

# Okanogan River Airshed Partnership



Presented by  
Kathy Moses  
Communications Specialist  
Colville Tribes Air Quality Program




# Okanogan River Airshed

## Core Group:

- Confederated Tribes of the Colville Reservation
- EPA Region 10
- WA DOE



*Home is where the heart is  
and Omak is the heart of the  
Okanogan*



Okanogan is Where  
"friendly" is a way of life.

## Our Mission:

We are seeking non-regulatory projects, programs, and partnerships in the Okanogan River airshed that increase our understanding of the PM<sub>2.5</sub> air pollution and help to reduce it.

# Particle size

**PM2.5 is very Small in comparison to**

- Sand
- Human Hair,
- and Dust.



Image courtesy of the U.S. EPA



## Maps

### Air Monitoring Sites

### Most Recent Data

### Site/Group Reports

### Wildfire Updates/Links

### Login

Close Menu

Most recently collected data have yet to be thoroughly reviewed for validity and should be considered preliminary.

Click WAQA Legend for details



## WAQA Legend

- Good
- Moderate
- Unhealthy For Sensitive Groups
- Unhealthy
- Very Unhealthy
- Hazardous
- No WAQA Data



# Emission Sources in the Area



Transportation



Wildfires



Industry



Woodstoves




Backyard Burning

**AIR POLLUTION IS IN THE AIR!**

**WHAT CAN WE DO TO HELP?**

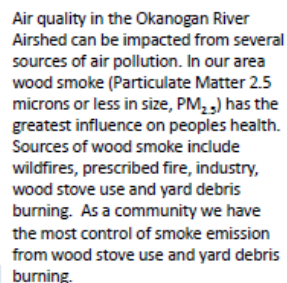
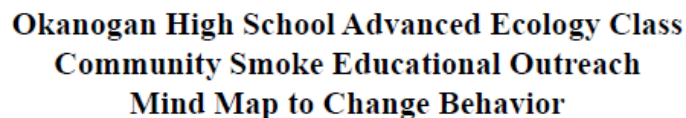


# EDUCATE OURSELVES AND OUR CHILDREN ABOUT AIR POLLUTION

A photograph of a group of people, including children, standing in a field of dry grass and fallen leaves. A plume of white smoke or steam is rising from the ground in the background, illustrating the concept of air pollution from burning leaves.

People sometimes burn leaves in the fall which produces smoke.

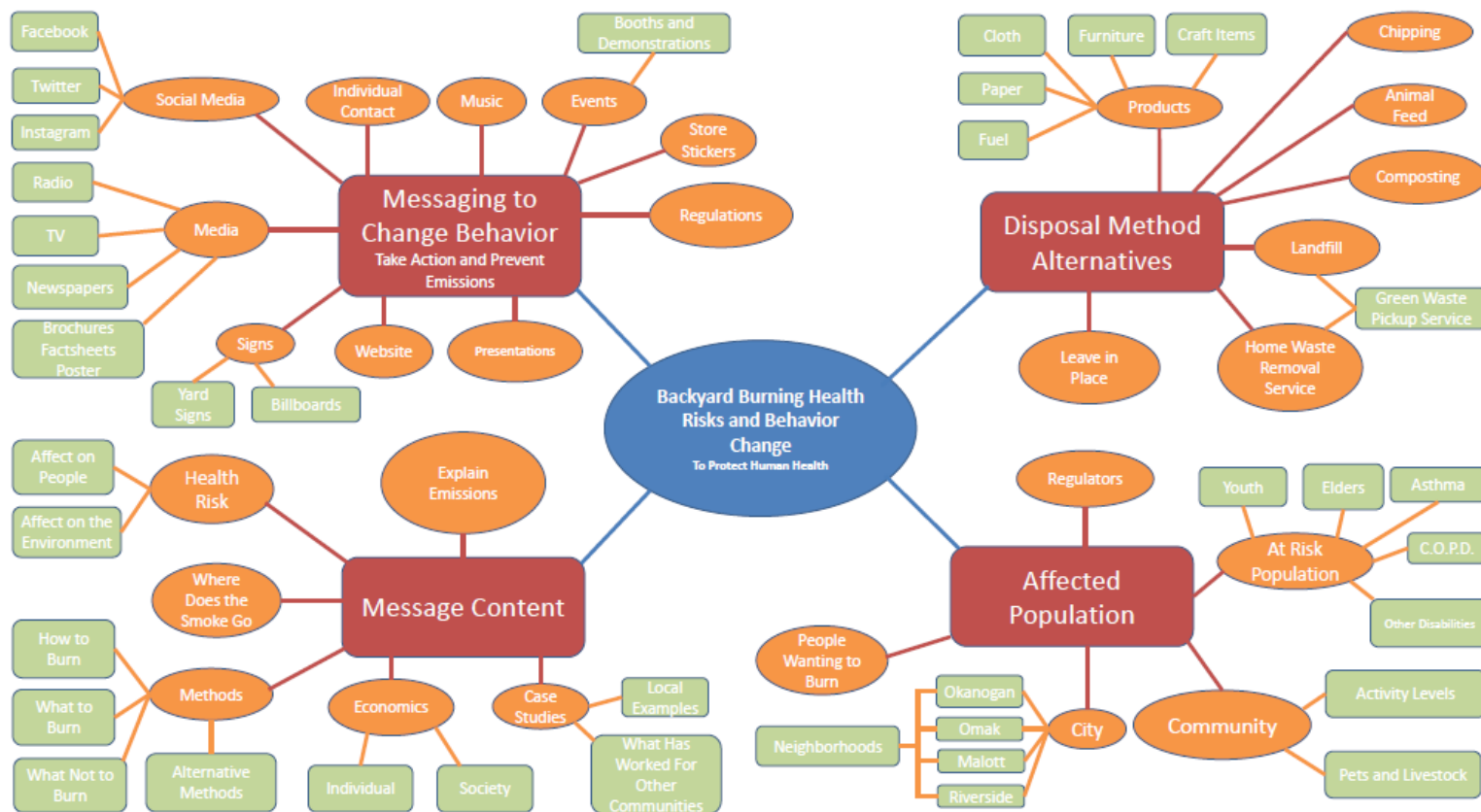
Smoky air is not healthy for children and other living things



Residential yard debris burning smoke begins to impact the area in early October with fall rains and low temperatures at night. The timing coincides with the advent of stagnant air or inversions. Inversions occur when a warm air mass slips over cold air and traps pollutants close to the ground.

