



# Wildfire, Smoke Exposure, Human Health, and Environmental Justice Need to be Integrated into Forest Restoration and Management

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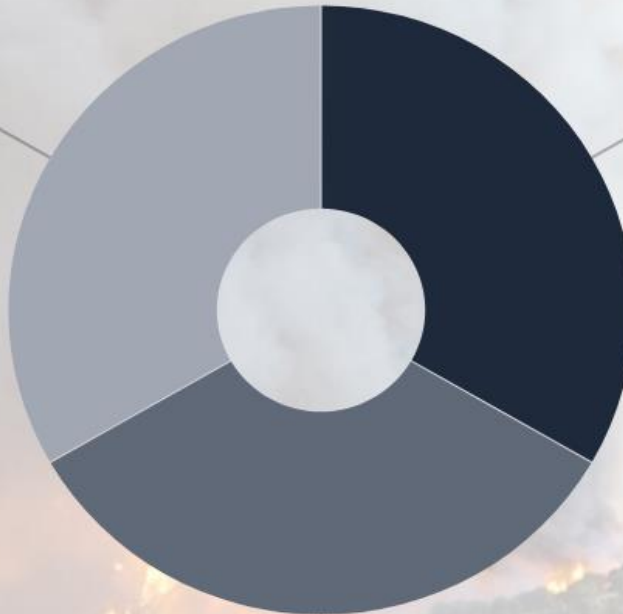
# You have personally experienced a wildfire smoke event

■ Yes **A** ■ No **B** ■ I'm not sure **C**

I'm not sure

Yes

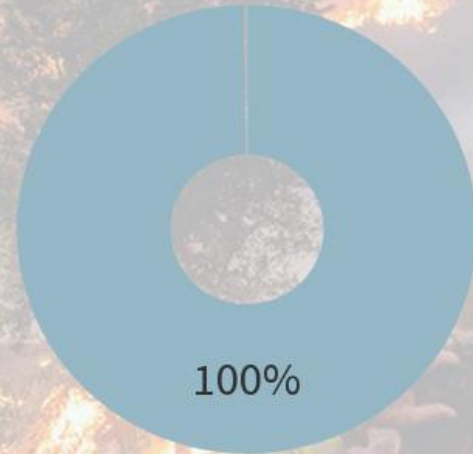
No





# You have been in the vicinity of a prescribed fire

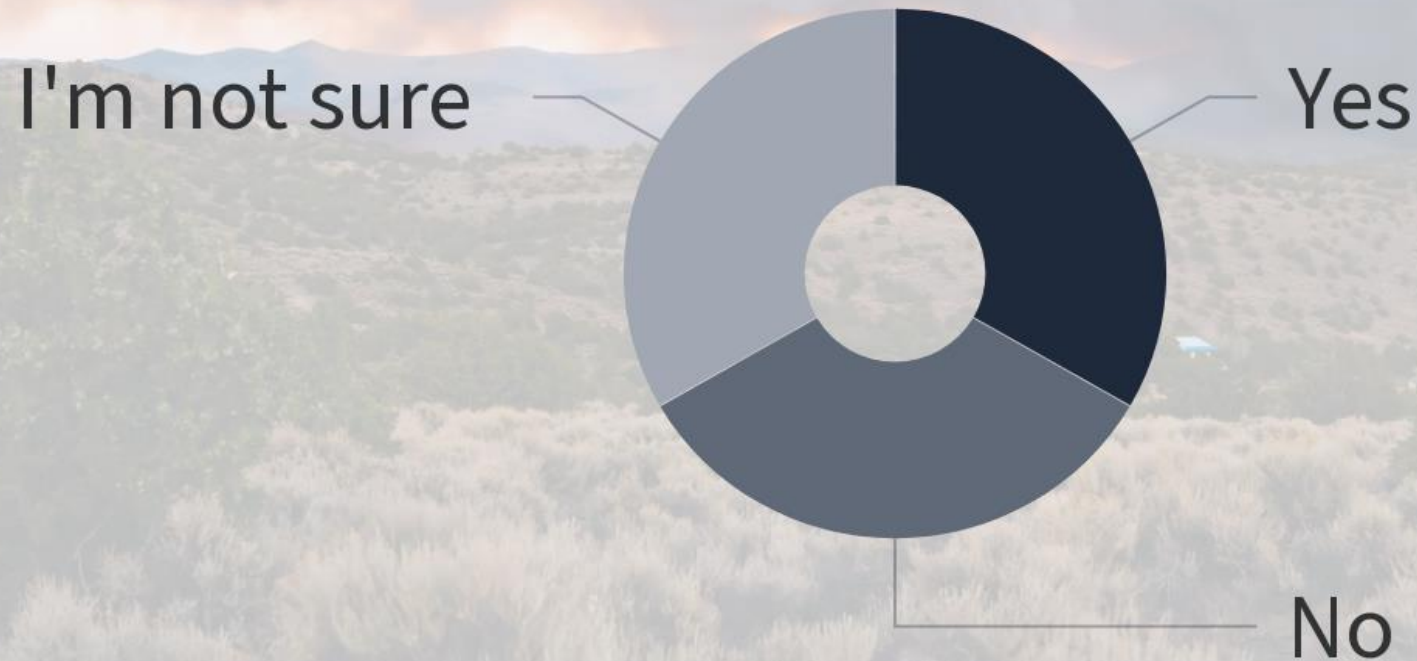
■ Yes **A** ■ No **B** ■ I'm not sure **C**



