Oregon OSHA Requirements for Agricultural Wildfires

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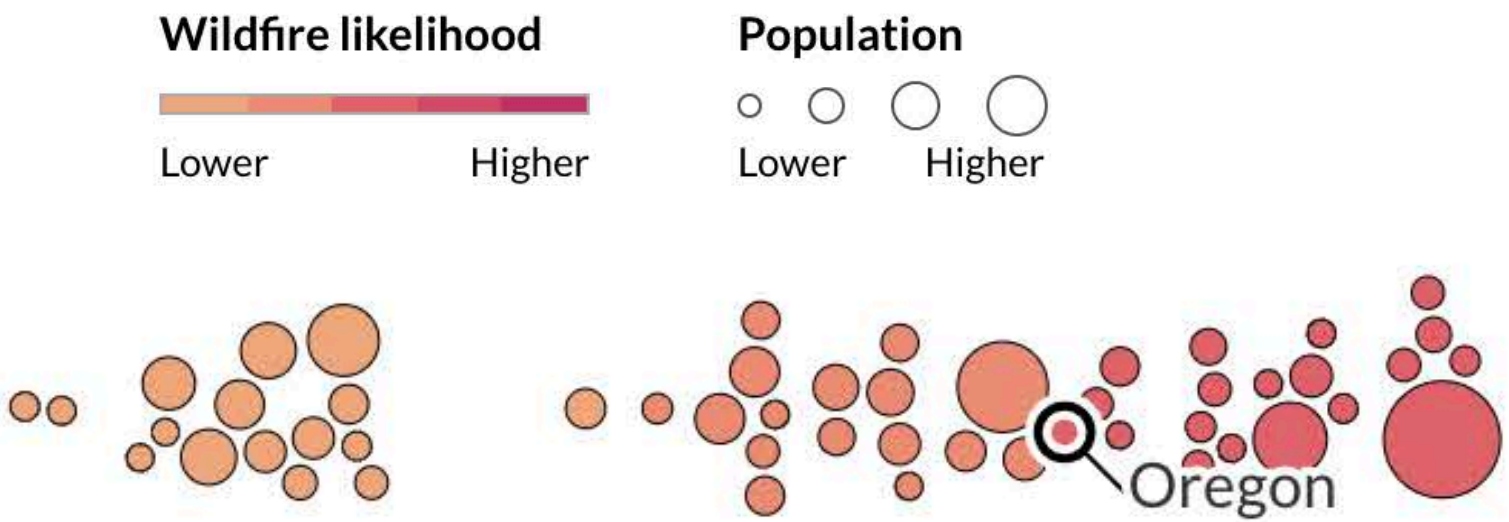
USDA FOREST SERVICE

WILDFIRE RISK TO COMMUNITIES

Wildfire Likelihood

Populated areas in Oregon have, on average, greater wildfire likelihood than 64% of states.

