



AFTER THE BLACK:



Experiences in Post-Fire Invasive Plant Management

4-County CWMA Pull Together, 2024

INTRODUCTIONS

2



Samuel Leining, Clackamas SWCD WeedWise Manager;

Justin Cooley, Clackamas SWCD WeedWise Specialist;

Monte Mattsson, Clackamas SWCD WeedWise Specialist;

Chris Aldassy-East Multnomah SWCD Senior Resource Conservationist

OUR EXPERIENCES



Year 0 & 1 Response:

Pre-Fire, Aftermath, Planning, and Resources



Year 1 & 2 Response:

Challenges, Successes, Lessons Learned



Year 3 & 4 Response:

A Fresh Perspective, Challenges, Successes, Lessons Learned



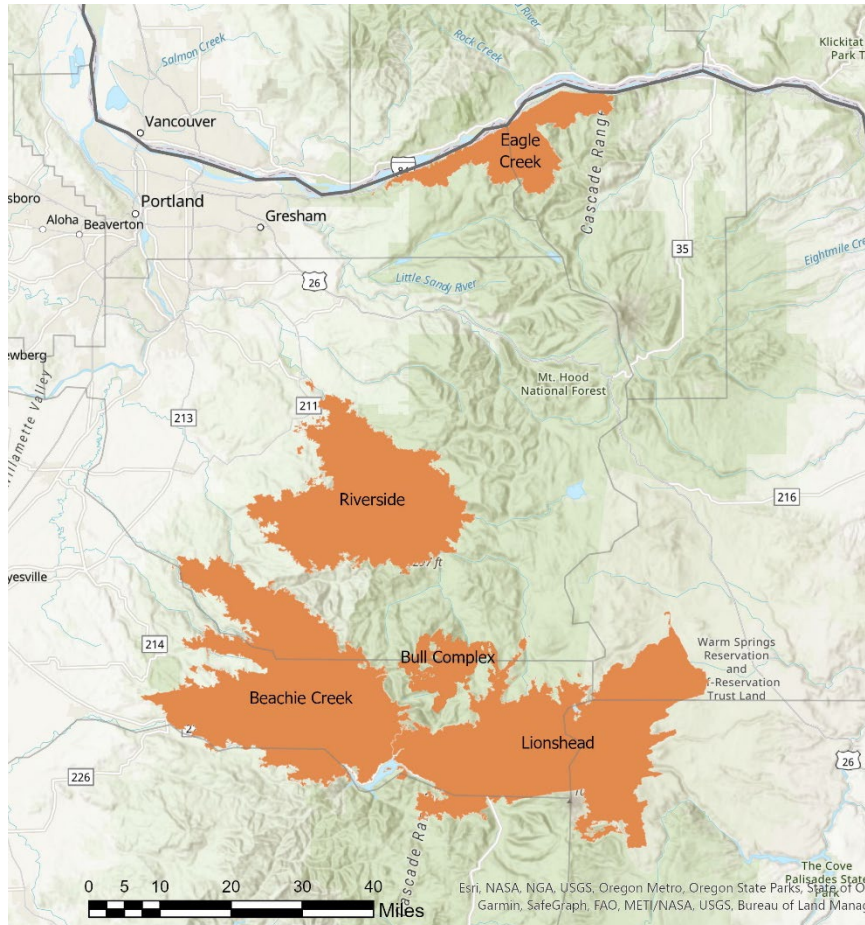
Year 5 and Beyond:

Lessons Learned, Long Term Goals, Trends

FIRES WE WILL DISCUSS



4



- Eagle Creek
 - ▣ Sept 2017
- Beachie Creek - Lionshead
 - ▣ Aug 2020
- Riverside
 - ▣ Sept 2020
- Bull Complex
 - ▣ Sept 2021
- Among others!

EAGLE CREEK



5



Photo source: US Forest Service

WHY EAGLE CREEK STANDS OUT



6

- Friends and colleagues were directly impacted
- This is one of the most iconic landscapes in North America!
- It impacted the Columbia Gorge CWMA
- Burning 48,000 acres, this is the first large-scale fire to impact our region in recent memory



Photo source: Rick Stratton, US Forest Service (9-23-2017)

