

Kittitas County Air Quality: Key Informant Interviews

Summary Report

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BY

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Introduction

This report summarizes the responses from key informant interviews conducted with ten Kittitas County residents who burn wood on a regular basis. The information contained in this report supplements the Kittitas County Air Quality Survey report that was completed in August of 2014 by the Kittitas County Public Health Department. Interview questions were designed to expand upon survey results that needed further exploration and would benefit from anecdotal evidence:

- Community understanding of the air quality issue in Kittitas County
- Motivation for burning practices
- Effective methods of outreach and education
- Identifying incentives for adhering to cleaner burning practices

The findings of both reports will be used to inform future outreach and education campaigns related to improving air quality and increasing the incidence of clean burning practices in Kittitas County.

Methods

Ten interviews were conducted over the course of a week in August 2014. Participants in the interviews were recruited through an ad in *The Daily Record*, a local newspaper. Individuals who responded to the ad were screened using a questionnaire (see Appendix A). In order to be chosen as a participant, respondents needed to meet four specific criteria:

- 1) Be a resident of either Upper or Lower Kittitas County
- 2) Resident must have a fireplace, wood stove or both.
- 3) Resident must burn solid fuel as a primary or secondary heat source.
- 4) Engage in outdoor burning practices such as recreational or agricultural burning and yard waste disposal.

The Assessment Coordinator reviewed the applicants and chose the individuals that would provide varied perspectives based on location in the county. Ten individuals were chosen and the interviews were scheduled at various times over the course of one week. The interviews were conducted in a confidential setting at the Kittitas County Public Health Department by the Assessment Coordinator. Each participant was asked a series of seven questions:

- 1) *What do you think about the issue of air quality in Kittitas County?*
- 2) *Please briefly describe your burning practices.*
- 3) *How do you know when your wood is ready to burn (indoors or outdoors)?*
- 4) *How do you determine what's okay and not okay to burn in an outdoor fire?*
- 5) *What do you think people need to know in order to increase cleaner burning practices and burn more efficiently?*
- 6) *What kind of incentives could we offer that would help to promote education around cleaner burning practices?*
- 7) *How do you think we can best get information out to people about cleaner burning practices?*

It is important to note that the order of the questions sometimes varied due the natural flow of conversation; however, the content of the questions did not change. Upon completion of the interview, participants were given a twenty-five dollar gift certificate to a local grocery store. Questions and answers were recorded by the Assessment Coordinator using a voice recording application on a Kittitas County owned iPhone®. Recordings were transcribed through an outside contractor. Transcripts were then analyzed by the KCPHD Assessment Coordinator for consistent themes among participant responses.

The ten key informants were comprised of seven men and three women ranging in age from mid-thirties to mid-seventies. Residents from upper and lower Kittitas County were represented as well as in city and out of city limit dwellings. All of the respondents were home and property owners. The length of the interviews varied from person to person, however, the average conversation was approximately 30 minutes.

TABLE 1: Participant Demographics

| Gender | Age | Homeowner | Location | Fireplace/ Woodstove | Primary/Secondary Heat | Outdoor Burning |
|--------|-----|-----------|-------------------|-------------------------|---------------------------|--------------------|
| Male | 72 | Yes | 98926-Out of city | Woodstove | Secondary | Yes |
| Male | 60 | Yes | 98926-Out of city | Woodstove | Primary | Yes |
| Female | 76 | Yes | 98925-In city | Woodstove | Secondary | Yes |
| Female | 67 | Yes | 98926-In city | Woodstove | Secondary | Yes |
| Female | 47 | Yes | 98926-Out of city | Woodstove | Primary | Yes |
| Male | 76 | Yes | 98922-In city | Woodstove | Secondary | Yes |
| Male | 73 | Yes | 98926-Out of city | Woodstove | Primary | Yes |
| Male | 60 | Yes | 98926-Out of city | Woodstove | Primary | Yes |
| Male | 38 | Yes | 98926-Out of city | Woodstove | Primary | Yes |
| Male | 58 | Yes | 98926-Out of city | Woodstove | Primary | Yes |