Yes

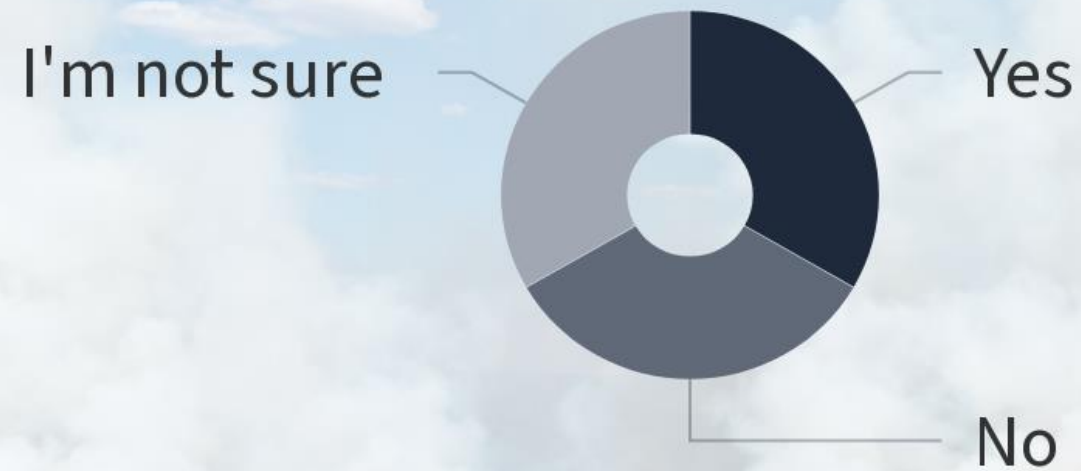
# You have felt a physical impact from smoke exposure (i.e. headache, cough, eye irritation, etc.)

