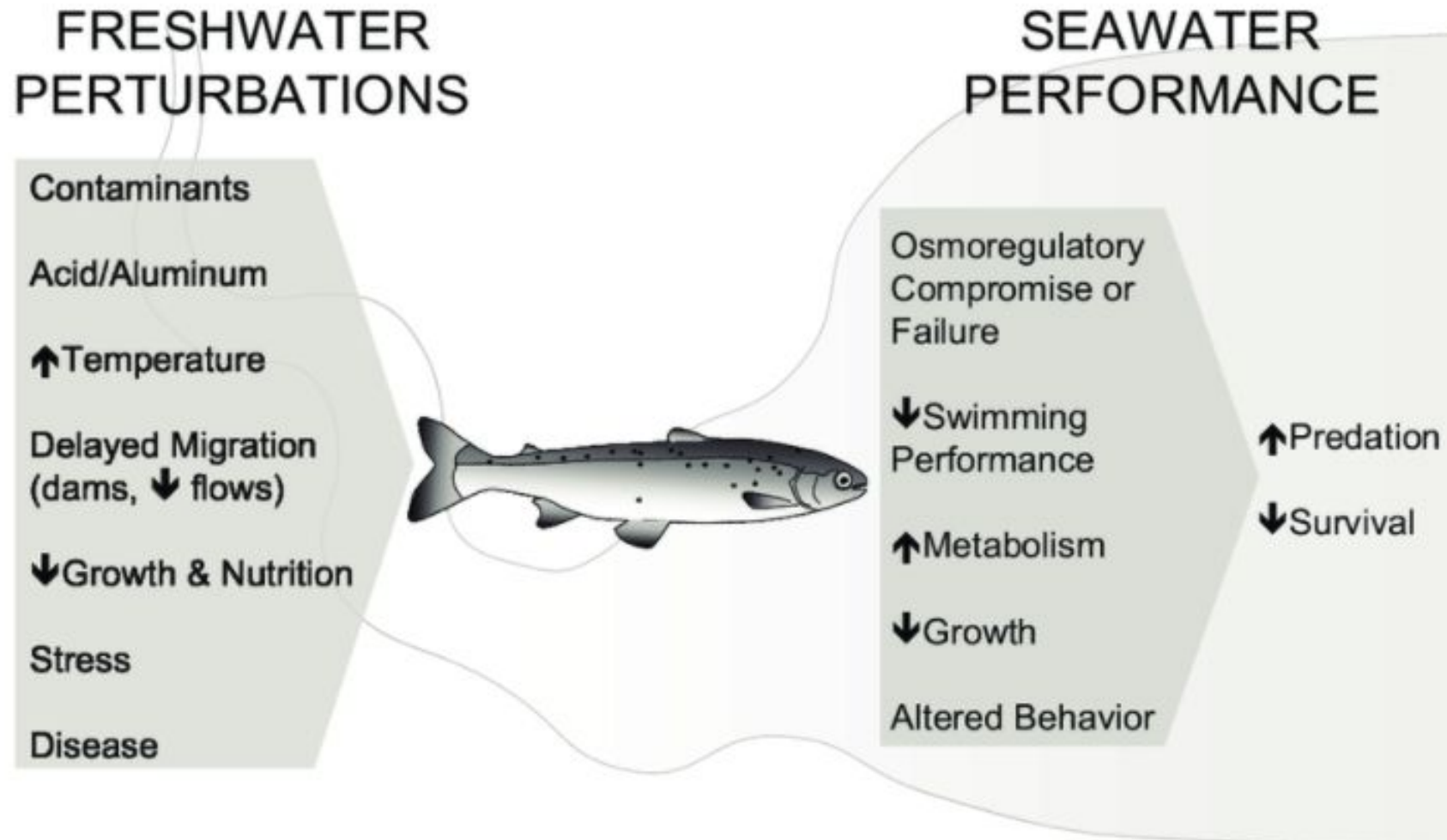
FIGURE 1: CURRENTLY PARTICIPATING PSP WATERSHEDS AND PILOT AREAS (2015-17)