TABLE 2: Summary of Interviews

| Interview | Date | Time | Duration | Location |
|-----------|---------|----------|----------|---|
| # 1 | 8/04/14 | 3:00 pm | 24 min | Kittitas County Public Health Department, Rm. 106 |
| # 2 | 8/05/14 | 9:00 am | 38 min | Kittitas County Public Health Department, Rm. 106 |
| # 3 | 8/05/14 | 11:00 am | 59 min | Kittitas County Public Health Department, Rm. 106 |
| # 4 | 8/05/14 | 1:00 pm | 12 min | Kittitas County Public Health Department, Rm. 106 |
| # 5 | 8/06/14 | 8:30 am | 37 min | Kittitas County Public Health Department, Rm. 106 |
| # 6 | 8/06/14 | 10:00 am | 17 min | Kittitas County Public Health Department, Rm. 106 |
| # 7 | 8/07/14 | 9:00 am | 38 min | Kittitas County Public Health Department, Rm. 106 |
| # 8 | 8/08/14 | 9:00 am | 26 min | Kittitas County Public Health Department, Rm. 106 |
| # 9 | 8/08/14 | 1:00 pm | 30 min | Kittitas County Public Health Department, Rm. 106 |
| # 10 | 8/11/14 | 10:00 am | 14 min | Kittitas County Public Health Department, Rm. 106 |

Findings

All of the participants were eager to give feedback on the issue of air quality in Kittitas County and share their opinions regarding personal burning practices. Conversations were different with each individual; however, certain themes did arise. The following is a summary of the commonalities shared by participants as well as some of the notable differences.

Public Awareness of the Air Quality Issue

People are not aware of current PM 2.5 levels or the potential for nonattainment.

Several individuals stated that they have observed a decline in air quality in the past few decades that they find to be concerning. Two respondents spoke specifically to the issue of monitoring by the Department of Ecology; however, none of the respondents specifically mentioned having any knowledge of the county's potential risk for becoming a nonattainment area.

"I'm concerned. I like clean air. You can go out and tell when the air's not perfect."

"It has declined from 25 to 30 years ago... It's gotten worse, from the 80's until now... The high volume of air samples [from the DOE] should show this."

"Well, over the years, it has gone down."

"I have concerns... my sister and I both have serious health conditions that come from that so the whole issue of what contaminated our air is very important to me."

"...during the Table Mountain fire, we were all monitoring the EPAs or the Ecology monitors, like the one on top of Hal Holmes. That was a real education, because they have that scale from zero to 500, and we were off of 500."

The majority of respondents felt that clean air was important but did not feel that poor air quality was a pressing environmental issue for Kittitas County.

"Where I live it's fairly good."

"It's important. I don't think it's at a critical stage... Professionally as a paramedic, I don't see asthma very much, or respiratory problems caused from air quality... it's an important issue but we're not at that spot where we're anywhere dangerous."

"I think it's [air quality] very important... Normally with the wind blowing through really fast we don't get bad air very often."

"My general impression is that it's pretty good. I come from the Central valley in California where it's really, really bad... Relative to that experience, the air quality in Kittitas County seems pretty good, seems really good to me. While it may have bad periods, as a whole, personally I don't perceive it as a problem."

"No real concern."

"I think occasionally when there is an air inversion that creates smoke in the valley... None [concerns about air quality] on a clear day."

Participants have questions about the origins of air pollution in Kittitas County

When people talked about the sources of air pollution in our county, the answers varied from person to person. However, there was agreement that more information was needed in order to make a clear verdict about the biggest contributor to air pollution in Kittitas County.

“...if they could stop China from their stuff coming over here... I'd like to see that because we've cleaned up this country, a hell of a lot, and we get that junk from China, and I would like to see them monitor that more...”

“I just wonder sometimes how much of this stuff is coming from the other side of the mountains...”