3 YEARS LATER: LABOR DAY FIRES



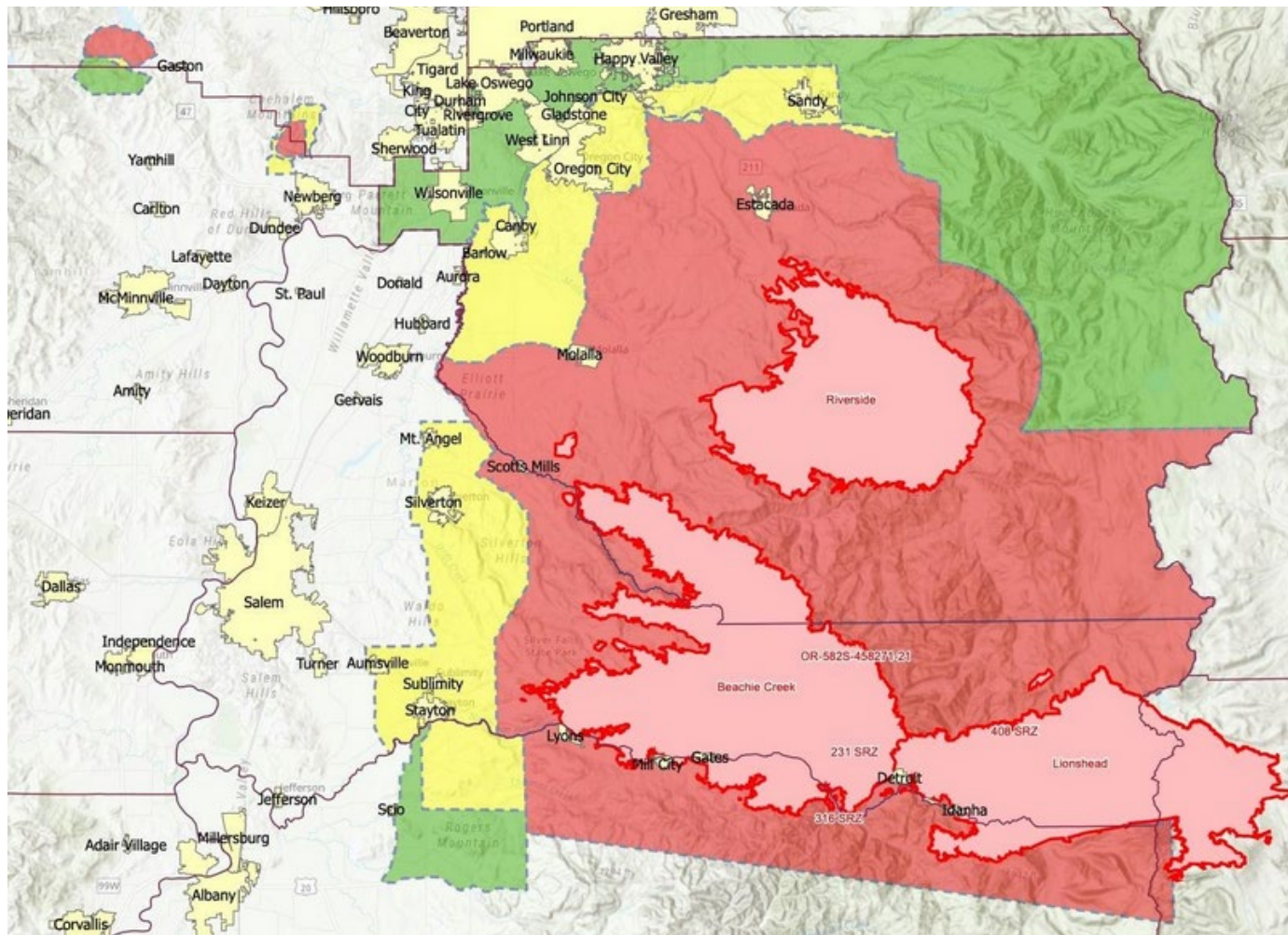
7



Photo source: US Forest Service

- The morning talk was all about the wind.
- I was working on a funding request with USFS staff, when they tell me about the Riverside fire on the Mt Hood NF.
- Meanwhile, the Beachie Creek fire that had been burning since August has also taken off in response to the high winds.
- Several smaller fires also raging across the county (Unger, Wilhoit, Dowty, and Lumber Mill fires, among others)
- Throughout the day the Riverside had spread 17 miles.
- The Beachie Creek fires had grown from 200 to 130,000 acres.
- By Day 2, all of Clackamas is under an evacuation order.

AREA EVACUATIONS



Source: US Forest Service Beachie Creek Story Map (<https://arcg.is/80HiL>)

DAY 3: THE WINDS EASE...



9



Photo source: Samuel Leininger

POST-FIRE AFTERMATH

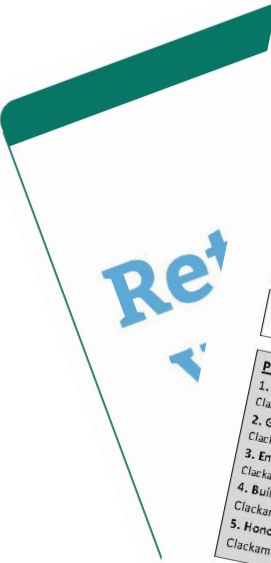


- The Riverside burned 138,054 acres in Clackamas County
- The Beachie Creek burned 193,573 acres and merged with the Lionshead that burned 204,469 acres to the east.
- In Clackamas County, 62 homes and 215 structures were lost.
- Most impacted areas in Clackamas County were largely national forest or commercial forestry.
- Even greater losses are felt elsewhere