Mean to Max Concentration Compared to Aquatic Life Benchmarks (2010-2015), detected within Clackamas subbasin streams, N=287 (Pesticide Stewardship Partnership)

Sublethal Impacts to Salmon are being Documented



Source: Stephan McCormick & Darren Lerner, "Taking it with You When You Go: How Perturbations to the Freshwater Environment, Including Temperature, Dams and Contaminants, Affect Marine Survival of Salmon" American Fisheries Society, January 2009. researchgate.net

Name	Use	Score	Fish Risk	DEQ Focus	Consumer Shelf	Detections <2% low >2%<5% Med >5% High **Over ALB
Propiconazole	fungicide	8.4	High	N	Y	Low (water only)
Fipronil	ants, fleas, ticks	8.0	High	N	Y	High** (water only)
Mecoprop (MCP)	weed and feed	8.0	Med	N	Y	None (no human benchmarks)
Malathion	fly, flea, tick, ants	8.0	Med	Y	Y	Med** (water only, no human benchmarks)
Triclopyr	ivy, blackberry	7.5	High	N	Y	Low**
Carbaryl	snails, mosquitos	7.5	High	Y	Y	Low (water only)
Pentachlorophenol	telephone poles	7.3	High	Y	N	Med (groundwater concernalso)
Imidacloprid+	fleas, termites	7.3	High	N	Y	Low
Diazinon	insects in soil	6.6	Med	Y	N	Low** (no human benchmark)
Permethrin	fleas, ticks, flies	6.0	High	Y	Yes	Not sampled

+NOTE: Not all compounds found in wq sampling have aquatic life benchmarks

Name	Use	Score	DEQ Focus	Fish Risk	Consumer Shelf	Detections
glyphosate	broadleaf weeds	5.7	Y	Med	Y	High (no human benchmark)
bifenthrin	fire ants, wasps	5.5	N	High	Y	High** (sediment/water)
chlorpyrifos	fire ants, termites	5.2	Y	High	N	Low**
DEET	insect repellent	5.0	Y	Med	Y	Low (no human benchmark)
Atrazine	pre-emergent	5.0	Y	Med	N	High (degradate detected in drinking water, no human benchmark)
2,4-d	weed and feed	5.0	Y	High	Y	Med** (detected in drinking water also, no human benchmark)

+NOTE: Not all compounds found in wq sampling have benchmarks

Campaign for Water

A way to connect people to their local waterways so they love, understand, and take action to protect them