“This has been my home, this valley for nearly 65 years. Over time we have seen the increase in density of population, and carelessness perhaps on the part of some of the new comers that are not necessarily people of the land...”

“If we're talking about field burning, people have this perception that burning is the only way to clear ditches... Are there other alternatives? I don't know the answer to that. The answer might be that, no, there's nothing, but there's a heck of a lot of smoke that goes up in the spring.”

“Oh, the amount of smoke, especially in around the lower valley. It hangs in the air because they're trapped... And I think that a lot of it is also due to automobile traffic. You know? Our freeways are ten times busier than they used to be.”

Burning Practices

Seasoning, stacking and covering were frequently reported.

People were asked about both their indoor and outdoor burning practices. They were asked to describe what they burn and how they determine what is appropriate for burning. The respondents identified themselves as experienced and knowledgeable wood burners. Most of the individuals that were interviewed burn wood on a daily basis in the winter. All of the respondents reported engaging in seasoning practices. People who burned wood for fuel demonstrated extensive knowledge of how to treat wood so that they got the most efficient burn and therefore the most heat.

“My wood is cut a year and a half before I ever burn my wood...I know the month and the day that I sawed [the wood] and cut it, I won't touch that wood for over a year...”

“I let [the wood] dry, I don't burn anything wet or green. I keep it stacked and covered in a storage shed.”

“...we buy...a logging load of logs one year...We leave them sit one year. The second year, we cut them to the appropriate lengths and begin splitting, those are again kept for another full year stacked outside packed in the winter, but stacked outside where they continue to cure and dry and debark.”

“When we do buy wood, we buy seasoned, split and cut wood, and delivered in small pieces...”

“I buy my logs by the truckload...some of the loads I get are dry...If they are green they're going to sit in that pile for a couple of years before anyone cuts them. So, I know it's nice, dry wood.”

"I have enough wood a year ahead of time, so my wood is all dry... Yeah, it's in a woodshed. It's dated every year. I go to the shed... and keep rotating my wood, so it's all seasoned. A good year seasoned wood."

"You can tell, the way it splits, the weight, depending on the type of wood that is, but generally, I don't ever cut anything that's green. It's easier to bring home wood that's already seasoned."

"I cut my own wood and dry it; I know that it's quite dry, low moisture content. It's stored under complete shelter for at least a year."

"I time it, at least one year... until it cracks on both ends."

Wood burning appliances are well maintained and certified.

Those with fireplaces and free standing wood stoves reported that they make sure their wood burning equipment is updated and their chimneys are checked regularly by professionals for creosote buildup. They do this to reduce the possibility of chimney fire and to ensure a hot, clean burn.

"Also, I have my chimney checked. Now I clean my chimney out myself, but I've had these guys from the wood stove place come up there. And I've stood right there and watched them, and they get nothing out of my pipe, so they say it's clean. But I do that because of buildup of creosote or something, just in case it did build up."

"...we're very, very careful in doing that whole process to make sure that we use only cured wood, and keep the buildup of the stuff... Once a year we have the guys from here in Ellensburg come up and do their own cleaning and clean filters, vacuum out, check all of the parts"

"When we remodeled, we got rid of the papa bear stove... We got an energy-efficient supposedly freestanding fireplace thing that we use instead."

"I think that having that chimney swept every year, I feel like I'm doing a good thing."

"About a year ago I changed my catalytic converter. Oh those things are expensive. Oh what a difference that makes in the amount of heat that comes out and I clean my chimney once a month too."

Finance was the primary reason for using wood as a sole heat source.

Individuals who reported burning wood as a primary heat source also made the case that this was the most economical way for them to heat their homes. They purchase large quantities of wood annually or biennially and let it season over several years. Efficient storage allows them to have a fuel supply that last for several seasons.

"I estimate I save five thousand dollars a year in electrical service fees by burning wood. If I didn't save a dime I wouldn't do it."

"I don't have to heat by wood. I do it for various reasons. I like it. To me it's cost-saving. It's, in effect, a way of life for us."