Photo source: Samuel Leiningner, Clackamas SWCD

A FLOOD OF SUPPORT



CLACKAMAS COUNTY DISASTER MANAGEMENT	
Incident Name:	Clackamas Wildfires
Reporting Date:	November 5, 2020
EOC IC:	Nancy Bush
EOC Location:	DSB 115
Date/Time Posted:	November 5, 2020 0900 hrs
Updates: Bold & Blue	

Clackamas County Recovery Goal:
Provide for smooth and complete restoration of co

Performance Clackamas 2020 Strategic Priorities

- 1. Build Public Trust through Good Government**
Clackamas County will design and deliver services that mal
- 2. Grow a Vibrant Economy**
Clackamas County promotes the future prosperity of count
- 3. Ensure Safe, Healthy, and Secure Communities**
Clackamas County focuses on the well-being of all our familie
- 4. Build a Strong Infrastructure**
Clackamas County ensures long-term investments in infr
- 5. Honor, Utilize, Promote and Invest in our Natural Res**
Clackamas County cares about the abundant resources in

Damage summary:

Estimated properties with wildfire damage: 110
Current non-congregate sheltering: 6 families

Recovery by the numbers for Clackamas County as of 10/28

- Household Assistance: **Registered 2**
Eligible 66
- Other Needs Assistance: **Eligible 118**
- Individual & Household Program: **Eligible 138**

FEMA Public Assistance – 9/25/2020 Initial Damage Assessment
11/5/2020

After

Post Wildfire Landowner Assis

Overview The Oregon Department of Forestry w
ODF helps landowners with reforesting

During the fire **Be safe, stay informed.** During large wi
typically, the firefighting team sets up i
The team's information officer will reg
provide updated information. This ma
public, media, and individual meeting
enforcement may also designate an it
contact person or place.

The fire is over when it is contained a
firefighters leave. Active wildfire infc
be found on the [ODF website](#).

After the fire **Contact the local ODF stewardship**
the [Find a Forester](#) tool. These fore
you find the resources and answer:
do after a wildfire impacts your lar

Stewardship foresters are professi
who provide technical help and m
guidance to forest landowners. TI
develop a restoration plan to ach

After a wildfire, most landowner
restoring their land. Here are ste

Assess damage. Smaller fires, b
brush and small trees, may not
restoration. More intense fires
larger trees and most vegetatio
soil may require restoring soil,

AFTER THE FIRE

Resources for Recovery

FINANCIAL ASSISTANCE AVAILABLE FOR WILDFIRE RECOVERY IN OREGON

USDA's Natural Resources Conservation Service (NRCS) has funding available to help farmers, ranchers and forest landowners recover from wildfire impacts on private agricultural lands affected by the recent wildfires in Marion, Clackamas, Linn, Lane, Douglas, Jackson, Tillamook, Washington, Yamhill, Lincoln and Josephine.

Eligible land includes forest, crop, range, pasture and associated agricultural land. Available conservation practices include:

- Conservation Cover
- Cover Crop
- Woody Residue Treatment
- Mulching

Learn more about NRCS Oregon's fire assistance sign-up in the west at: <https://go.usa.gov/xGGgT>.

Assistance may also be available through the **Environmental Quality Incentives Program (EQIP)**. This program provides financial and technical assistance to agricultural and forestry producers to address natural resource concerns and deliver environmental benefits, such as improved water and air quality, conserved ground and surface water, reduced soil erosion and sedimentation, and improved or created wildlife habitat. Contact your local field office to learn more.

Sign up online at farmers.gov

USDA is an equal opportunity provider, employer and lender.



APPLICATIONS DUE:
OCTOBER 30 AND
DECEMBER 30

Contact Your
Local Field Office
to Learn More

<https://go.usa.gov/xGAgz>

Find Us Online

www.or.nrcs.usda.gov



www.or.nrcs.usda.gov
Natural Resources Conservation Service

PEOPLE HELPING PEOPLE



12



Photo source: Samuel Leininger, Clackamas SWCD

RING...RING...



13



“Hey Sam, this is Sarah Callahan...I am leading a team...to do a post-fire assessment...for the state and private lands...much like the Forest Service would do... I am hoping you would take part in the Beachie and Riverside fires...”