The mind map represents an attempt at explaining the consequence of backyard burning and solutions to decreasing the occurrence and effect of smoke on people's health.

Ms. Fergusons Okanogan High School ecology class was given the narratives in blue and red and asked to provide details for the other layers.



**The mind map represents an attempt at explaining the consequences of backyard burning and solutions to decreasing the occurrence and effect of smoke on people's health.**



**Okanogan  
High School  
Ecology Class**

**Help with the solution,  
Stop backyard pollution**



**Why **Burn**  
And Have It **Hurt**  
When **Composting**  
Can Make **Dirt!!****



**Don't Burn Trash or  
grass the smoke'll  
make you choke!!**



**Don't Make Me Choke  
Control Your Back  
Yard  
Smoke...**

  
**POLLUTE THE AIR AND THE  
AIR POLLUTES YOU**



OKANOGAN ECOLOGY CLASS

# OKANOGAN RIVER AIRSHED PARTNERSHIP

The class called themselves the **Vermiculture Vanguard** because they wanted to use worms to decompose organic waste and turn it into usable material for gardening.

How we started our compost pile



First we pulled the leaves out of the burn pile.

Then we put the leaves in bins and picked friends to help us carry them.



Next we dumped the leaves on the compost pile.

Last, we jumped in our huge piles of leaves.

**We want to teach people how to compost leaves.**  
When people compost leaves they get a lot of great soil.  
The compost helps plants grow strong and healthy.

When people burn leaves it creates a lot of smoke.

Smokey air is not healthy to breathe.

**We Like to Breathe Clean Air!**

Grainger Elementary School  
1118 5th Ave S  
Okanogan, WA 98840



Finally Spring Came!



The Tribe gave us some very cool tools!  
We got back to work.

People sometimes burn leaves in the fall which produces smoke.

Smoky air is not healthy for children and other living things

and thank-you for keeping the air clean for children and other living things!



Good-bye

# OKANOGAN COUNTY AIR QUALITY SURVEY



Survey conducted by:

Social & Economic Sciences Research Center  
Washington State University  
PO Box 641801  
Pullman, WA 99164-1801

Survey sponsored by:

Washington Department of Ecology

Survey endorsed by:

Confederated Tribes of the Colville Reservation



The Confederated Tribes of the Colville Reservation  
P.O. Box 150, Nespelem, WA 99155  
(509) 634-2200  
FAX: (509) 634-4116



Friday, March 31, 2017

Social & Economic Sciences Research Center  
Attn: Kent J. Miller  
Washington State University  
PO Box 644014  
Pullman, WA 99164-4014

Dear Mr. Miller:

On behalf of the Confederated Tribes of the Colville Reservation, please accept this letter of endorsement to support the Okanogan County Air Quality Survey Project. The Colville Tribes Office of Environmental Trust Air Quality Program, Environmental Protection Agency, and Department of Ecology have been closely monitoring air quality issues in the central valley of Okanogan County. This combined effort is to improve the air quality and promoting healthier communities within Okanogan County.

The Colville Tribes realizes the benefits that this survey will provide in understanding how air pollution impacts residents in Okanogan County. It is important that we continue to work together with federal and state agencies, local business, and community members to lessen the impact of air pollution in the area.

The Colville Tribes appreciates your efforts in providing a service that will generate vital information to be used toward improving the environment for Okanogan County.

Sincerely,

*Joseph Somday*

Joseph Somday,  
Chairman of the Natural Resources Committee  
Colville Tribes Business Council