"I have a small wood fire stove... I burn a cord a year. It's my primary source of heat. I think it's pretty good to have just one cord for a whole season, frankly. I also have a propane wall heater that I can use. The propane is expensive."

Supplementing with wood heat can lessen the impact of heating bills from primary energy sources such as electricity or propane.

“...we burn [wood] in the house all of the time. Not every day when you can't burn, but when we can, and we use it for heat, although I have propane.”

“...we have a perfectly good propane furnace... We invested in a new very efficient small burner that was right for our area, it has a glass door and I can see flames through it... It keeps the fire going, it keeps it hot ...”

“We don't really have to burn because we finally have a heating system ... We do burn wood... We maybe burn 1 cord a year.”

People really enjoy burning wood in their wood stoves and fireplaces.

Many respondents, both secondary and primary, also reported burning wood because they enjoy it. Wood burning was a conscious decision that they made and they felt good about it. People mentioned that they are aware that there are individuals that burn wood because they don't have a choice, due to finances, but for the participants in these interviews, it was a lifestyle preference.

“My wife has always liked wood heat, and I grew up with wood heat ... I use a wood stove because we like it... My wife loves it.”

“We light a wood fire, we like seeing the fire through the glass.”

“I'm not going to quit burning wood. I actually like burning wood.”

“It's a lot of work to be able to keep that wood put up, and they're may come a day when I'm just too old and feeble to do it, and I won't, but until then, I really enjoy it...”

Access to “good wood” is a challenge

All participants discussed their sources of wood and how they ensure that they get the best burn from their fuel. They were very conscientious about the type of wood that is best for heating. Many people voiced frustration with the availability of wood that is acceptable for burning and the rising cost in wood as a fuel. They were also very protective of their wood sources.

“... it's getting harder to find wood.”

“... Wood's harder to get now. Years ago, we could buy 3 cords of wood for \$70 a cord. Now, it's really expensive.”

“The other thing is, it's hard to find firewood. What do people do? They go to Craigslist. Occasionally, there's one or two people who advertise in the Daily Record. I know I have finally found my guy. I had to search around. I went through four people in four years, because some of them aren't reliable.”

“The guy that does my wood ... Well you don't need to repeat it, but...”

“I mean, you talk to anybody who gathers firewood in this county, and they're unhappy, because you spend so much time just trying to find the wood, and then it's disappointing, because anymore, it's not quality, you know what I mean? If you do find a spot, you don't tell anybody... If you find a tree

that's down, you cut it up, and you don't get the whole tree, the next day when you come back, it's probably gone. It's crazy. Firewood collecting is a huge issue. Like I said, I've been going over the top of Blewett and over there, driving 45 minutes just so I can get quality wood."

"Now, people are just scrounging to find whatever wood they can, and that creates a problem because certain woods burn better than others."

Primary reason for large pile outdoor burning is efficient removal of property debris.

All of the participants engaged in some type of outdoor burning, however, burning large piles of fallen wood and yard debris was consistently reported by individuals that have acreage with trees and vegetation. People reported having yearly large pile burns in either Spring or Fall to get rid of fallen tree debris and excess yard vegetation. People also report that they know how to burn responsibly and oversee large pile burns so that they are safe and burn relatively fast.

"...that does generate in the spring a good sized amount of rubbish. We do have one fire out in the pasture at that time, but we have water connected to it, and we have someone watching it all the time and making sure it's out and that's just once a year."

"...The only burning we do is we have about 1,000 trees on our property, so there's always a lot of debris. Once a year, we have a great, big burn pile. We usually do that either for Christmas or the New Year. It's a really hot, really big fire we burn once a year."

"I also have three acres, and I do burn piles. I will, in the spring and in the fall... They usually are up and out and over within an hour. I always call it in. I always have a bucket of water. I always do all the safety stuff."

"I take that that tarp off... And I start the fire from above. I've done it before. That thing is so hot. There's no smoke. It just burns up in five minutes. It's all dry from having tarp on it. So like I say, when I do have to do something bad... I try to do it safely."