14

POST-FIRE PLANNING



POST-FIRE PLANNING



15

- BAER: Burn Area Emergency Response
 - ▣ BAER planning efforts support post-fire recovery only on federal lands
 - ▣ BAER planning is a well-developed process, that follows a predictable and repeatable structure
- ETART: Erosion Threat Assessment & Reduction Team
 - ▣ A modified BAER planning effort for state and private lands
 - ▣ ETART planning had only been applied one time previously



Photo source: Lindsey Karr, Clackamas SWCD

BAER & ETART PLANNING



16

- These planning efforts are carried out to assess needs and to solicit resources
- BAER and ETART plans look at a diversity of concerns including
 - **Watershed Health:** soil burn severity, vegetation mortality, soil erosion, water repellent soils, hydrologic response
 - **Human Life, Safety, and Property:** hazard trees, debris flow, rock fall, landslides, flooding, floating debris, homes, structures, roads, etc
 - **Natural Resources:** soil and water, fish and wildlife habitat, etc
 - **Native Plant Communities:** botany, plant ecology, and weeds
 - **Cultural Resources:** archaeological sites, historic structures, and culturally important sites



Photo source: Samuel Leininger, Clackamas SWCD

ETART CREW



17

A Zoom meeting grid with 9 participants. The participants are arranged in a 3x3 grid. The top row contains Troy Abercrombie, Simon Apostol, and a participant whose name is partially visible as "Sa". The middle row contains Eugene Wier, a central photo of a person in a blue shirt and sunglasses kneeling in a field of yellow flowers, and Carri OR Dept Ag. The bottom row contains Sarah Callaghan, michelle, and Wyatt. Each video tile has a name label at the bottom left. The Wyatt tile is black with white text.

Troy Abercrombie

Simon Apostol

Eugene Wier

Carri OR Dept Ag

Sarah Callaghan

michelle

Wyatt

CORE ETART PLANNING



18

- Evaluate Critical Values:
 - ▣ *Human life and safety,*
 - ▣ *Property,*
 - ▣ *Natural Resources,*
 - ▣ *Cultural and Heritage Resources,*
 - ▣ *Economic Resources*
- Use Field Evaluations
- Use the BAER Model
 - ▣ Crucial Habitat Layer
 - ▣ Overlay weed data
 - ▣ Overlay disturbance and suppression activities
- Evaluate the Risks to your Critical Values
- Recommend a Response and Funding



Photo source: Lindsey Karr, Clackamas SWCD

THE CHALLENGES OF ETART



19

- It's a BAER model, without the necessary inputs:
 - ▣ Lack of familiarity with the process
 - ▣ Limited personnel, time, and capacity
 - ▣ Limited data and information, especially for private lands
 - ▣ Accelerated timelines



Photo source: Samuel Leininger, Clackamas SWCD

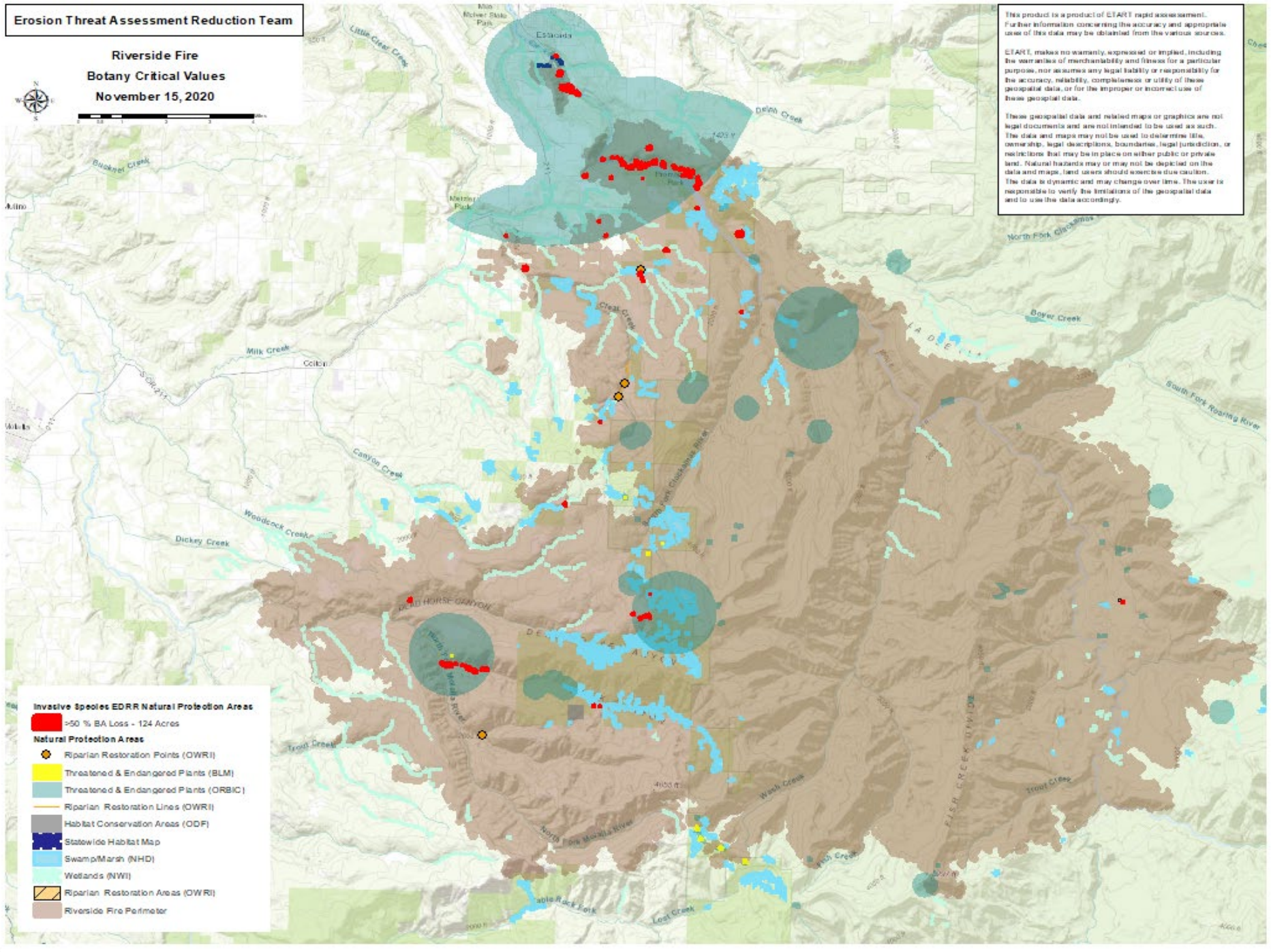
Riverside Fire
 Botany Critical Values
 November 15, 2020