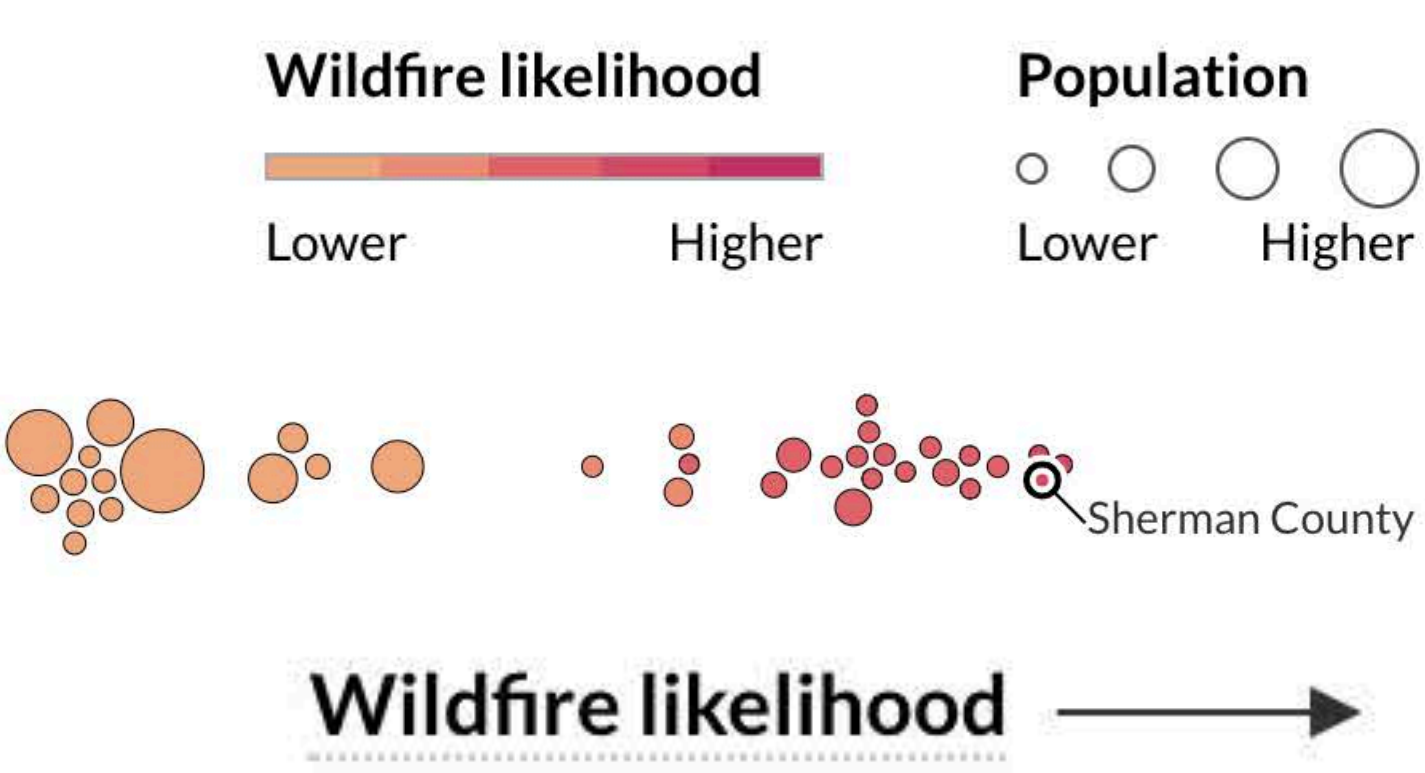


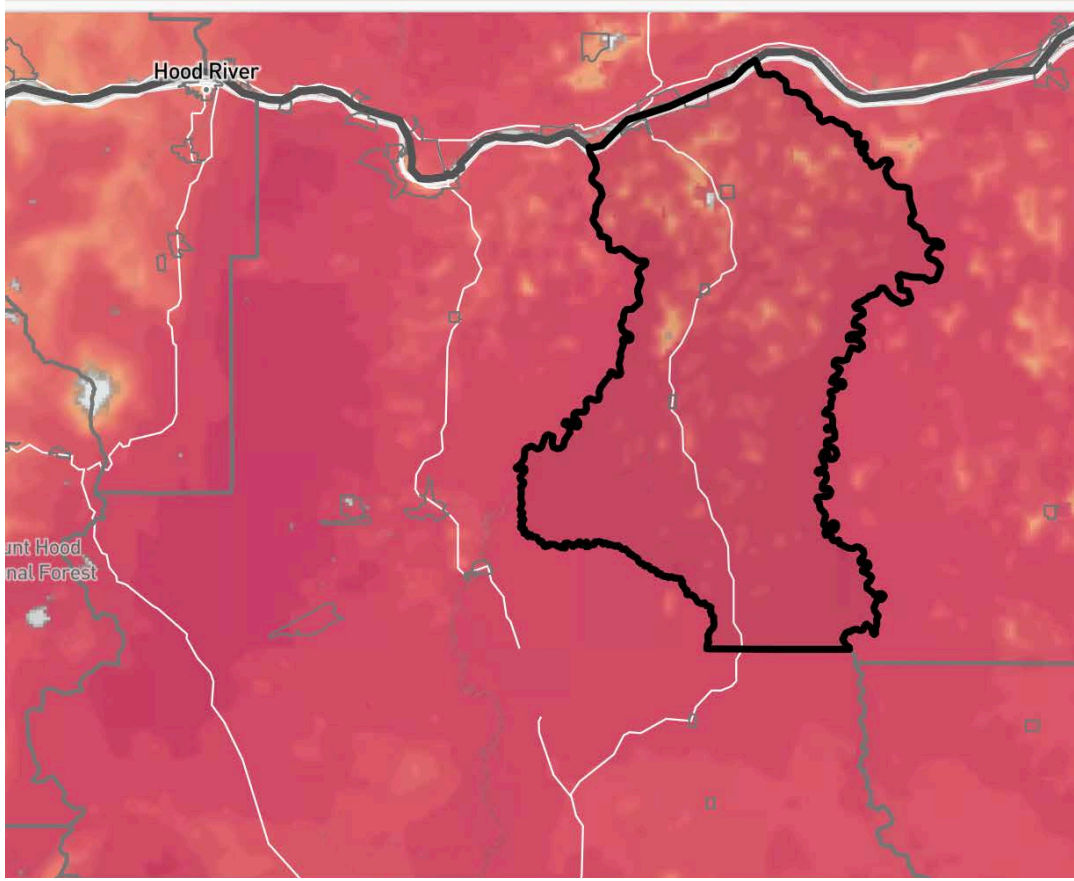
https://wildfirerisk.org/explore/

Oregon >

Sherman County

Risk to Homes | Exposure Type | **Wildfire Likelihood** | Vulnerable Populations





Carl Seielstad

Conger Creek Fire, Lolo NF, 2007


View east from OR Hwy 197. July 18, 2018
©Jurgen He

Build on what you know & document what you do

- Emergency Action Plan
- Fire Prevention Plan
- Job Hazard Analysis for PPE
- Initial training and annual refresher

Box Link: https://beav.es/Jo6

OSHA Required Written Plans for Firefighting and Emergencies

NOTE: The information in your written plans must be provided to all new employees prior to assigning work and reviewed annually

Required by OSHA Brochure?	Name of Plan or Document	Must Include	When to Review	Notes
Yes	**Emergency Action Plan for Medical and Fire Emergencies**	a. Procedures for reporting emergencies b. Procedures for evacuation to safety zones and safe shut down of equipment c. Rescue procedures and medical duties d. Names of people that employees can contact about the plan e. Procedures for communicating within your operation and with state and federal fire agencies during fire suppression f. Farm map not required, but good to have	a. Annually b. With new employees before assigning work c. When employee responsibilities change d. Changes are made to the plan	
Yes	**Fire Prevention Plan**	a. Procedures that identify hazardous fire conditions (weather, terrain, fuels) b. Procedures for safely maintaining equipment that produces heat c. Procedures to maintain fire extinguishing equipment and training on that equipment d. Procedures for reporting fires e. Procedures for establishing escape routes and safety zones at worksites f. Criteria for terminating work under hazardous fire weather and fuel conditions	a. Annually b. With new employees before assigning work c. When responsibilities change d. Changes are made to the plan e. Discuss at Safety Meetings	
Yes	**Job Hazard Analysis Form**	a. Determination of Personal Protective Equipment needed to engage in firefighting	a. With new employees before assigning work	
No, but…		a. Statement of expectations for employees b. Age requirement for firefighting c. Types of firefighting allowed d. Three stages of firefighting and training you will require e. Plan for tracking employees during fires	a. Annually	

Emergency Action Plan for Medical and Fire Emergencies (Template)

NOTE: This action plan is intended to provide guidance in preparing for an emergency event. Common sense and coordination amongst farm staff is the best asset in dealing with complexities of a specific emergency event.