"Outdoor is with permission of the fire district only. We're allowed to burn small or in my case large fires on burning days only. We're only allowed to burn organic material, yard waste; that sort of thing. I'm pretty careful about that to stay in compliance."

"...I have ditch bank burns of a few ditches. Again, I watch when to burn them. The dryer the grass, the faster the burn. The purpose of getting it burned is to burn it, not to sit there and smoke and smolder."

Some people reported that the reason they choose to burn yard debris is the cost and trouble of having to haul brush and wood debris off to the dump is expensive and time consuming in comparison to a burn pile.

"I have hauled a lot of stuff to the dump, but it costs you. When you get a lot of loads, it's not bad for one load, but when you got a lot of it, then it gets to be expensive, and I got to keep my creek bank because that's where the irrigation ditch is."

"To me, the idea of having a burn pile in one place of organic matter and getting rid of it right there, and having all of the nutrients go back into the soil is a better alternative than shoving it in the back

of my Volvo, taking it to the transfer station where somebody else is going to have to put all of these fossil fuels into grinding it up.”

“I had my son in laws build me a burn pit away from the house. It's over four feet across...about six inches into the dirt...It is primarily for two things mostly for farm rubbish, and secondly for bulky boxes, pot boxes storage boxes and things like that. You start watching your money when you get old and you don't put out too many containers in garbage for waste management.”

People do not connect their wood burning behaviors to poor air quality in Kittitas County.

All participants demonstrated awareness of what is okay acceptable to burn in an outdoor fire. People seemed to pay attention to regulations and self-disclosed that they know when they are cheating but don't feel that what they are doing is that bad in the larger scheme of things.

“I went one time to throw a plastic cup, my grandkids had been there fixing hot dogs and stuff, and they had plastic cups. I went to throw the plastic cups in my fire, and my wife raised hell about it, so I didn't. But I know you don't burn plastic, and you don't burn cardboard, or stuff like plywood even...”

“...we know we're not supposed to burn anything like that, but it does enter into there from time to time. So we do contaminate to a degree with that, but an eight and a half acres farm is not going to create any major problems although that attitude is part of the problem that we're dealing with.”

“We just do what we think is safe. We try not to burn anything like plastic or ... what else is bad? Anything that could give off bad things to our grandson because they have a slow burn pile. It's more like the branches that are falling off ... the dead things, too, just mix, more like a campfire. If we have some boxes of Wheaties, the cereal box is where we start it with that kind of thing. No, we don't burn tires or plastic or anything that is hazardous to our health. At least, we try not to.”

Many respondents felt that they burn cleanly and responsibly, therefore are not contributing that much to poor air quality. There was also some commentary that there is not enough wood smoke to make it a large contributor to air pollution in Kittitas County.

“I just don't think I just put out that much pollution”.

“I just don't think it's fair to blame the people that burn wood ... I just don't think it's that many people that burn wood anymore.”

“I don't think a lot of people burn. I'm not sure. Out in the country, I think everybody that we know probably does a big burn pile once a year, but they're pretty hot and fast, so I don't think it's too big of a deal.”

“The relative amount of smoke that I put into the atmosphere is a drop in the bucket in the ocean compared to what these wildfires are putting in. You do it on the right day. I don't know. I learned in school that dilution is the solution to pollution.”

“A few times, the forest service does what they should have been doing a lot more of fire-wise. They've caused more pollution than I've caused in a hundred years.”

“Saying that air quality is going down because of outdoor burning or wood burning, I have a hard time believing, because I think more people are conscious of their burning, and less people are burning as much...so when they're saying that air quality is getting worse and worse, yet our burning is becoming less and less. What's the push? Why are they saying that? I'm not seeing it...”

“Being as I heat my whole house, it's always burning hot and clean, so I'm not too worried about what I'm doing to pollute.”

It was also a concern amongst participants that the state and federal agencies creating regulations around burning are not regulating fairly. People feel that these agencies are focusing on the individual and not looking at their (the agencies') own contributions to air quality, either directly or indirectly, through mass burning actions or improper policing of rules and regulations. In essence, people are concerned that they will be punished for something they feel that they didn't do.