This product is a product of ETART rapid assessment. Further information concerning the accuracy and appropriate use of the data may be obtained from the various sources.

ETART makes no warranty, expressed or implied, including the verifiability of merchantability and fitness for a particular purpose, nor assumes any legal liability or responsibility for the accuracy, reliability, completeness or utility of these geospatial data, or for the improper or incorrect use of these geospatial data.

These geospatial data and related maps or graphics are not legal documents and are not intended to be used as such. The data and maps may not be used to determine title, ownership, legal descriptions, boundaries, legal jurisdiction, or restrictions that may be in place on either public or private land. Natural hazards may or may not be depicted on the data and maps. Users should exercise due caution. The data is dynamic and may change over time. The user is responsible to verify the limitations of the geospatial data and to use the data accordingly.



- Invasive Species EDRR Natural Protection Areas
- ≥50 % BA Loss - 124 Acres
- Natural Protection Areas**
- Riparian Restoration Points (OWRI)
- Threatened & Endangered Plants (BLM)
- Threatened & Endangered Plants (ORBIC)
- Riparian Restoration Lines (OWRI)
- Habitat Conservation Areas (ODF)
- Statewide Habitat Map
- Swamp/Marsh (NHD)
- Wetlands (NWI)
- Riparian Restoration Areas (OWRI)
- Riverside Fire Perimeter