Sponsored  
by



Department  
of Ecology

Endorsed  
by



Confederated Tribes  
Of the Colville  
Reservation

Conducted  
by



# Sampling

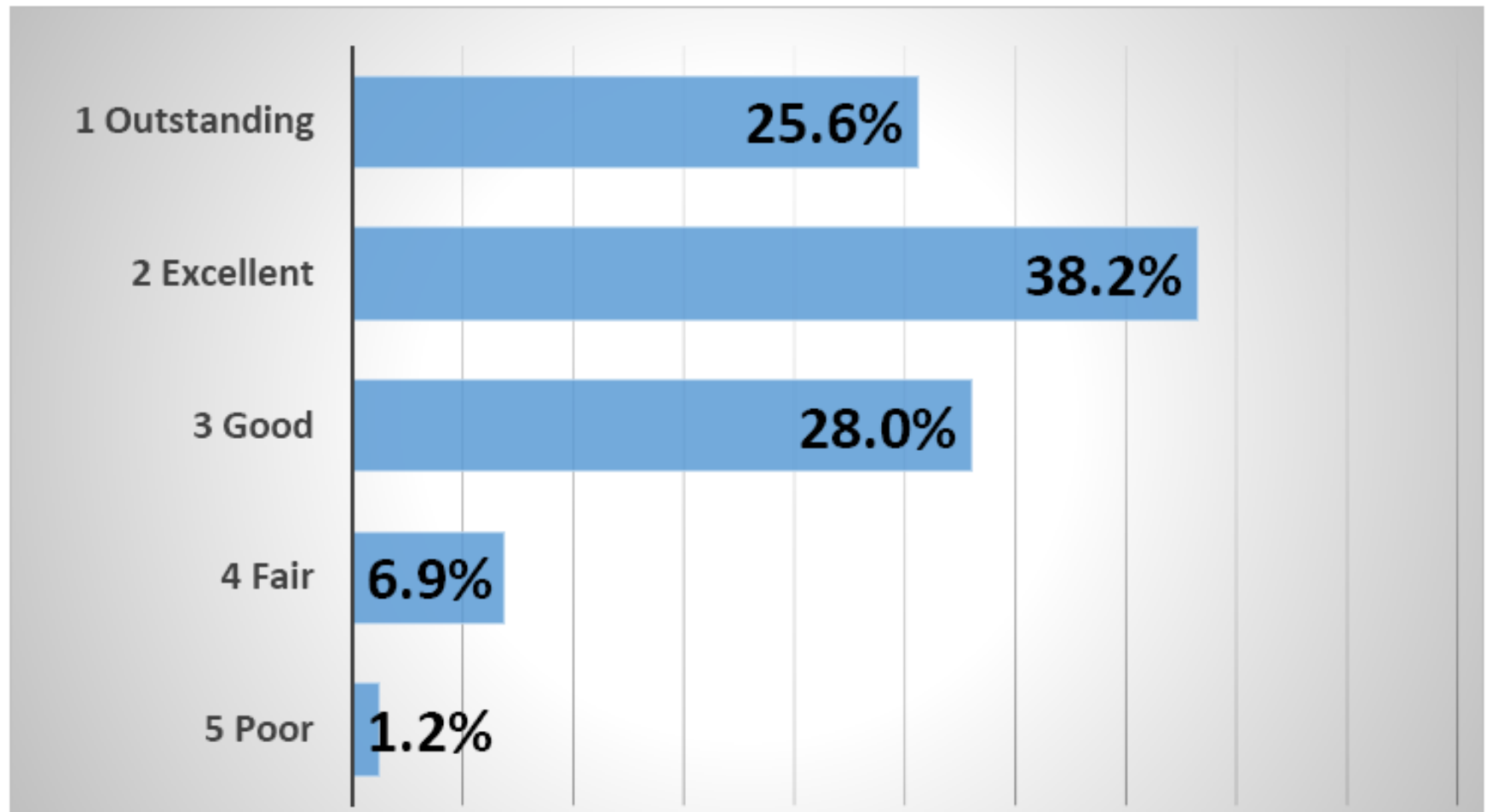
## Response Rate

Total sample used	3200
Completed questionnaires	910
Refusals	20
No response + return to sender	2263
Response Rate	28.5%

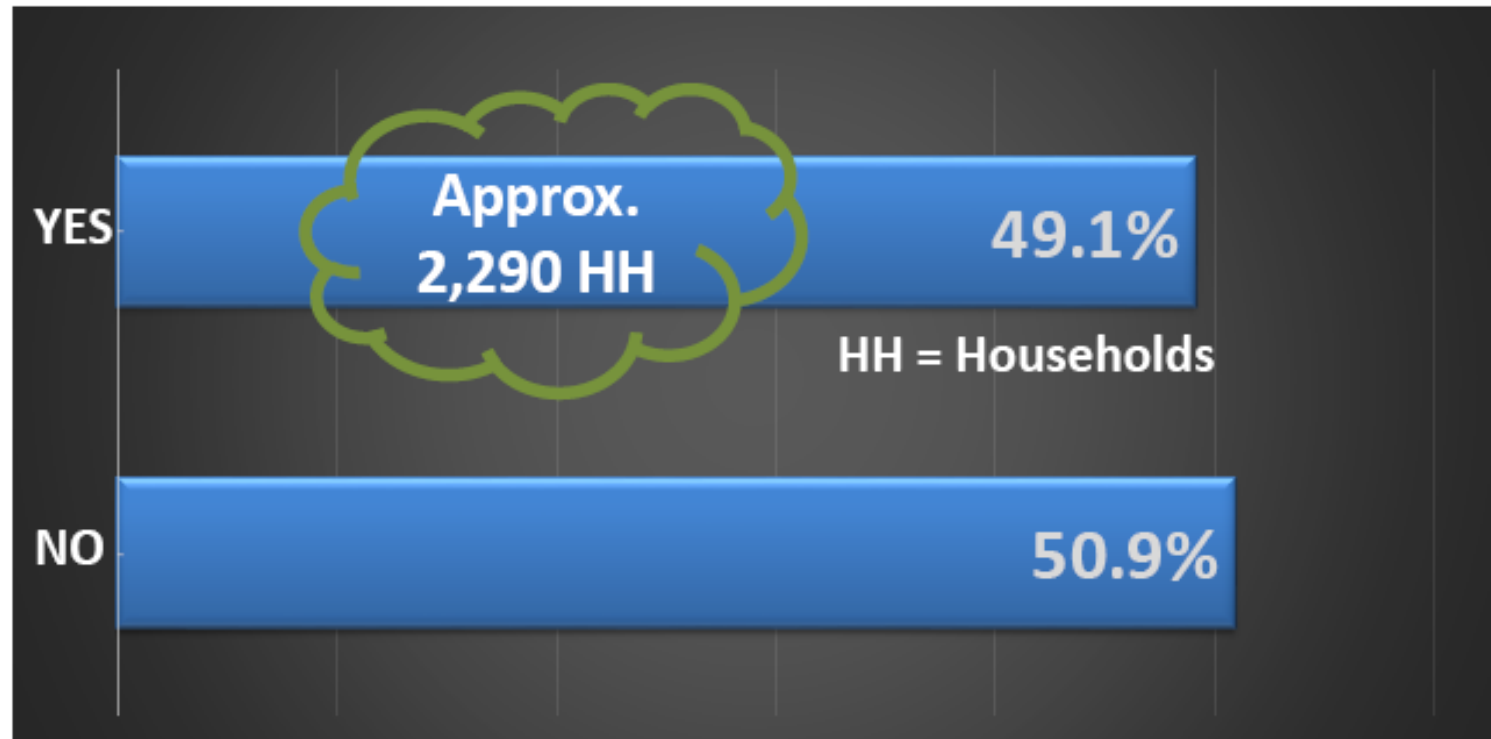
- 3,200 randomly selected households
- Paper survey by mail
- Up to 4 contacts
- Mailings: April 12, 19, 28, & May 5