Farm Name _____

_____***(name of person in charge of safety program)*** is responsible for this emergency plan and will ensure that all employees understand it and follow it. All new employees will be informed about this plan and told where it will be kept. Any questions on this plan should be directed to _____***(name of person in charge of safety program) at*** _____
(phone # of person in charge of safety)

A current copy of this plan, farm maps, and the phone and address list is kept in the HazCom binder in the _____, *along with at the farm entrance, and off site emergency plan location* ***(see map for locations).***

Emergency Reporting Procedures

- For fire: call 911 and give the address or location – be as descriptive as possible (have map to refer to).
- Notify the farm manager _____ & landowner _____.
- Contact utilities listed below if they will be impacted (Electric, Water, Gas, BPA Transmission Line etc).
- For medical emergency: call 911 and give the address. There is a list of street addresses for most farm locations in _____. **(location(s) of address list)**
- The nearest emergency room is at ***Mid-Columbia Medical Center in The Dalles.***
- If employee is injured contact their emergency contacts and doctor.

Emergency Numbers – if 911 is not working properly	
Contact Names	Contact Numbers
Fire / Ambulance	
County Emergency Contact	
Oregon Emergency Management	
County Sheriff	
Local Animal Control	
Local Hospital	
Agricultural Chemical Dealer	

Rescue and Medical Duties

- There are first aid kits and fire extinguishers in every vehicle and a trauma kit in _____ **(location of trauma kit)** for more serious injuries.
- In case of serious injury, call 911 then administer basic first aid until EMS arrives.
- If location is not located on a main road or at a registered street address; have someone meet the ambulance at the nearest main road and lead them to the site, if possible.
- If the location is inaccessible by ambulance, let 911 know.
- If it is safe to move the victim, you may provide transport for the victim either to the hospital or to meet the ambulance on the way to town.
- Employees with current First Aid training:

  _____
  _____
  _____
  _____

Communication During Emergencies

All communication will be done by cell phone or radio. A list of employee phone numbers is also provided in _____ ***(location(s) of phone list)***. In case of fire, _____ ***(name of person coordinating employees)*** will make contact with each employee. In case of medical emergency, contact _____ ***(name and phone number)*** to provide assistance as needed.

Evacuation Plan: Refer to map and directions to farm locations from nearest major road. Two escape routes are available from the farmstead to _____. See map for location of landing zones if helicopter needed to extract victim.

Meet up location: Employees will meet at _____ or if working in the field go to a safety zone that is bare ground, gravel, safe black, or one shall be created with disc.

Site Information	
Farm Name	
Farm Physical Address	
Township / Sector / Quadrant	
GPS Coordinates (Latitude / Longitude)	
Chemical Storage Information (if different)	
Chemicals of concern (Diesel, propane etc.)	
Address	
Township / Sector / Quadrant	
GPS Coordinates (Latitude / Longitude)	
Nearest Landing Zone for Air Transport	

Emergency Supply Cache: There is a cache of emergency supplies, food, water, Gatorade, and livestock feed located _____.

On site Emergency Information Box is located _____ where emergency personal can access.

Off site Emergency Information Box is located _____ where emergency personal can access.

Equipment Shut Down: Critical equipment will be shut down safely and placed a safe distance away from the emergency. If floods are a concern equipment will be placed at _____ or high ground where available. If a wildfire is occurring it will be placed at _____ or in an area that has been determined to be a safety zone. Equipment staging and personnel are to stay away from chemical storage areas, which are marked with chemical hazard placards and locked.