Erosion Threat Assessment Reduction Team

Riverside Fire Botany EDRR Treatments

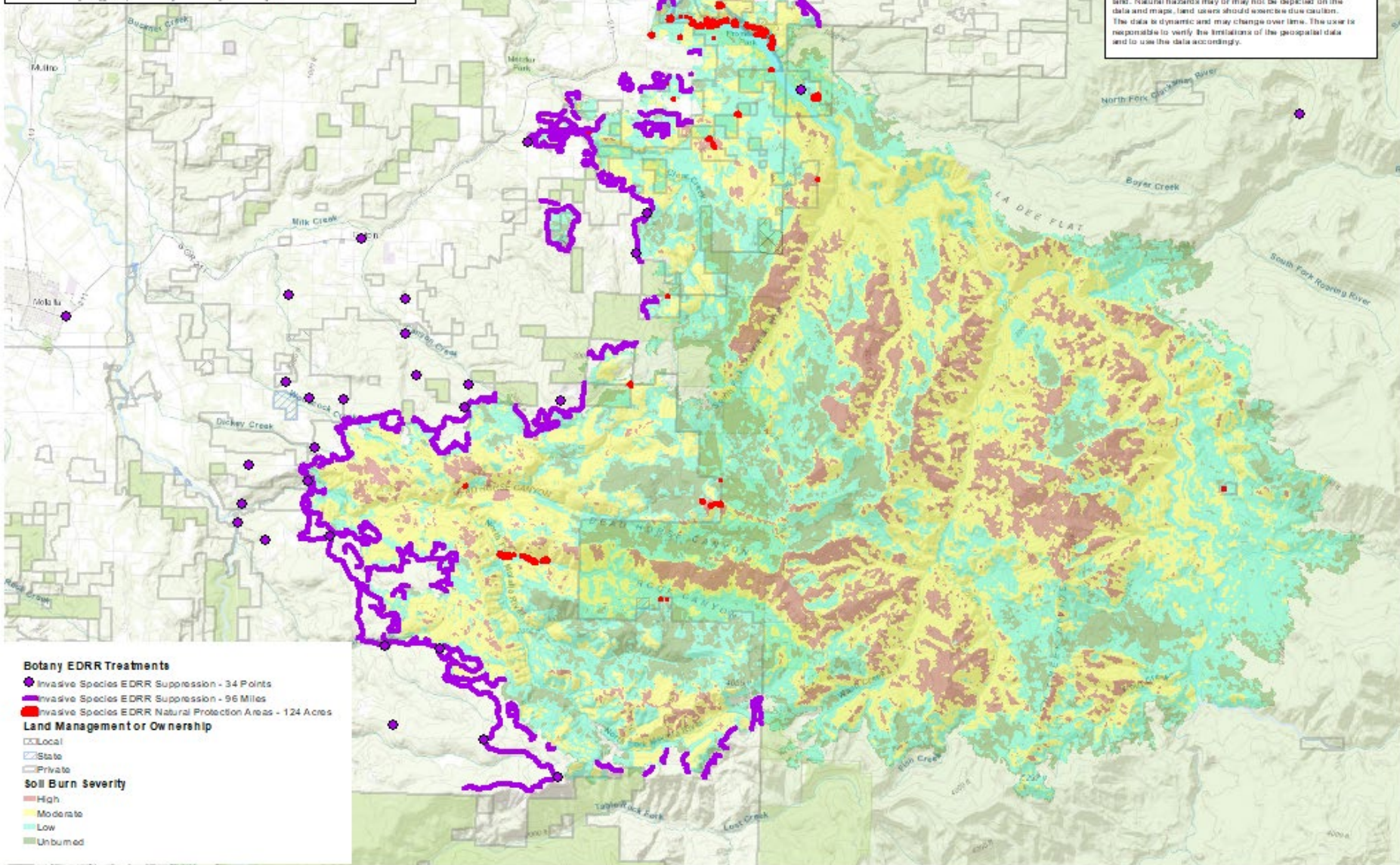
November 15, 2020



This product is a product of EART rapid assessment. Further information concerning the accuracy and appropriate use of the data may be obtained from the various sources.

EART makes no warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose, nor assumes any legal liability or responsibility for the accuracy, reliability, completeness or utility of these geospatial data, or for the improper or incorrect use of these geospatial data.

These geospatial data and related maps or graphics are not legal documents and are not intended to be used as such. The data and maps may not be used to determine title, ownership, legal descriptions, boundaries, legal jurisdiction, or restrictions that may be in place on either public or private land. Natural hazards may or may not be depicted on the data and maps. Users should exercise due caution. The data is dynamic and may change over time. The user is responsible to verify the limitations of the geospatial data and to use the data accordingly.



Botany EDRR Treatments

- Invasive Species EDRR Suppression - 34 Points
- Invasive Species EDRR Suppression - 96 Miles
- Invasive Species EDRR Natural Protection Areas - 124 Acres

Land Management or Ownership

- Local
- State
- Private

Soil Burn Severity

- High
- Moderate
- Low
- Unburned

RIVERSIDE RECOMMENDATIONS



Recommendations:

- Early Detection and Rapid Response (EDRR) on 124 acres of priority noxious weed locations and Natural Protection Areas threatened by noxious weeds.
- Early Detection and Rapid Response (EDRR) surveys and treatments of new infestations associated with the 96 miles and 34 points of suppression related disturbances.
- Installation of wash stations for the sanitation of vehicles moving in and out of the fire area during fire rehabilitation and salvage logging operations.
- Targeted tree planting and native seeding to prevent invasive spread.
- Education and outreach for Community Wildfire Protection Planning and defensible space to protect human life and property
- Continued survey and monitoring 3-5 years post-fire to control targeted weeds.

Immediate Concerns that need awareness:

- Current fire rehabilitation efforts (use of heavy equipment, seeding, mulching), salvage logging were not considered in this analysis but are a potential sources of invasive plant spread and continued disturbance.
- Weed-Free mulch and seeding activities for erosion control are potential sources of either inappropriate plant materials or noxious weed seed, that may have long-term impacts to affected areas.

THE END RESULT



Riverside Botany and Invasive Plant Specialist Report, November 2020

Botany and Invasive Plants Riverside Fire, Clackamas County, OR 2020 Samuel Leininger, Clackamas Soil and Water Conservation District



Figure 1. Noxious weed regeneration in the heavily disturbed burn area of the Riverside fire had little competition. (photo: Samuel Leininger, Clackamas SWCD)

Objectives:

The Riverside fire extends across a plurality of land ownership. An evaluation of federally owned property has already been completed through the Riverside Fire Burned Area Emergency Response (BAER). This ETART assessment is intended to complement the Riverside BAER, and is limited to state, local, and private lands within the perimeter of the Riverside Fire.