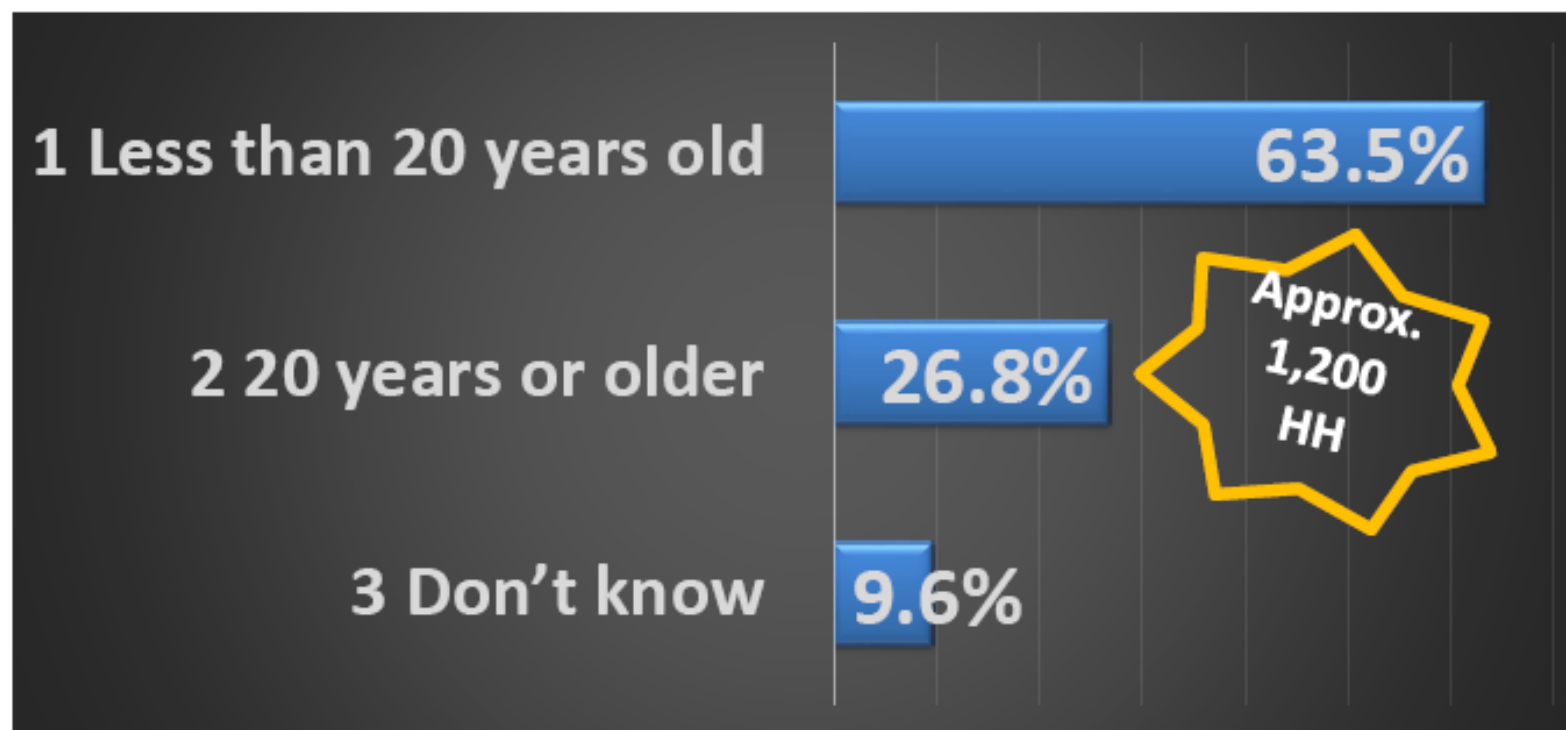
# Q15. How would you rate the air quality in the neighborhood where you live? (n=882)



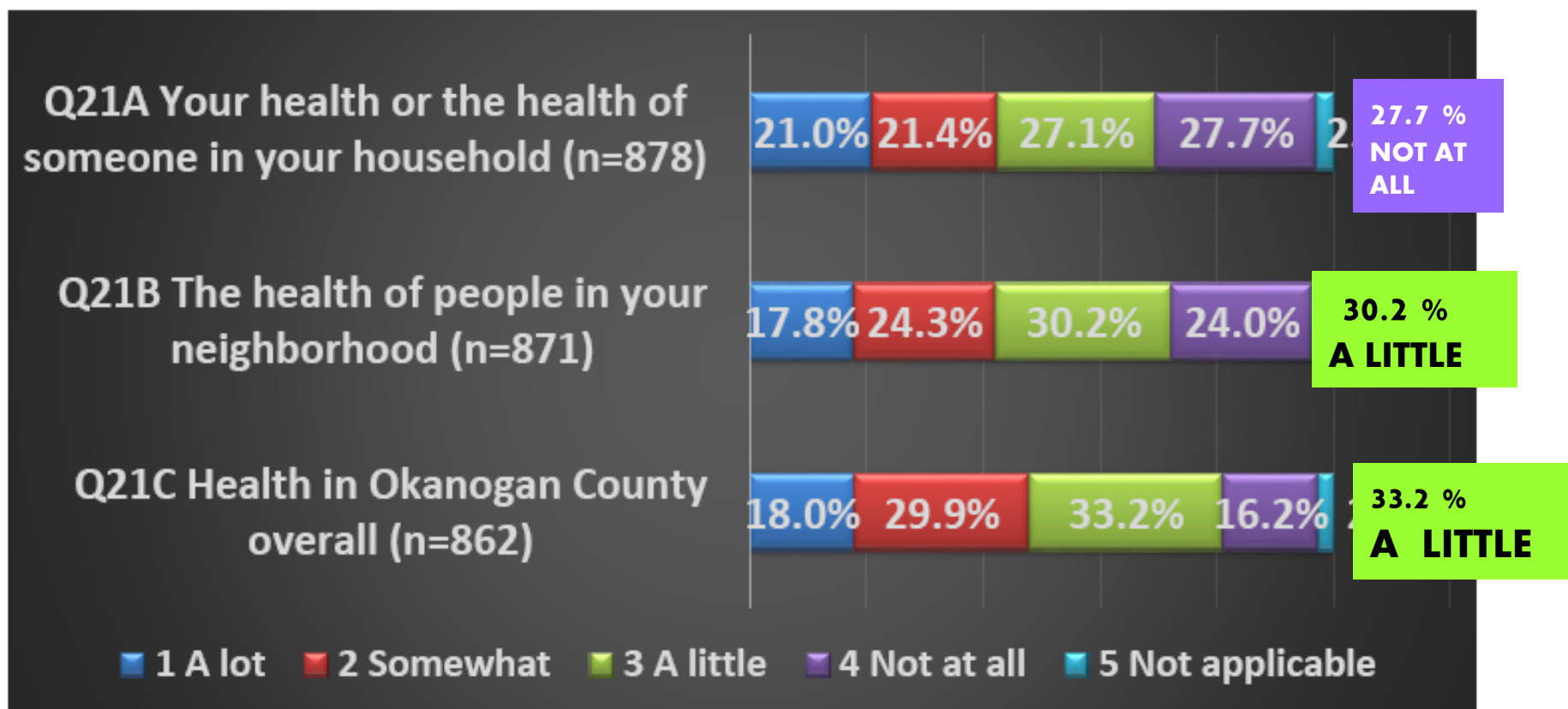
**Q3. Is wood burning your household's main source of heat?**  
(n=438)