Have an emergency farm map and make accessible

Page 3 EAP

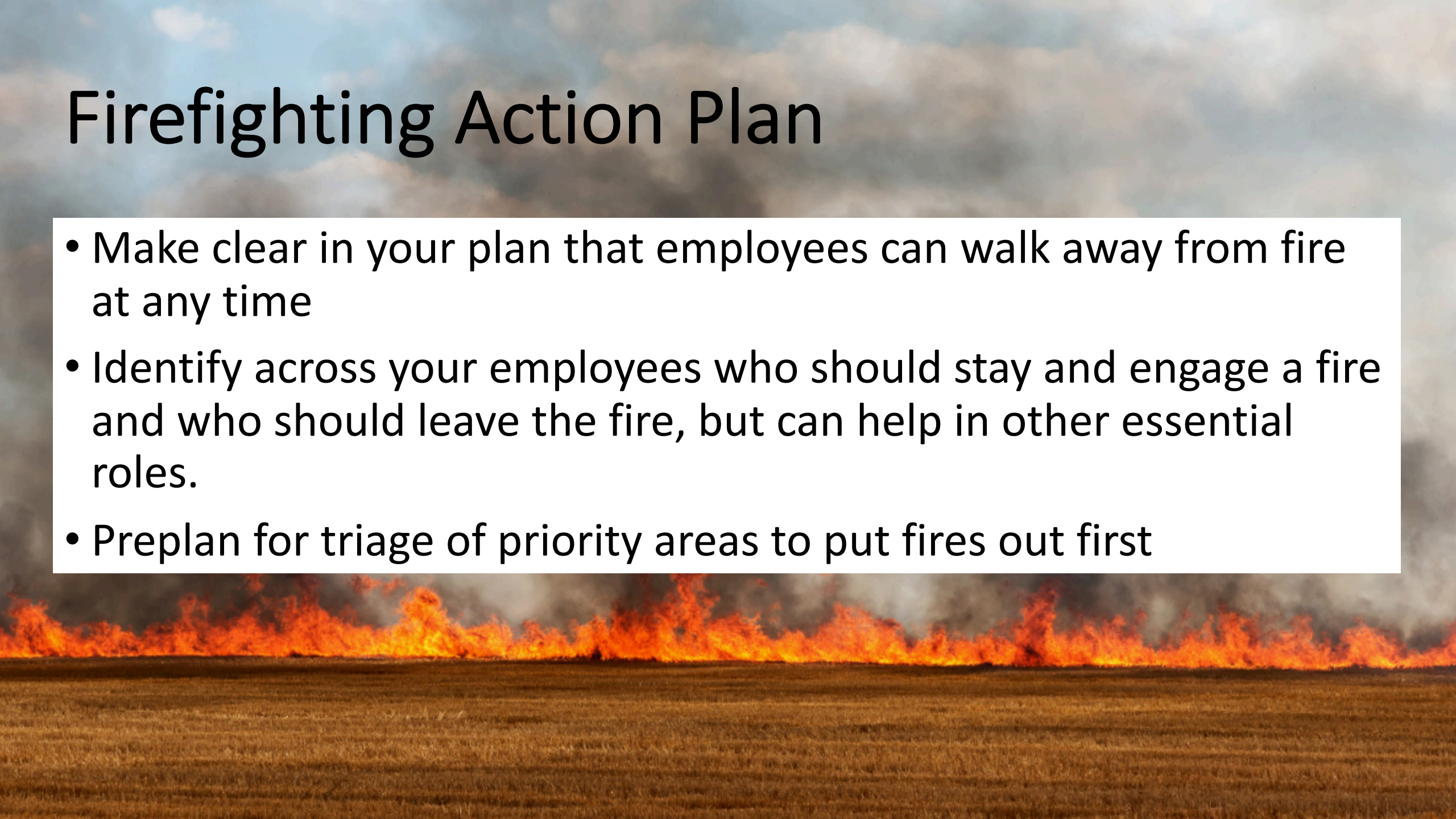

EMERGENCY RESPON
RMATION

Cover Livestock in your Emergency Action Plan

Livestock Evacuation: Livestock will be sheltered at _____ and will be cared for by _____. Alternative sites include _____ or _____. Alternative water sources are located _____ and feed and water is cached _____. Priority of animals to evacuate are as follows from high to low: _____, _____, _____. Identification packet with up to date vaccination and medical records are located _____. The following people can be contacted to assist in animal transport or open gates: _____ at _____.

Firefighting Action Plan

- Make clear in your plan that employees can walk away from fire at any time
- Identify across your employees who should stay and engage a fire and who should leave the fire, but can help in other essential roles.
- Preplan for triage of priority areas to put fires out first



A fire starts – incipient stage

Controlled or extinguished with no more than 2 portable fire extinguisher, class II standpipe, or small hose system.

Training: use of fire extinguisher, limitations, hazards with small fires

Don’t lower your guard just because its small!

Beyond initial incipient stage….

Leave scene and report

or

Continue to engage the fire as stated in your plan and ensure employees have:

1) Basic wildland firefighting training
2) Have and use correct PPE
3) Appropriate tools and equipment

OSHA Required Training for Range and Cropland Firefighting

Stage of Wildfire	Training	Must Include	When to Refresh	Notes
Incipient	**Fire Extinguisher**	Fire extinguisher training – OSHA online video or in person	Annually	
Free-burning and Mop-up	**Basic Wildfire Training**	Basic fire behavior Basic fire control Basic fireline safety Understand the 18 watch outs *OSHA has made the level of training in these aspects of fire up to the employer and what the specific needs are for their operation and employees	Annually *OSHA is not requiring red card wildland firefighting certification or for employees to go through the refresher course that certified firefighters do (RT-130).	

Online classes can be taken through the National Wildfire Coordinating Group at https://www.nwcg.gov/publications/training-courses. A good free class to consider is **S-190 Introduction to Wildland Fire Behavior**.

eXtension Learning Network for Cooperative Extension: **Basic Prescribed Fire Training**. This course is for landowners, land managers, and state and federal personnel interested in the use of fire as a management tool. https://campus.extension.org/course/view.php?id=720

Wildfire Refresher for Agricultural Producers

Wednesday, February 10th 2021, 12:00-1:30 pm

This webinar will cover fireline safety and fire prevention steps producers can take. The Lone Pine RFPA with their partners will discuss their fire prevention plan. In addition, fire managers in North Central Oregon will discuss what producers should do when a wildfire occurs. A certificate will be available for producers needing to complete an annual refresher for Oregon OSHA wildfire requirements in 2021.

Presenters include:

Jacob Powell, OSU Agricultural Extension Agent

Fire managers from ODF, BLM, Forest Service, and Mid-Columbia Fire & Rescue

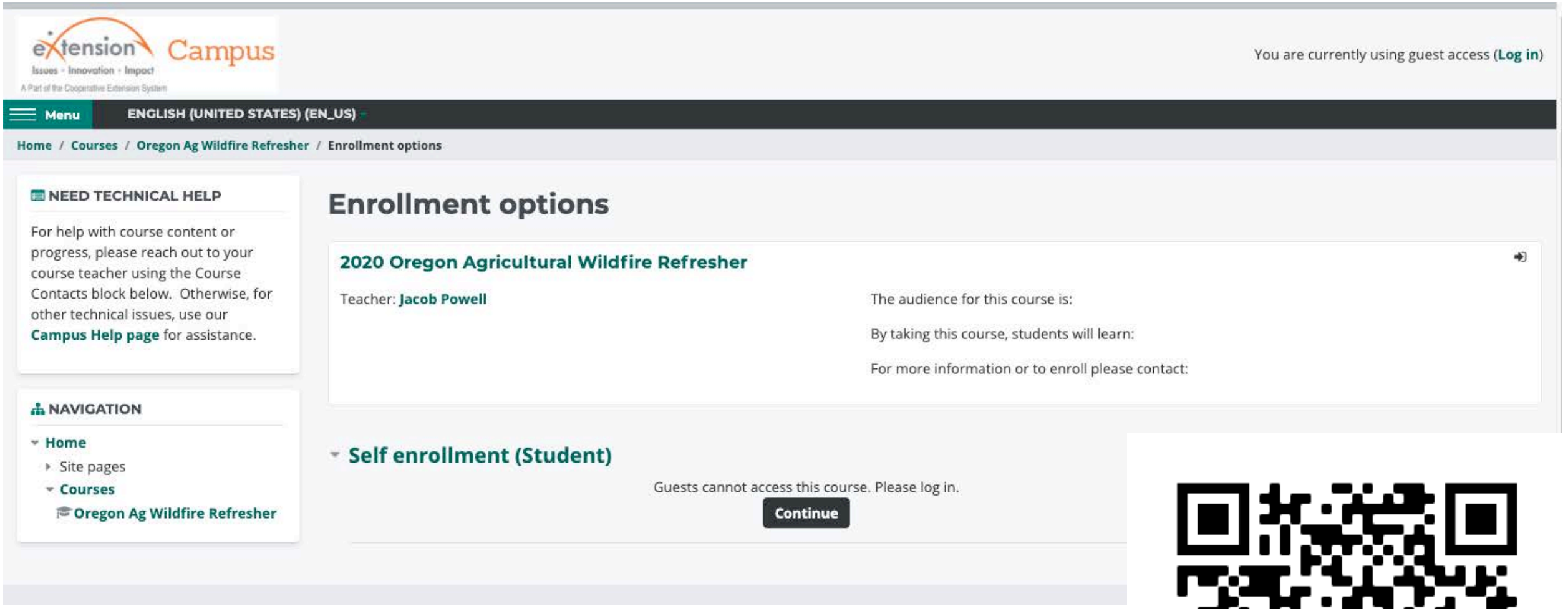
Katie Wollstein, OSU Rangeland Fire Regional Specialist