Yes **A**   No **B**   I'm not sure **C**



# You have felt a mental impact from smoke exposure

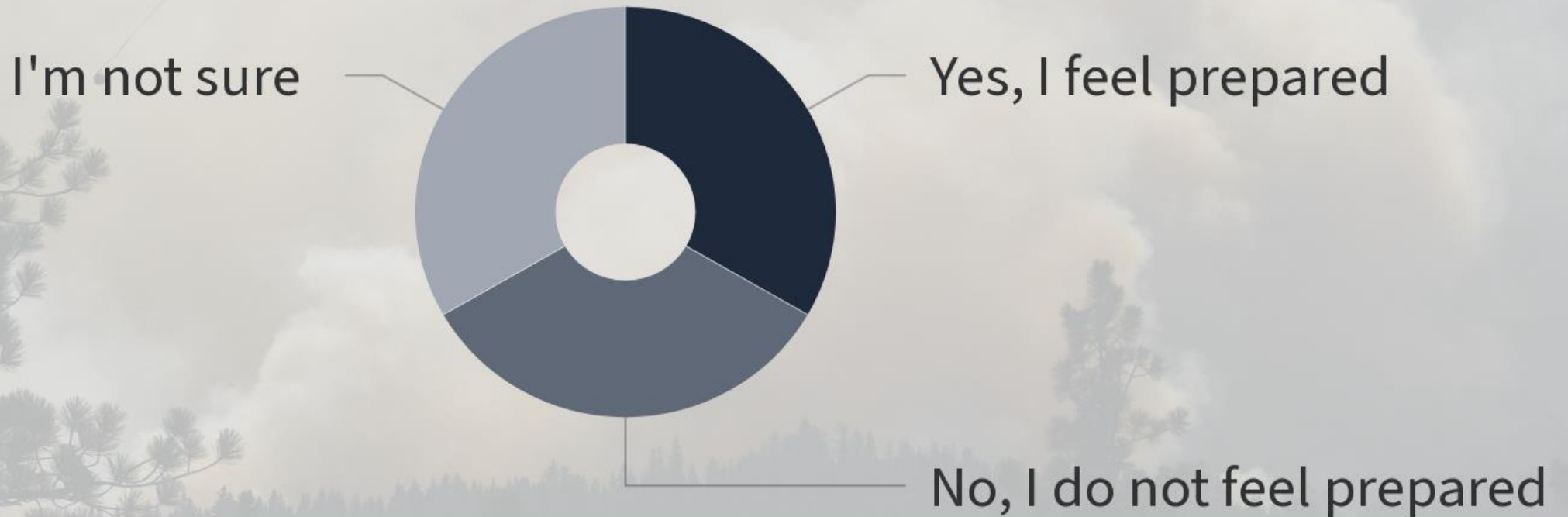
Yes **A** No **B** I'm not sure **C**





# Do you feel prepared for wildfire season? (both the smoke and the fire)

Yes, I feel prepared **A**   No, I do not feel prepared **B**   I'm not sure **C**



# What group of people comes to mind when you think of fire management?



**What group of people comes to mind when you think of  
smoke management?**



**What group of people comes to mind when you think of  
community wildfire preparedness?**



# Who do you think should be responsible for preparing communities for smoke season?

Fire-suppressed Forest

Ecologically managed Forest



The importance of fire management.



# HEALTH EFFECTS OF WILDFIRE SMOKE

## RESPIRATORY SYMPTOMS

COUGHING

PHLEGM

DIFFICULTY BREATHING

WHEEZING

### Respiratory effects

Bronchitis

Reduced lung function

Asthma & other lung diseases aggravated

Emergency room visits & hospital admissions

### Cardiovascular effects

Heart failure

Heart attack

Stroke

Emergency room visits & hospital admissions



BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

## EXPOSURE SENSITIVITY



Where you live



Health



Where you work



Age



## ADAPTIVE CAPACITY



Wealth



Education



Energy



Healthcare



Housing



Social  
Cohesion



Transportation



Behavior



**RISK OF SMOKE  
IMPACTS**





FOREST HEALTH & HUMAN HEALTH:

At times, unintentional adversaries...







# Science for Nature & People Partnership

**Mission:** We deliver **evidence-based, scalable solutions to global challenges** at the intersection of nature conservation, sustainable development, and human well-being

**SNAPP teams:** A multi-disciplinary group of **experts representing a broad suite of sectors, institutions, and specialties** who would not otherwise convene around a targeted, complex challenge.

**Teams include:**

- Academic experts in scientific fields directly relevant to the key questions
- Representatives of governments, multilateral institutions, and the private sector
- Practitioners from conservation, humanitarian, sustainable development, cultural, and spiritual organizations

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The Nature Conservancy

Partnership for Air Matters

Tribal Health Homes Network

WA Labor & Industries

WA State Department of Natural Resources

USDA Fire and Fuels Program

WA State Department of Health

USGS

Cal EPA

CA Department of Forestry & Fire Protection

WA State Department of Ecology





# The goal.


- (1) find **common ground** to provide a transdisciplinary view of how forest and fire management, (**specifically prescribed and managed fire**), intersects with human health **through the impacts of smoke** and
- (2) articulate the need for a more **integrated approach**





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## Wildfire, Smoke Exposure, Human Health, and Environmental Justice Need to be Integrated into Forest Restoration and Management

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1

We recognize the need to listen to and integrate a diversity of perspectives, in particular those embodied by Indigenous peoples who have successfully used fire as an ecological tool for thousands of years.





2

Prescribed fires in addition to managed fires for resource benefit are both necessary management techniques to keep forests resilient and to lessen the negative ecological and public health impacts of wildfires.





3

Certain regions of the western US will experience more smoke days with heightened use of prescribed and managed fire; however, we expect the impacts of smoke exposure to be reduced over the long term in comparison with untreated land burned by wildfires. With these techniques, exposure in affected communities can be planned and lessened.



4

No degree of smoke exposure is without risk. However, additional investment in advance preparation for affected populations can lower associated health risks. A smoke-resilient community is resilient to smoke from any type of fire.





5

We must work to promote both equity in process (e.g. who has a say in decision making) and equity in outcomes (e.g. who gets exposed to the smoke) within those communities and populations experiencing disproportionate impacts from smoke.





6

We are missing opportunities for positive impact by working as separate disciplines. We recommend that further and intentional integration of forest/fire and health disciplines (including the practitioners, tools, and resources) needs to occur to lessen the human health effects of smoke exposure due to prescribed and managed fires.