“We're not allowed to use burn barrels anymore, which I don't really understand because that was a defined area but they say no so we don't do that. At the same time, just a few miles down the road, the national forest is allowing the tourist to come over and camp on the weekend and have their little campfires and all that, and walk away from it, not maybe taking good care of those timbers...”

“Well, I'm sure it's down the road now there might be some new laws that people like myself may not care for but it is a problem that something has to be done, I think... But one point I have is in town they have bans against burning but right next to me is the boundary of the city limits. On that side of the boundary, they can burn wherever they want. So the laws aren't applied equally.”

“It's funny, because we're seeing more and more fires, and so I don't know ultimately what the goals are of these agencies, but the impact on my life is that I have less access, and less availability to the resources that are deemed to be public.”

“Conservation district would be another partner to ask this. Between the weed board, conservation district... it would be very interesting to know what, if any, alternatives to burning are there for clearing ditches, which I think is the primary thing that they're doing.”

Community Education & Outreach

Participants were very supportive of a clean burning education campaign.

Participants were asked for ideas regarding community education and outreach to those individuals who may not be engaging in clean burning practices. People reported that while they themselves adhere to clean burning practices, many respondents felt there were others in the community that continue to engage in unsafe burning practices on a regular basis and would benefit from education.

“...I have neighbors that start fires and then let them burn all night.”

“...what we see out there that's being done, it's not safe... people who deliberately violate [rules], there is an arrogance there. A lot of that is people who didn't grow up on the land; they're city people who don't understand the correlation... The cause and effect of what they're doing.”

"The compliance is woefully inadequate or the education is woefully inadequate I'm sorry to say. People just don't understand."

"There's many people who just don't think about it, and so they'll put that pile of leftover shingles on their burn pile, or whatever... They just don't know..."

Participants were asked to describe what they felt the most important messages would be for a campaign on cleaner burning practices. People felt that education topics should be centered on how to properly season wood and safe burning procedures both indoors and out, including equipment maintenance.

"...the education portion is huge, because they can't be burning their limbs the day after they cut them. They've got to let them season if you want to have a good, clean, quality burn. You'll see the differences. Some people that burn piles that will burn up right away, and others just sit there and smoke ... horrible."

"... [people need] to know not to burn if it's green. If it's green, it's going to make a mess, and it's going to smoke. Green wood smokes more, it doesn't burn fast and good. That, and to know if they're burning brush piles, what not to burn, and do it on a day they can burn it."

"Maybe in the newspaper, that could be something once in a while before the burn season, telling people, "This is the [wood] that burns the hottest with the least ash..."

"Some of it is what people need to know in order to do clean burning. Some of it's what they need to know in order to do safer burning. You might get more bang for your buck in terms of messaging if it's both those things."

"The only way to keep that under control is to burn the highest heat content fuel you can get your hands on at a high temperature. The only way you can do that is to go to the certified wood stove that has a catalytic converter."

"... I think the majority of the people who burn wood in their home for heat understand what good seasoned wood is. Then you have those who don't really know, and so they'll burn wood that's lesser quality, and sometimes even green."

"...a lot of people just prune today and try burning it tomorrow...Share information on how 'if you did this it'd be a better burn'."

People also suggested that educational brochures or fliers would be most effective if distributed by wood retailers or at permit sources.

"...if you hit the point at which they're acquiring their firewood, either through the Forest Service or through the independent sellers, you're point-targeting who you want, except for the people who go out and they have their tree they bucked up."

"You can go to the various fire districts that require burn permitting, and people who are buying, in my case a burning permit ...I also think that you could also go to the various manufacturers. I know Woodstock Soapstone is a very responsible company, and you could say when you get calls from people 98926 can you refer them to this county public health for more information?...The firewood sellers or

salvage log companies should be asked if they would be willing to provide their customers with copies of these flyers.”