**Q7.** Approximately how old is your  
primary wood heating device?  
(n=406)

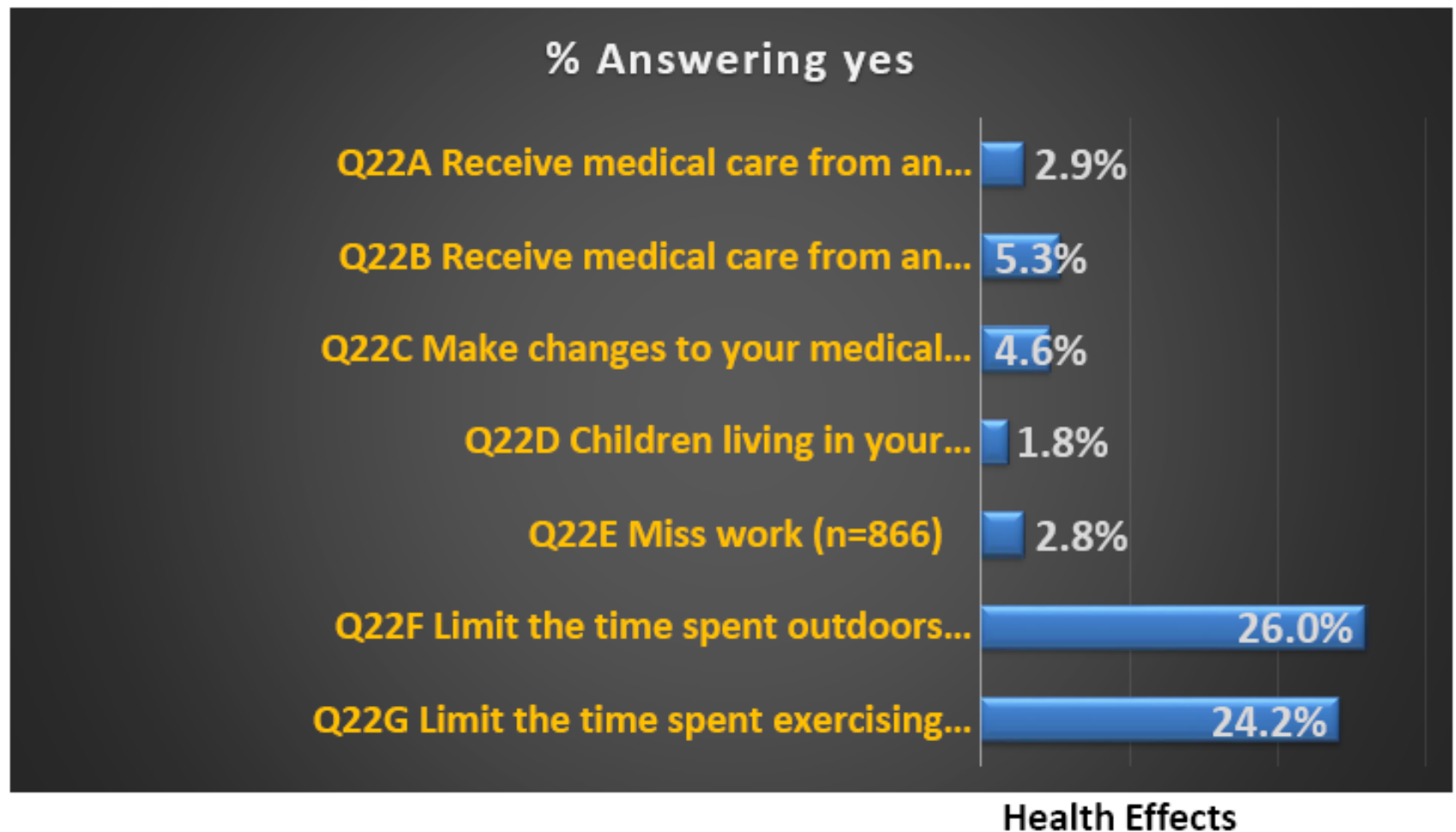


# Q21. How much do you think air pollution has an effect on each of the following?