The proposed activities are intended to identify needs and opportunities to positively influence outcomes on lands impacted by the Riverside Fire. Special considerations have been taken to address the ecological, economic, and social resources that have or may be adversely impacted by the proliferation of noxious weeds following the Riverside Fire. The recommendations are intended to improve management of noxious weeds within the affected areas and prevent the introduction of new infestations during the vulnerable regeneration period of the native plant community. The response of vegetation post-fire necessitates a multi-year approach to allow vegetation to mature and restore some resilience across the landscape.

Critical Values: The critical values identified in the Riverside fire include both public and private interests. Critical values employed in this assessment include:

1. Human life and safety,
2. Property,
3. Natural Resources,
4. Cultural and Heritage Resources, and



Riverside Fire Erosion Threat Assessment/Reduction Team (ETART) Extended Report

December 2020



A photograph of a forest with many dead, charred trees and some green moss on the ground. The trees are tall and thin, with some showing signs of being charred. The ground is covered in a layer of green moss and fallen logs. The sky is overcast.

24

IMPLEMENTATION

Photo source: Lindsey Karr, Clackamas SWCD

CONTINUING PARTNERSHIPS



25

- We have been working with the Mt Hood National Forest and BLM Salem District for many years.
- In the wake of the Riverside and Beachie Creek Fires we were approached by both agencies to help with the post-fire response
- We know these areas well and have already been working on them
- Since 2020, we have received Burn Area Emergency Response (BAER), Emergency stabilization (ES), Burn Area Rehabilitation (BAR), and Infrastructure funding totaling more than \$1.2 million to support current and future rehabilitation efforts.



Photo source: Lindsey Kerr, Clackamas SWCD

1 YEAR LATER...BULL COMPLEX



26



Photo source: US Forest Service

LAST YEAR...CAMP CREEK



27



Photo source: US Forest Service



28

THE CYCLE REPEATS & WHY YOU SHOULD CARE

BONUS FIRES!

Photo Source: USDA Forest Service, Pacific Northwest Region, State and Private Forestry, Forest Health Protection.
Collection: Bureau of Entomology Collection; La Grande, Oregon. Image: BUR-6885

HISTORY REPEATS ITSELF



29



Source: University of Oregon, Historic Oregon Newspapers (<https://oregonnews.uoregon.edu/>)