“...you have to actually go in and purchase permits that you have to tag your wood after you cut it. I think there's an information opportunity there, even if it was just handing them the pamphlet.”

“...you've got your fair coming this weekend, little brochures here or there. You don't have to man the booths...but if you've got a vendor up there that selling woodstoves leave your brochure...”

A few participants' suggestions included having a community advocate, an individual with an outgoing personality that is locally known and respected, to deliver the message to the community.

“You need someone with a big, bold personality to advocate in a positive manner...”

“I'm even thinking about welcome wagon type thing where we have like 'I'm with the Ellensburg Rotary and our big project this year is fire safety or air safety, what every you want to call it, our health in this valley and knock on doors welcome them, give them a couple of brochures and say, we're glad to have you with us... Try and make it an attractive, maybe even throw in a cartoon character telling jokes or whatever it takes to get them to read it, and motivate them from that.”

One participant also offered up a detailed plan to incorporate clean burning and air quality awareness into local classroom curriculum.

“If we start programs where we're teaching the children, involving scout groups, 4H, FFA and FHA, the teenagers can act almost as leaders for the younger kids. What we engrain in a kids mind at that point, whether it really shows that much, it's what they automatically fall back on as they grow up... There can be incentives on that age group, there are merit badges, tours, hikes out into burned areas, see how good this is. There can be a lot of things, activities, hands on type things especially with the younger ones, that could make an impact on that.”

The newspaper is an effective way to get information out in Kittitas County.

All but one of the participants cited the newspaper as a place they get information about current events and news related to burning. Several respondents also recommended that as the best way to get information out to county residents.

“I read the paper everyday...”

“I think if you just put it in the paper, put a little article in the paper, and that's expensive, but put a little article in there, and once, like the start of the winter, maybe send out another...”

“I think the newspaper would be about the only way to do it because everybody's on the media, but you wouldn't be able to get to everybody...I don't know how much it would cost, to have an advertisement.”

“Lot of my information I get out of the newspapers. In this area maybe TV and radio might work but TV I don't know how effective that would be.”

Incentivizing Clean Burning Practices

The most effective incentives would be financial in nature.

Participants were also asked to give suggestions about what could be done to motivate people to engage in cleaner burning practices. Most responses suggested that people will engage in behavior that is easiest and most accessible, whether that is physically or financially speaking.

“Now I have hauled a lot of stuff to the dump, but it costs you...it's not bad for one load, but when you got a lot of it, then it gets to be expensive... I think if you offer them a good incentive to go to the dump, especially green stuff, maybe that would help. It would certainly help me go more...Maybe it would help to have somebody to haul it off maybe that wouldn't charge an arm and a leg. That's the main thing, just getting it hauled off when you could put it in a pile and burn it.”

“What are my choices? It's to burn it or to put in black plastic bags and haul it to the landfill. Oh, that's an awesome idea. Frankly, again, on balance, getting rid of it on-site and not contributing to another problem... You can also get a chipper and chip things. Chippers are very expensive to rent. The one in town, you can pay a lot of money and it's a small one. The really effective chippers are thousands of dollars.”

“...what we really need: for me to improve my wood burning, I need access to wood that's quality, and it's just getting more and more difficult. You talk to people who have been burning for 40 years. Finding quality wood is so much more difficult that they're lowering their standards of what they'll take home.”

“I'd like to see the Forest Service open up the slash and burn piles to firewood burners.”

Participants spoke specifically about the expense of quality wood stoves, and while not everyone was in favor of the buyback programs, people recommended that easier access to equipment or maintenance practices could enhance cleaner burning practices.

“I don't even know if my stove has a catalytic converter or not, or whatever the equivalent is. Occasionally, there have been programs to help people upgrade and get greenie green certified wood-burning stoves. I would love to have that.”

“The other thing that popped into my mind was gift certificates, I think it will work along with this program what we're doing is we're offering gift certificates, or awards or whatever it is for everybody that brings in their receipt that they had their chimney cleaned that year.”