# **Wildfire Smoke Engagement Workshop**

Okanogan County, November 3 & 4, 2021





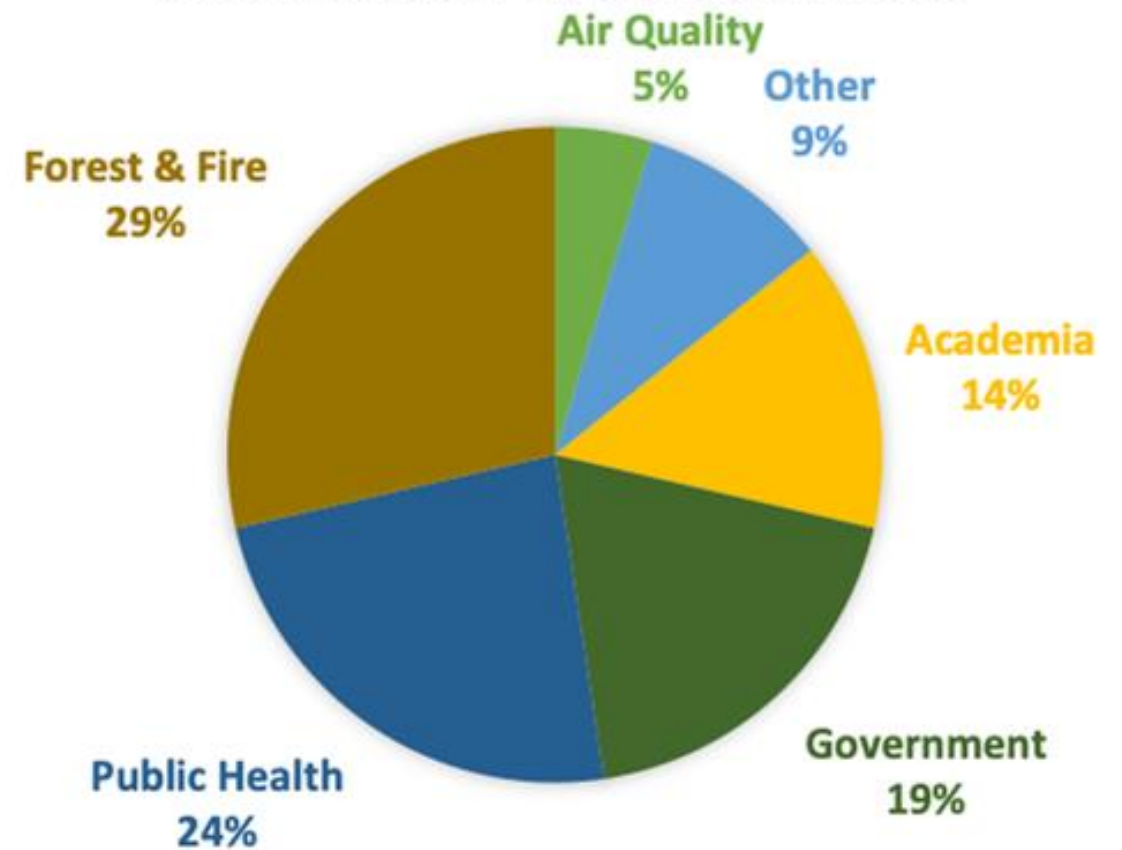
## The goal.

This workshop aimed to bring together practitioners and managers from Washington state in forest, fire, public health, and policy sectors to foster new interdisciplinary relationships and partnerships to integrate public health considerations into forest management during and beyond fire season.

# The format.

- Hybrid format
  - 19 in person
  - 21 virtual
- Presentations from local experts
  - forest management
  - air quality
  - community health
- Small group discussions
- Field trip led by local community members to visit forest management sites on the Colville Reservation

## WORKSHOP PARTICIPANTS





# The outcomes.

- Were you able to form new meaningful connections during this workshop?
  - 28.6% of participants strongly agree
  - 57.1% of participants agree
  - 14.3% of participants were neutral
- 76% of participants said they would be following up with someone as a result of the workshop, and 90% of those participants said their follow-up would involve crossing disciplines.



# Conclusions & Big Ideas...

**If you were ten times bolder, what big idea would you recommend?**

*“Build smoke-ready communities...”*

*- Create new organization, state-level w/ communications experts, project managers, consultants, etc. to provide community support and smoke-action plans*

*- Inter-agency funded: DOH, ECY, DNR etc...”*



Questions?