SPRINGWATER FIRE



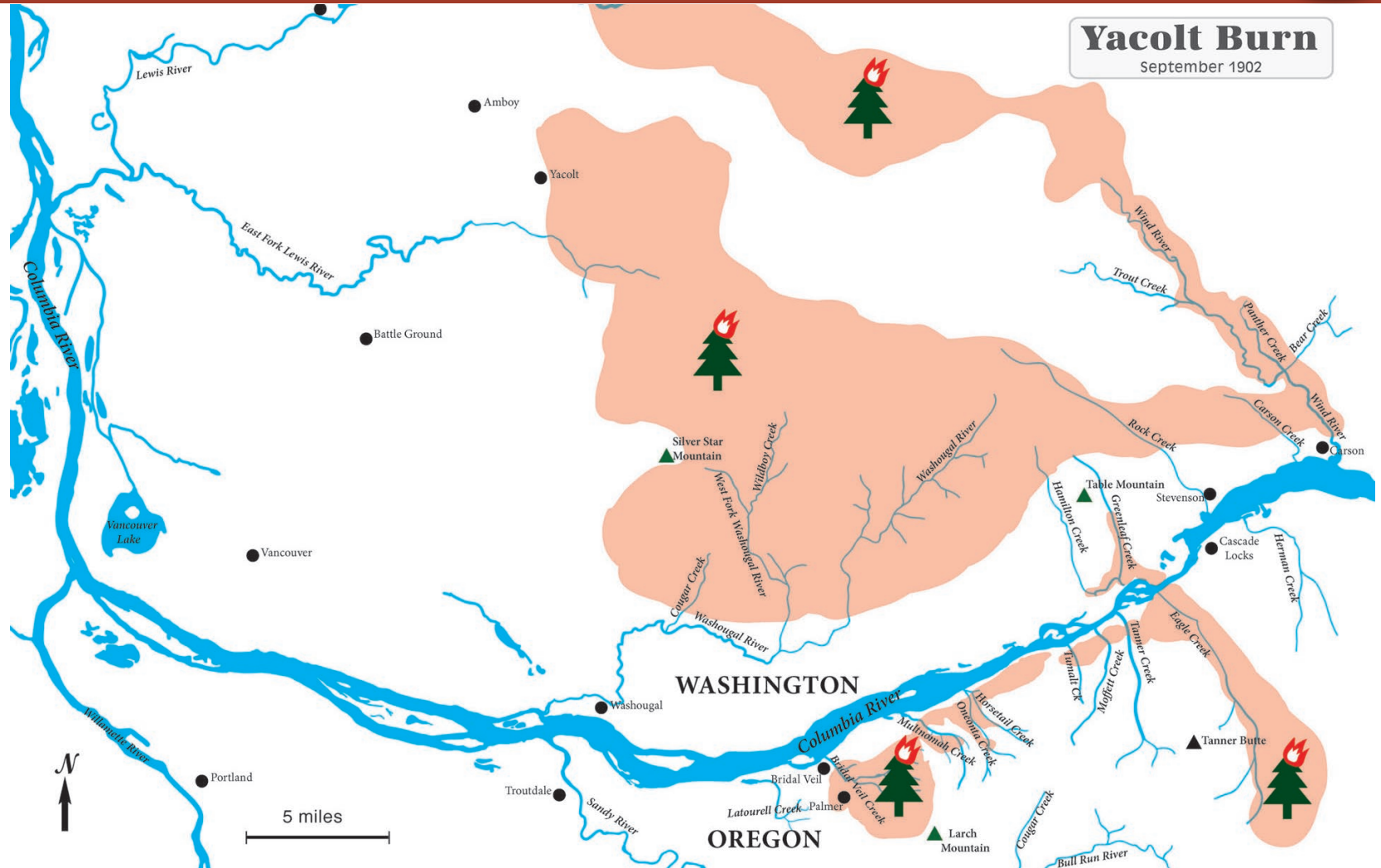
Springwater Heaviest Sufferer.
The greatest loss, so far as known, occurred in the Springwater district, where every farmer in that region is a sufferer.
The scene in the burnt district is almost indescribable. Fire swept over a territory 15 miles long, and from three to four miles wide. The devastated country forms a wedge leading from Rocky Point down past Springwater, with Clackamas river and Clear creek on either side, and stopping about one mile above the Norton place. The flames also traveled along the rail fences, none of which remain. So swift was its approach that many people had no warning, and on Thursday night the fearful flames found families in their beds, and they were forced to flee for their lives, making no attempt to save property.
The loss to grain and hay is enormous. Threshing was just over and the crops were in the barns, nearly all of which were swept away. The devouring flames in a few minutes obliterated the work of a lifetime. Branche Tucker, a pioneer over 60 years of age, lost everything he possessed, the result of 40 years' careful farming, and has only the bare ground left. People are selling their cattle and hogs to obtain the necessities of life.

destroyed.
Rev. Mr. Hatch, of Springwater, has appealed to the Portland churches for aid for the homeless of his community, and yesterday morning the First Presbyterian church raised \$200 in cash to be used for this purpose. It was also decided to accept contributions of clothes or other articles that might be needed, and a wagon will leave today for the scene of the disaster. Members and pastors of the other churches have expressed a willingness to do all in their power to help the cause, and the church women are also coming to the front.
From other communities reports of movements to assist the sufferers are coming in. In Oregon City the churches and fraternal societies are taking the matter in hand.
No definite arrangements have yet been made for the distribution of the funds, but the people are assured that what they send will be wisely used. It is likely a committee of well-known men will be appointed, and the distribution will be left to their judgment.

Two Casualties at Bridal Veil.
Portland, Sept. 15. At Springwater, Lents and Gresham the fires are dying out. Two unknown men were burned

- 1902 Springwater Fire
- Extended period of dry conditions and strong winds
- Strong winds along the Clackamas River
- 15 miles long and 4 miles wide
- Impacting the Springwater area.
- Follows a near identical path to the northern reach of the Riverside Fire

YACOLT/COLUMBIA FIRE



YACOLT FIRE/COLUMBIA FIRE



32

- ❑ September 8, 1902: 118 years to the day of the Labor Day fires
- ❑ The fire predated an organized federal response.
- ❑ The fire is believed to have been started by young boys burning a hornets nest near Eagle Creek
- ❑ In Oregon, the fire burned a near identical footprint to the Eagle Creek fire
- ❑ It jumps the river and merges with another ignition source, where it grew to roughly 500,000 acres.
- ❑ The Yacolt Fire strongly contributed to the formation of the Forest Service in 1905.



Photo source: Clark County Historical Museum

MY TAKE HOME MESSAGES



33

- ❑ Fire is a natural and prominent component of our landscape
- ❑ Climate change and invasive species are modifying that landscape
- ❑ Be adaptive. We may not be able to rely upon prior trends
- ❑ Learn from historic events, or we are doomed to repeat them
- ❑ As professionals, we need to continue to learn and grow and prepare for the next challenge.



Photo source: Lindsey Karr, Clackamas SWCD

34

THANKS FOR LISTENING!



Samuel Leininger
WeedWise Program
Clackamas SWCD
503-210-6006
weeds@conservationdistrict.org