Ron Whiting, President of Lone Pine Rangeland Fire Protection Association (LPRFPA)

NRCS, BLM, and other local partners involved in LPRFPA Fire Prevention Plans

Register for Wildfire Refresher:

https://beav.es/Jqy



https://campus.extension.org/

Firefighting Action Plan (Template)

NOTE: Employees are NOT expected or required to engage in firefighting of any kind as a duty of their employment. Employees who choose to fight fire may disengage from the fire at any time.

All employees will be made generally aware of firefighting suppression plan before engaging the fire. In addition, they will have an understanding of their basic roles and responsibilities.

Any employees who engage in firefighting activities will adhere to the following company policies:

I. Age limit

a. Employees must be 18 or older to fight fire beyond the incipient (initial) stage
b. Employees younger than 18 must receive:
   i. Fire extinguisher training annually (Online OSHA Video or live training)
   ii. Training for an emergency where young employee is the first on the scene of a fire

II. Types of Firefighting

a. *Structural Fires:* Employees will NOT engage in interior structural firefighting beyond the incipient stage.

b. *Equipment Fires:* Employees will NOT engage in fighting fire on burning equipment beyond the incipient stage; they may use water on the fire from a safe distance upwind of the fire in an effort to keep it from spreading beyond the equipment. If the fire is knocked back to its incipient stage, a fire extinguisher may be used to completely extinguish the fire.

c. *Rangeland/Cropland:* Employees who have been trained in a Basic Wildland Fire Training and are wearing the proper PPE may engage in firefighting.

III. Stages of Firefighting and Training Required

a. *Incipient:* Fire that is in its initial stages of growth and can be extinguished with one to two fire extinguishers. Employees must train on fire extinguisher use annually.

b. *Freeburning:* Fire that has grown beyond the capabilities of a fire extinguisher. Employees must have participated in a Basic Wildland Fire Training course with an annual refresher each year after the initial training.

c. *Mop-up:* Fire that has been mostly extinguished but hot spots still exist. Employees must have participated in a Basic Wildland Fire Training course with an annual refresher each year after the initial training.

IV. Employee Tracking and Communication During a Fire Emergency: In the event of a fire call or text, employees will be tracked as follows:

a. Employees who have not been trained in basic wildland firefighting need to immediately leave the scene if the fire is at their current location. After any fire call, _____**(name of person in charge of personnel)** will call each employee to provide further instructions for alternative duties or to be sent home.
b. If a fire is beyond the ability of trained personnel to contain, move all people and, if possible, all equipment to the established safe zone. Shut down all equipment and continue to monitor the situation until you can safely resume firefighting or leave the area.
c. Employees who choose to deploy to the fire will be monitored by _____ **(name of person in charge of personnel)**, who will call and check on them either by phone or radio at frequent intervals.
d. _____ **(name of employee)** will be the primary Liaison for additional fire resources.
e. _____ **(name of employee)** will be responsible for caring for livestock if impacted.
f. _____ **(name of employee)** will be in charge of providing food and water to those engaged in the fire.
g. _____ **(name of employee)** will assist in refilling water and fuel on fire suppression equipment.