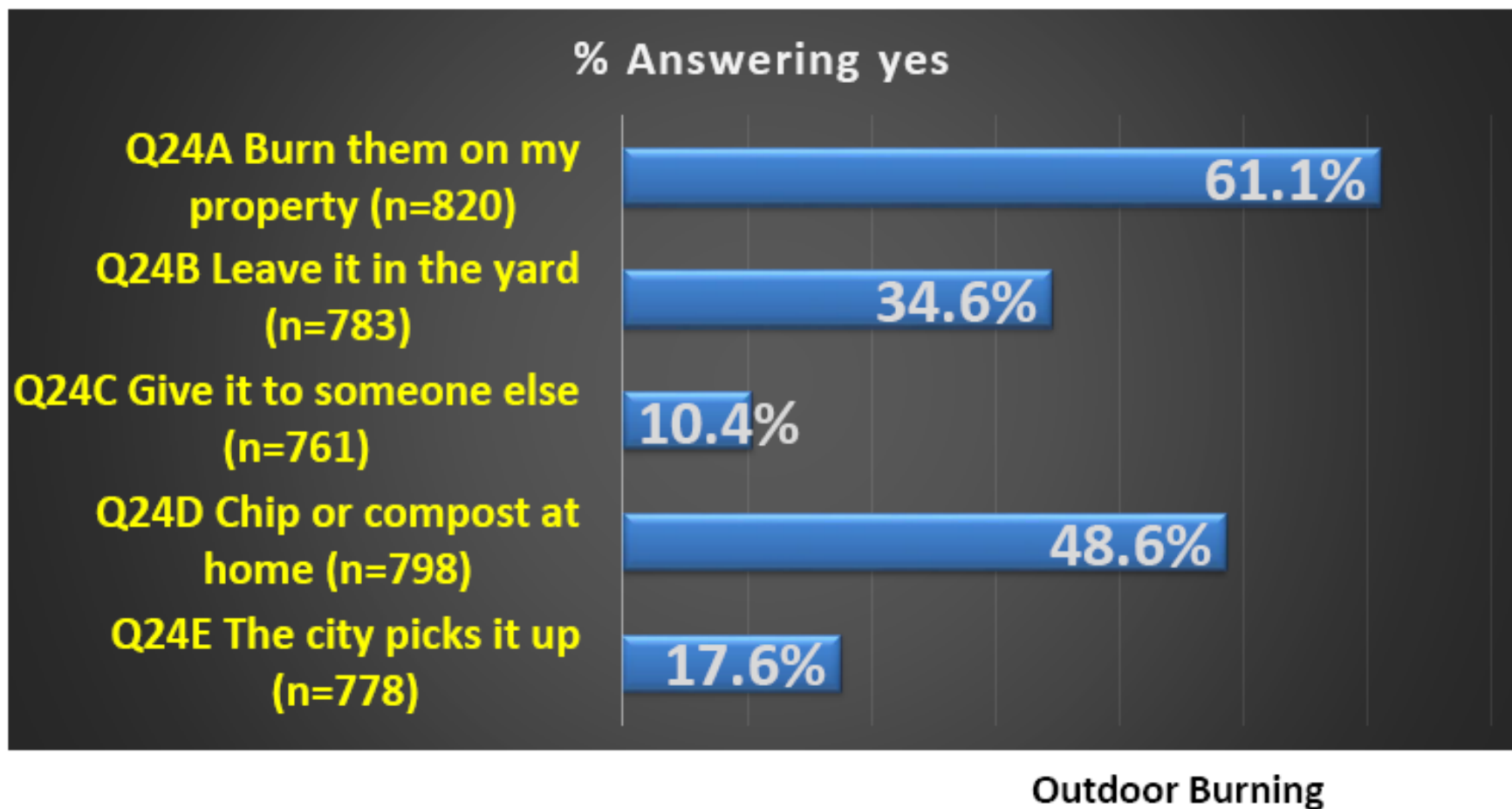


Health Effects

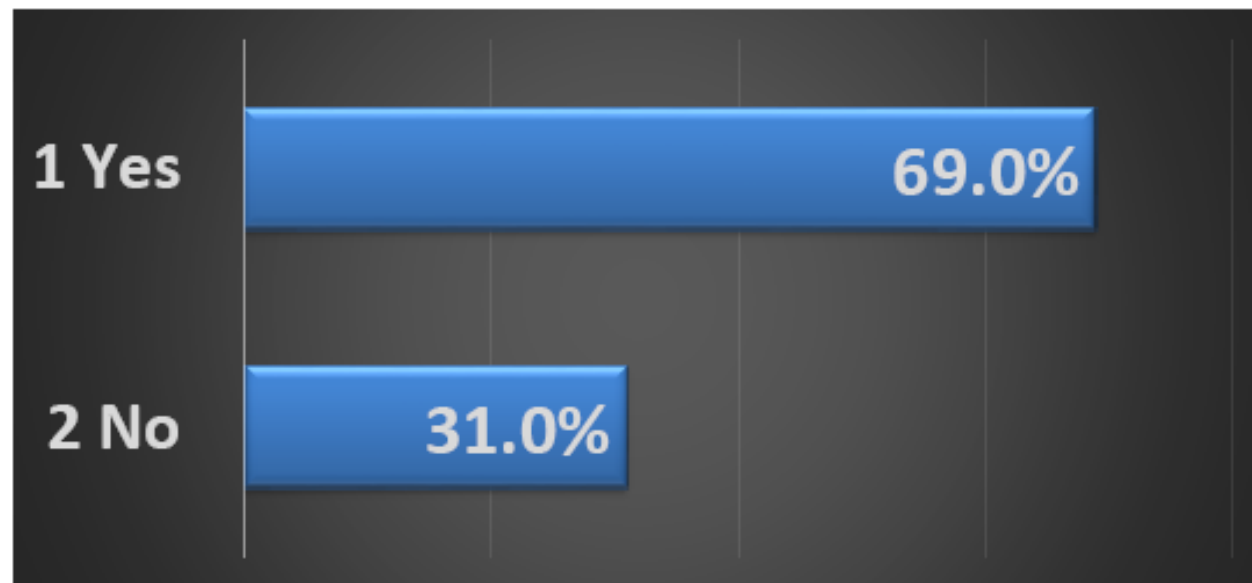
**Q22.** In the past 12 months, has poor air quality caused you or a member of your household to do any of the following?