A showcase of real individual impact stories: show people it can be done

A united message reflecting our individual geography & values

Support and tools for existing regional efforts

A MULTI-YEAR PLAN



**Connect
personal
actions to the
health of our
water**

**COMMUNICATION
GOALS**

**Motivate
behavior
change actions
amongst key
audiences**



COMMUNICATION TYPES TO OCCUR THROUGH 2023

PAID COMMUNICATIONS

- TV, Print, Radio, & Digital-social media placements that are geotargeted

OWNED COMMUNICATIONS

- Community ambassadors - watershed councils and SWCDs; social & print media

EARNED COMMUNICATIONS

- Earned press with local media
- Supportive messaging from external partners

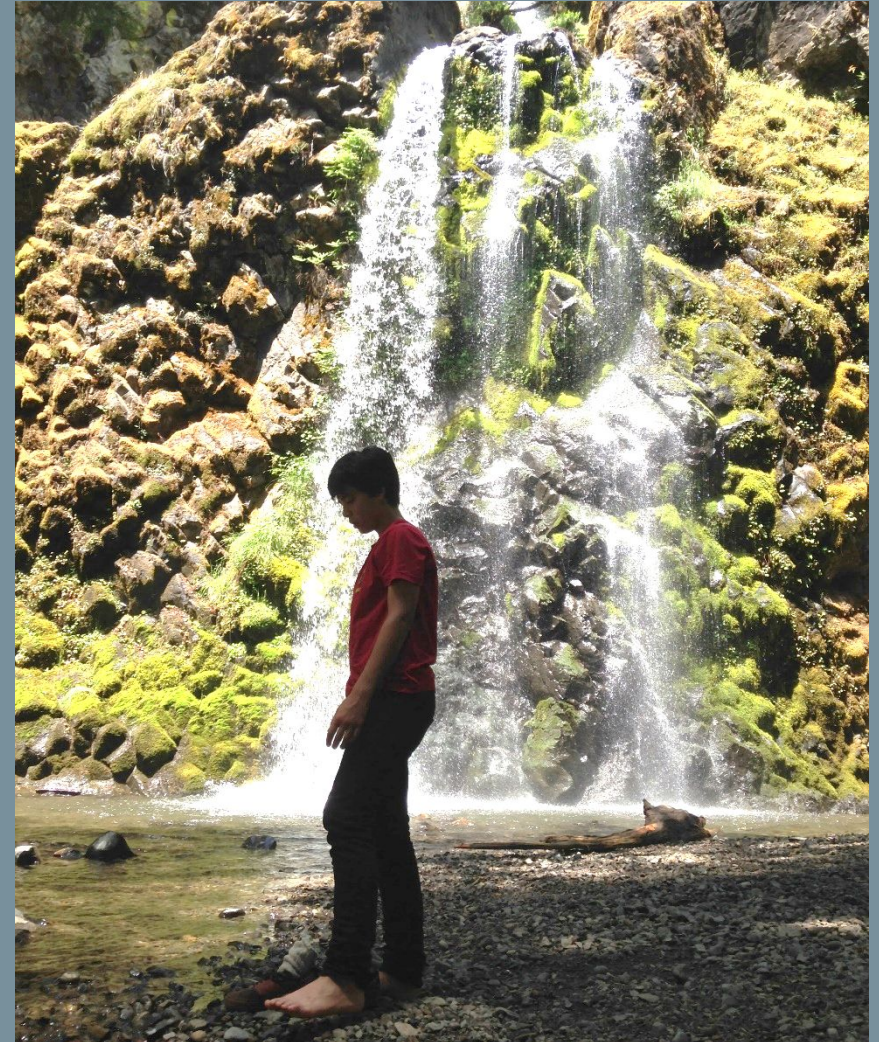
Can you partner with us to reach our audiences?

YOU:

- City and county government
- Watershed organizations
- Soil and Water Conservation Districts
- Nonprofit organizations
- Parks and recreation
- Universities & colleges
- Water science & land management agencies

AUDIENCES:

- Oregonians & Southwest Washingtonians
- Residential pesticide users



Clean Rivers Coalition awarded just under \$200K for 2020-2022



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News Releases

News Releases from Region 08

EPA awards \$2 million in grants to reduce toxics throughout Columbia River Basin

09/16/2020

Grant Outcomes

Clean Rivers Coalition forum December 4th, 2020 to reconvene, discuss branding and marketing

Latinx community workshops and focus groups to better understand the knowledge, values, and behaviors around pesticides and inform outreach.

Pesticide behavior videos in English and Spanish.

Columbia River Basin video(s) to provide the big picture of why pesticides and toxics reduction is important.

Digital ad buys for year one of the campaign.

Save the Date: January 6, 7, 8th 2021 CBSM Workshop



Doug McKenzie-Mohr, Ph.D.
FOUNDER, COMMUNITY-BASED SOCIAL MARKETING



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"Amazing!" - Wellington, New Zealand

Attend a Workshop

Immersive training that will fundamentally change how you think about program delivery.

Host a Workshop

Schedule an internal workshop and dramatically alter the quality of programs your agency delivers.



**ADOPTION OF CLEAN WATER
ACTIONS
WON'T HAPPEN OVERNIGHT**



Please, join us!

We have the energy and resources and are in it for the long haul. Let's make our collective impact more than what we do alone.

Cleanriverscoalition.com



Check out our 2020-2021 Metro Area Student Video Contest!

THE RIVER STARTS HERE.ORG



FOLLOW THE RIVER STARTS HERE

THE REGIONAL COALITION FOR CLEAN RIVERS AND STREAMS