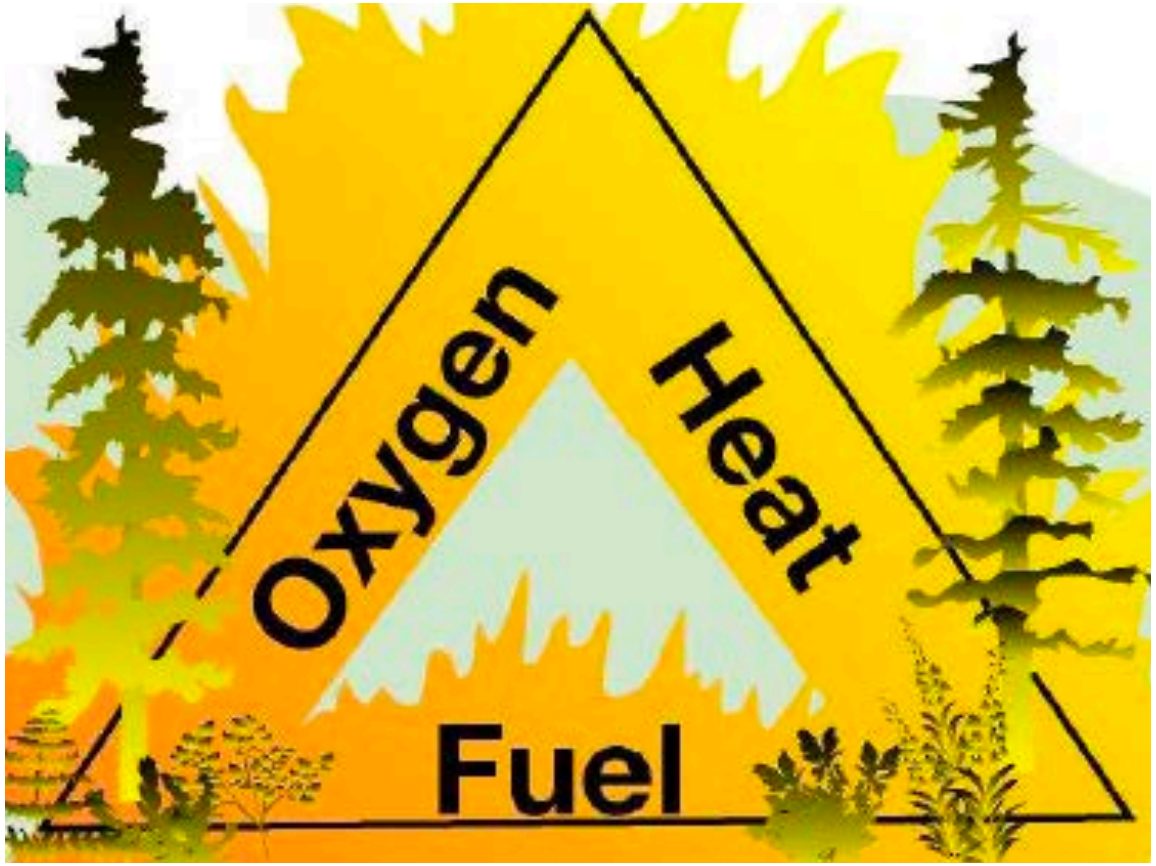
V. Job Hazard Analysis

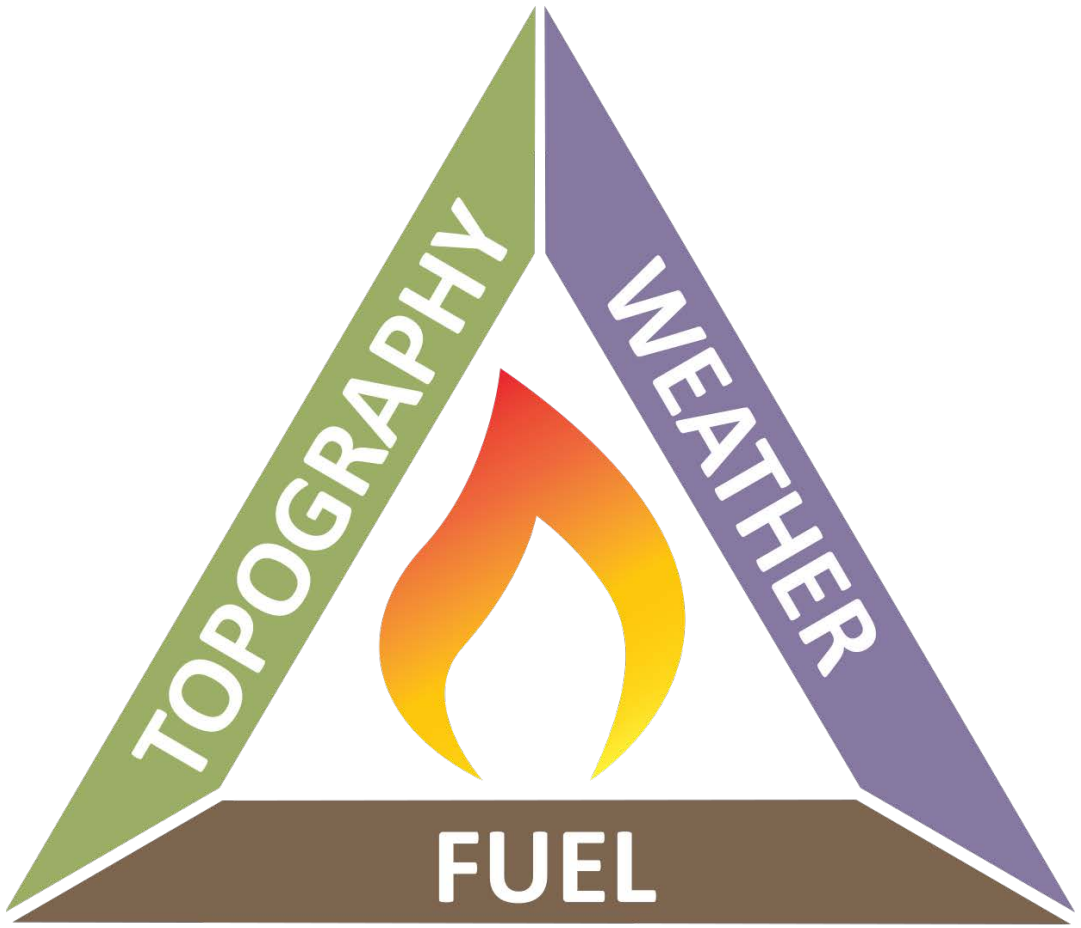
a. A job hazard analysis will be performed to determine which personal protective equipment will be used by employees while fighting fire. The JHA is attached.
b. The following PPE is the employee's responsibility:
   _____
c. The following PPE will be provided by the employer: _____
   _____
d. PPE will be carried in company vehicle and available at all times during fire season.

This Action Plan has been reviewed on _____ **by the following employees:**

Name	Signature

What can you do to prevent and mitigate wildfires? What can we control?