# Q24. What do you do with the leaves or other yard debris from your yard?

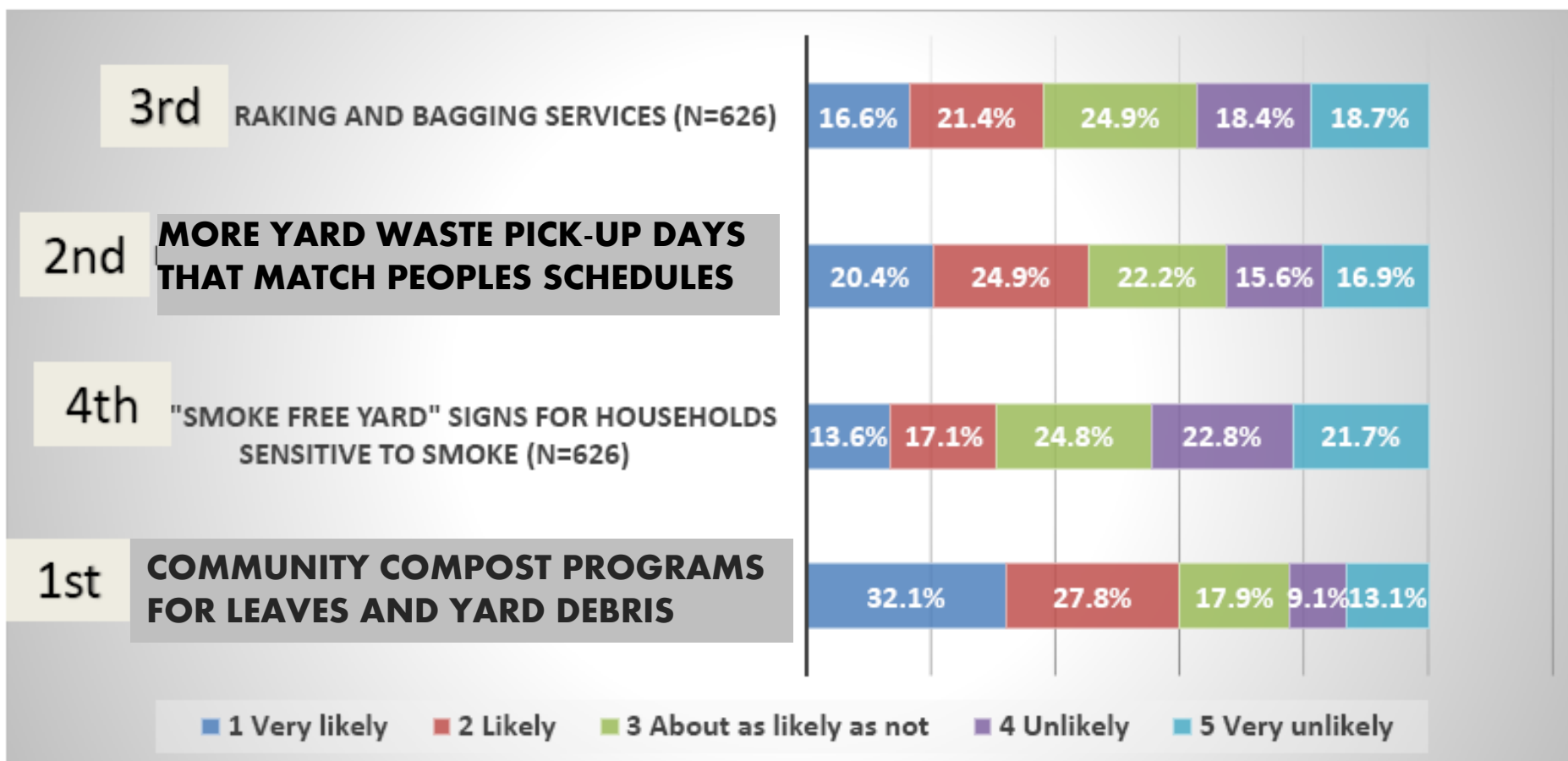


**Q25.** Do you or your household do any outdoor burning? (n=860)



Outdoor Burning

**Q30.** If available, how likely are you to support the following voluntary programs to help people in your community use non-burning options for leaves and yard debris?



Outdoor Burning

# How likely are you to support the following

## % Answering Very likely or Likely

Q20M Restricting outdoor burning on poor air quality days (n=873)

70.8%

Q20I Community composting bank for dropping off leaves/branches and picking up chips/compost (n=873)

68.2%

Q20F Educating the community on efficient woodstove operation (n=867)

64.1%

Q20J Encouraging voluntary limitations on wood burning during poor air quality days (n=871)

62.9%

Q20G Educating the community on alternatives to burning leaves, twigs, and branches (n=866)

58.5%

Q20D Cash-back incentive program for removing or upgrading old wood heating devices (n=866)

56.8%

Q20L Prohibiting wood heating on poor air quality days if the household has another source of heat (n=868)

51.5%

Q20K Fines for burning during an air pollution burn ban (n=864)

50.9%

Supported Actions

# Moccasin Flats - Omak

## Firewise Community Cleanup Day

May 24, 2017, starting at 12:30 p.m.

With FREE Community BBQ at 5 p.m.

At the Moccasin Flats Playground



THIS IS WHAT WE HAVE TO SHARE:

How to make your home firewise and safe this fire season

Where and how to display your 911 address

How to sort your trash and handle other types of waste

Smokey Bear on site

Elder Assistance with making property firewise and cleanup

Dinner on us!

For information contact:

Mount Tolman Fire Center

Evan Brown, Fire Prevention Specialist

Phone: (509) 634-3188

BRING YOUR YARD TOOLS, LAWN CHAIRS, AND GLOVES





# CITY OF OMAK

## Spring Clean-Up

### FREE City Wide Event

## SPONSORS



**Freel's Refrigeration**

Commercial Refrigeration Sales,  
Service, Installation & Repair

P. O. Box 868  
Omak, WA 98841  
509-826-5492



**SUNRISE**



**DISPOSAL INC.**



Working to Keep our Cities Clean  
330 Ferry St. Omak, WA  
509-422-4530

### Okanogan River Airshed Partnership



Confederated Tribes of the Colville  
Reservation

- Environmental Trust Department
- Planning Department
- Public Works Department

WA Department of Ecology



US Environmental  
Protection Region

**CITY OF OMAK  
CITY WIDE  
SPRING CLEAN-UP DAY**  
**June 3, 2017**  
**8 am - Noon**

**Drop off your yard debris,  
recyclables, and solid waste  
at Omak Eastside Park**

#### ACCEPTABLE YARD DEBRIS INCLUDES:

- Leaves • Grass Clippings • Weeds
- Branches & trimmings

#### ACCEPTABLE RECYCLABLES INCLUDES:

- Aluminum • Cardboard • Electronics
- Car Batteries • Small & Large Appliances
- Plastic Bottles (#1 & 2) • Copper, Steel & Tin
- Electronics: TV's, Computers, Monitors
- Office paper, newspapers, and magazines

#### ACCEPTABLE SOLID WASTE INCLUDES:

- Mattresses • Household Garbage
- Fence posts, boards, plywood etc.

**NO HOUSEHOLD HAZARDOUS WASTE OR TIRES**

**Working together for a Healthier Community!** 



# Save the Date

## Okanogan River Airshed Partnership Gathering

Mark your calendars for **Thursday September 7, 2017** for our next in person meeting.