“People will not clean their chimney and a lot of times it does pretty significant damage to the whole and costs them money. If they just cleaned the chimney to start with.”

“...not too long ago I read in the paper... it had a small incentive program where they can give you a stove for turning in your old wood. I think that's a great... I don't know how people could pass that up.”

“The only way to keep that under control is to burn the highest heat content fuel you can get your hands on at a high temperature. The only way you can do that is to go to the certified wood stove that has a catalytic converter...A good quality wood stove is not inexpensive.”

“If you could get 25-50% off of a new wood stoves or installation...pair it with a [wood cutting] permit...”

“I think the stove buyback thing is really good to try to get rid of those [old wood stoves] if they really aren't a good way to do it. I don't think people really need an incentive because people are going to do what they have to do to heat their house. A little bit of education to know ... PUD's been really good in the past because they actually come into our house and gone through it all and put new windows and done everything they need to do to make it efficient.”

People encouraged education instead of punishment to motivate behavior change.

Many of the respondents suggested education would go further than punishment or reprimand (i.e. fines, new regulations). Education, combined with removing physical and financial barriers, would be the most helpful in increasing adherence to clean burning regulations.

“I think most people around here that I've talked to, they want clean air, but it's a deal where if you cut out everything, it's not going to solve it, I don't think...I'd like to see something that could help, but I certainly don't want to see wood stoves outlawed.”

“The most important issue as a resident or user is education. It's not going to be compliance with some set of rules...the only thing that sells is outreach. I hate to say that, but if you try to force people to do things or you threaten them with fines or that sort of thing, all they do is close up.”

“... In a friendly kind of way of saying this is how you got to do it. Make sure the wood is dry, and if you can, get one of those heaters that is approved.”

“I think you pick up one or two people and that makes sense or something. I think you're better off that way than pounding down the door and saying I'm going to come and take your wood stove out of your house if you don't do it right.”

Discussion

This report supports the findings of our community survey. Overall, people are aware of the issue of air quality, however, there does not appear to be enough knowledge about the impact of wood smoke to warrant behavior change. People are divided on whether or not there is actually a need for concern or regulation. People would like to see more evidence that their behaviors have a larger contribution to overall air pollution than other perceived contributors such as wildfires or traffic emissions. People would also like to see alternatives explored before laws and regulations that affect the individual burner are put in place. All of the participants represented themselves as responsible, conscientious wood burners. People did not perceive themselves as the source of the problem, even when they bent the rules; they felt that it was minor enough to not have a negative impact.

Participants pointed to individuals who are inexperienced or uneducated as the source of improperly created pollutants related to wood smoke or burn piles. Due to this belief, people were very supportive of a community wide education campaign focused on cleaner burning practices. The message of the campaign should focus on helping people to be aware of what constitutes safe, clean burning. It should also provide a way to evaluate current burning practices and, if needed, provide a guide for making simple changes to existing practices in order to enhance air quality. There should also be an easy to understand informational piece that will help people connect their burning practices with air pollution. We need people who burn to

be aware of the current state of affairs regarding the EPA and the potential for non-attainment and what this could mean for Kittitas County. People also need to be made aware of the direct and indirect impact their behaviors can have on these outcomes.

Distributing education materials with firewood purchases and at firewood cutting permit sources was the most commonly reported idea for effective outreach. Financial disparity was also referenced as a contributor to problem burning behaviors and a strong point for intervention. Individuals with little or no income will have challenges accessing properly treated wood and will not be able to afford certified or well-maintained equipment. Pairing financial incentives such as free or discounted firewood, free or discounted services (chimney cleaning, debris clearing, and wood evaluation) or discounted equipment (wood stoves, chainsaws, chippers) with educational materials was a popular recommendation. An education campaign should focus on the newspaper as well as fliers and brochures. Other media should be incorporated but the newspaper should be the primary source. The educational message should be to the point, friendly, and easy to understand. It will be important to let people know we are not trying to threaten their lifestyles, or personal choices; instead, we are trying to enhance their current practices so that they are as clean and low-impact as possible.