You never know when or where an equipment fire can start

Keep potential heat sources away from fuel

Fig 9. Engine bay modifications. This is a farmer-installed extra fan (ex-Auto) and insulation wrapping around the exhaust system on an STS by Custom Contractor Harry Roper in Goondiwindi. The non-standard shield wrapped around the exhaust system has not caused any turbo problems so far but it is not a Company authorized fitment.

Keep fuel away from heat sources

Fire Prevention Plan

- Maintain equipment safeguards
- Fire extinguishing equipment is maintained and employees are trained
- Fire reporting procedures
- Determine escape routes and safety zones ahead of time
- Identify hazardous fuel conditions

Fire Prevention Plan (Template)

Farm Name _____

Preventing Equipment-Generated Fires

Maintain heat-producing equipment to reduce the risk of accidental fires. Some ways to do this include:

a. Inspect equipment daily
b. Blow debris off of equipment regularly
c. Monitor moving equipment – both the operator and other personnel who are outside the machine can watch for trouble
d. Mount fire extinguishers on all heat-producing equipment
e. Ensure employee knows how to operate equipment safely, especially if working alone at a remote site

Maintenance of Fire Extinguishing Equipment

a. All heat producing equipment will carry fire extinguishers
b. All personnel will be trained annually on fire extinguisher use
c. Fire extinguishers will be serviced by a certified inspector annually
d. Pumpers will be inspected annually and tested frequently during fire season
e. Fuel levels in all suppression equipment maintained at least half full and checked weekly
f. New personnel will be trained on how to operate a pumper
g. Disk kept on site of farming operations and employees know how to safely operate / identify operator

Procedures for Reporting Fires

To report a fire, call 911 and give the address or location – be as descriptive as possible. 911 prefers street addresses. A list of addresses for most locations on the farm is located _____ **(location of address list)**. However, other descriptors may help other farmers get to your location quicker (e.g., the Smith Place, etc.).

Procedures for Engaging Wildfires

When a fire occurs at the work site it shall be initially controlled with fire extinguishers if in the incipient stage. If it is already beyond the incipient stage or grows into a larger surface burning fire than those not trained must leave immediately. All employees who are engaged in firefighting must have been trained in Basic Wildland Firefighting, which includes the "18 Watch Out Situations".

Before entering an area to fight fire, follow LCES procedures.

Establish a LOOKOUT

Set up COMMUNICATION

Determine an ESCAPE ROUTE

Designate a SAFETY ZONE based on the conditions in the area.

Identifying Hazardous Conditions

Always identify potentially hazardous conditions before engaging in firefighting activities. You must evaluate the following conditions and constantly monitor them.

a. Fire size and speed of growth
b. Fuel load of the area you are planning to enter
c. Weather conditions, including wind speed and direction, temperature, and humidity
d. Terrain – fire can run uphill rapidly and canyons are especially dangerous
e. Potential communication barriers

Shut down Criteria

Under certain hazardous fire conditions (fuels, temperature, relative humidity (RH), wind speed) field work will be stopped until conditions improve. Thresholds to terminate work for the day include: (these are suggestions, you should consider how criteria could limit your harvesting operations, pick simple and easy to follow criteria that you can stick with through the fire season)

a. Temperatures are above 85 degrees and winds are exceeding 20 mph
b. A Red Flag Warning (primarily when RH 15% or less with winds 25 mph for 3/12 hours or 15% coverage dry thunderstorms) has gone into effect
c. Work for the day will stop by 1:00 pm when a red flag warning is in effect
d. Easy burning conditions with medium ignitability (RH 30-45%, 1 hr fuel moisture 11-14%, 10 hr fuel moisture 10-12%)
e. A fire has occurred in a nearby agricultural field within a 10 mile radius
f. An incipient fire of any size has occurred on the farm, even if put out, operations should be done for the day and employees should be sure fire is out

Safety Procedures at the Worksite

When there is potential for fire to start accidentally due to the nature of the work being done or due to weather conditions, crews should follow these steps:

a. Establish an escape route from your work location to a safety zone
b. Identify safety zones that are permanent or have been created – a safety zone is an area where you can safely sit and watch the fire go by
c. During harvest: Each field will have a designated safety zone and all employees will be made aware of its location. If no natural safety zone exists, one will be created by a tractor and disk. All equipment will be parked at night in the safety zone.

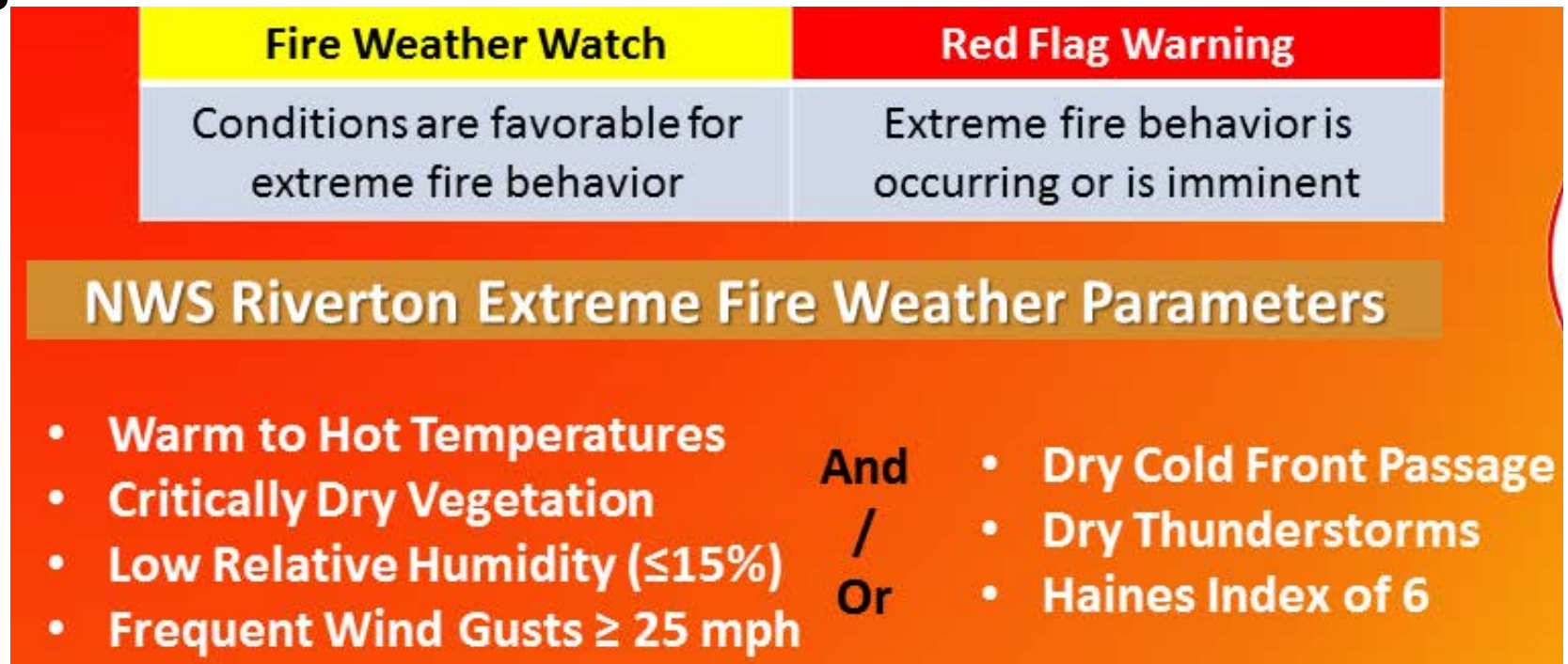
Shut down criteria:

Determine when fire weather conditions warrant a break from harvesting for the day, some ideas that won't stop harvest, but may prevent large fires:

- **Don't harvest at all during Red Flag Warnings or stop at 1 pm – that way you can still cut for part of the day and do maintenance in the afternoon**

OR

- **Stop harvest once winds exceed a set speed or use the threshold on following sides**



Voluntary Grain Harvesting Table

The table below calculates the average wind speed (kilometres per hour) for different temperature (degrees Celsius) and relative humidity (RH) combinations that equate to a Grassland Fire Danger Index (GFDI) of 35.

1) Temperature
2) RH
3) Up to what wind speeds should you continue to harvest in?

40 C = 104 F
26 kph = 16 mph
58 kph = 36 mph

Used by wheat Producers in Australia

1 Temperature	2 Relative Humidity 5%	10%	15%	20%	25%	30%	40%	50%	60%	65%
15 °C	31	35	38	40	43	45	49	53	56	58
20 °C	29	33	36	38	40	43	46	50	53	55
25 °C	27	30	33	36	38	40	44	47	50	52
30 °C	25	28	31	33	35	37	41	44	47	49
35 °C	23	26	28	31	33	35	38	41	44	46
40 °C	21	24	26	28	30	32	35	39	41	43
45 °C	19	22	24	26	28	30	33	36	39	40
	5%	10%	15%	20%	25%	30%	40%	50%	60%	65%

AVERAGE WIND SPEED (KPH) that equals to 35 GFDI

3

Table derived from Purton 1982. Using assumptions: fuel load of 4.5 t/ha and fuel 100% cured.

Obtain relative humidity, temperature and wind speed details as per measuring instruments operating instructions.

IT IS RECOMMENDED THAT GRAINS HARVESTING OPERATIONS CEASE WHEN THE AVERAGE WIND SPEED FOR A PARTICULAR TEMP AND RH COMBINATION IS EXCEEDED

Is the wind speed too high for me to harvest right now?

Combination example Refer to the highlighted areas on the table above.

1. TEMP= 40°
2. RELATIVE HUMIDITY (RH) = 17% (Round down to 15%)
3. For this combination of TEMP and RH, it is recommended that grain harvesting operations cease when the average wind speed is greater than 26kph.

Voluntary Grain Harvesting Table in English units

Temperature °F	Relative Humidity 5%	10%	15%	20%	25%	30%	40%	50%	60%	65%	Wind Speed (mph)
59	19	22	24	25	27	28	30	33	35	36	
68	18	21	22	24	25	27	29	31	33	34	
77	17	19	21	22	24	25	27	29	31	32	
86	16	17	19	21	22	23	26	27	29	30	
95	14	16	17	19	21	22	24	26	27	29	
104	13	15	16	17	19	20	22	24	26	27	
113	12	14	15	16	17	19	21	22	24	25	
	5%	10%	15%	20%	25%	30%	40%	50%	60%	65%	

1) Temperature
2) Relative Humidity (RH)
3) Up to what wind speeds should you continue to harvest in?

PPE hazard assessment and certification

Use this sample form to identify hazards and to certify (document in writing) that you completed the assessment. Keep it on file in your workplace.

Survey your workplace as often as necessary to identify safety and health hazards that require personal protective equipment.

General information

Department: Wheat Harvest Crew Location:

Jobs included in the assessment: Firefighting

Range / Crop land Firefighting

Person performing assessment:

Assessment date:

Hazard assessment certification

I certify that I performed this hazard assessment on the date indicated.

Signed: Joe Smith Date: 1/2/20

Type name here

PPE From the attached assessment worksheets	Required? Yes	No
Fall protection	○	○
Torso protection	○	○
Eye and face protection	◉	○
Head protection	○	○
Foot protection	◉	○
Leg protection	◉	○
Hand protection	◉	○
Hearing protection	◉	○
Respiratory protection	◉	○

Nomex and fire shelters are not required by OSHA. If you want employees to wear firefighting clothing, such as nomex, you must provide it at no cost.


Don’t wear synthetic materials! Long sleeves and long pants made of cotton or wool are best, other materials will melt and adhere to skin

Please take a few moments and fill out this survey to improve future teaching!

https://beav.es/Jge

Link for Plan Templates

https://beav.es/Jo6

SCAN ME

Contact me at jacob.powell@oregonstate.edu