We will be discussing a wide variety of topics including:

- WDOE community survey results
- Monitoring efforts, temporary site at the Okanogan PUD buildings
- Projects with a focus on air quality
  - Okanogan first grade composting project
  - Omak Cleanup day
- Wood stove emissions reduction projects
- Establishing a chipper/composting program
- Education and outreach opportunities

The details for the time, place and agenda will be sent out before the meeting once we have a better idea of what the partnerships needs are. Please forward this opportunity to other you know who would like to be part of the partnership and help improve our air quality. This will be another dynamic and informative event, hope all of you can attend.



## We Like to Breathe Clean Air!



**FROM THE CHILDREN OF OUR  
COMMUNITY**

**AND THE OKANOGAN RIVER AIRSHED PARTNERSHIP**



Nanette Vaughn / Media Services

Colville Tribal Environmental Trusts' Kathy Moses and Kris Ray address the Okanogan River Air Partnership members in early September in Omak.

## Okanogan Airshed Partnership meets in Omak

The Okanogan River Airshed Partnership met in early September to continue the discussion on decreasing the fine particulate matter (PM<sub>2.5</sub>) in and around the greater Omak/Okanogan area. The partnership consists of representatives from local, county, state, federal and Tribal governments and programs. The partnership seeks a reduction in PM<sub>2.5</sub> by non-regulatory methods to improve our community's environment and health. Projects the partnership discussed include, woodstove buy back, woodstove change out, school composting, community composting and alternative of yard debris burning.

Part of our county culture includes heating our homes with wood. Results from a recent county survey showed that half of us use wood as the main way

to heat our homes. The wood stove buy back and change out programs seeks to remove and replace non-effluent stoves with EPA certified devices that burn cleaner. These programs have been effective in other communities to reduce emissions during the heating season.

Many members of the partnership are interested in composting yard waste and other vegetative material as an alternative to burning. Composting to divert material from burning can be conducted on many scales, from individual homes, neighborhood leaf yards, school gardens, to commercial operations. Several projects are being proposed that would address the individual and community composting possibilities.

At the gathering the group

highlighted the projects that reduce the possibility of smoke implemented since our first meeting in February. One of the most exciting projects was begun by Jim Anderson's first grade class at Virginia Granger Grade School in Okanogan. The class called themselves the Vermiculture Vanguard because they wanted to use worms to decompose organic waste and turn it into a useable material for gardening.

The partnership will continue to promote alternatives to burning to keep our community healthy and our environment clean. For more information please contact Kris Ray, Air Quality Program Manager, Confederated Tribes of the Colville Reservation, 509-634-2418 or [kris.ray@colvilletribes.com](mailto:kris.ray@colvilletribes.com).



# Rot in peace



Not just a tradition, light and glow: There could be a showing of more at the Village Stage? Elementary School compost project.



Ellie Stewart (bottom, left) and Sophie Stewart (top right) along a early 10th with maple leaves into a compost window. (Bottom right) Willow St. Children's Center, 10th, showing compost at the Village Stage? Elementary School compost project.



Jack-o'-lanterns, some with their body bent.



Stephen and Sophie Stewart work with Ellie Stewart to move a mountain of fallen leaves.

## Composters work through biting cold temperatures

Red wigglers  
navigate under  
layers of leaves

By Bob Camp

It's a cold, dark, and rainy day in the woods, but a group of people are working to place a large pile of leaves in a compost bin. The leaves are being placed in a compost bin that is already filled with a large pile of leaves. The people are working to place the leaves in a compost bin that is already filled with a large pile of leaves.

composters of leaves, some  
mature and some still in  
the process of decomposing, and  
some still in the process of  
decomposing. The leaves are  
being placed in a compost bin  
that is already filled with a  
large pile of leaves. The people  
are working to place the leaves  
in a compost bin that is already  
filled with a large pile of leaves.

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Photos by Jim Anderson

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# FALL CLEAN UP

**NOVEMBER 4, 2017**  
**For Cities of Omak and Okanogan**

**The Cities of Omak and Okanogan** will be offering a Fall Clean up for our citizens on November 4th. We encourage all of our customers to take advantage of this chance to clean up your natural vegetation. Sunrise Disposal will be picking up the yard debris. There will be no limit on the number of bags or bundles you put out for pick up. The bags or bundles must not exceed 60 pounds. All limbs and branches must be securely tied in bundles to facilitate handling by the pick up crews. Place all your yard debris where you normally set your garbage cans.

## ACCEPTABLE YARD DEBRIS INCLUDES:

- Leaves
- Grass clippings
- Weeds
- Small tree branches & trimmings  
(4 foot limbs, 3 inches in diameter tied in bundles)

## NOT ACCEPTABLE:

- Fence posts, boards, Plywood
- Tires,
- Any plastics or metal
- Large braches or tree stumps,
- Hazardous waste (paint, toxic cleaners, insecticides, herbicides or chemicals)
- Used oil or
- ANY GARBAGE THST IS NOT NATURAL VEGETATION.

**CLEAN AIR PARTNERS**  
HELPING OUR REGION BREATHE EASY!



**Bag it! Don't Burn it!**

## WORKING TOGETHER FOR CLEANER AIR!

### Okanogan River Airshed Partnership



**Confederated Tribes of the Colville Reservation**

- Environmental Trust Department
- Planning Department
- Public Works Department



**WA Department of Ecology**



**US Environmental  
Protection Agency  
Region 10**



# Okanogan River Airshed Partnership

## Wood Stove Changeout Program

Due to the our great work and support by Region 10 EPA we are on the verge of being able to implement a woodstove changeout program in the partnership emphasis area. To be prepared for this influx of funds we need to start collecting information and forming a plan of action to effectively implement a program.

If you would like to participate in the planning or just have a few great ideas send an email or call to be added to the subcommittee list. Contact: Kris Ray, Air Quality Program Manager, CTCR, 509-634-2418 or [kris.ray@colvilletribes.com](mailto:kris.ray@colvilletribes.com)



## How to Implement a Wood-Burning Appliance Changeout Program

September 15, 2014



# lamlamť (Thank you)



Photograph by  
Amy Martin

Kathy Moses,  
Communications Specialist  
Colville Tribes Air Quality Program  
509-634-2413 or  
[kathy.moses@colvilletribes.com](mailto:kathy.moses@colvilletribes.com)