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# Wildfire Education in Washington School Districts

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## Wildfire Education in Washington School Districts

### **Abstract**

Wildfire education is an important and often overlooked unit of a comprehensive public school education. Ecology, earth science, and disaster preparedness for events like earthquakes and house fires are examples of subjects already taught to students in schools throughout Washington; however, given the effects of climate change, wildfire education warrants much greater integration into school district curricula. To assess the general extent of wildfire education in Washington state, Washington state public school districts were contacted and asked if they provided their students with wildfire education. A majority of the school districts contacted reported that they either do not formally include wildfire education in their curriculum or, if it is discussed, it is only part of discussions about other topics. Overall, wildfire education in public schools is lacking and action should be taken to increase and standardize wildfire education in schools. Further research should be done to better understand the types of wildfire education programs available to various age groups and barriers to teaching about wildfire and wildfire safety in Washington state.

### **Introduction**

Even though wildfire education is a largely disregarded area of study in public schools, it has previously been addressed as a public education campaign. Historically, standard public school fire education has focused on how to respond to a house fire and “stop, drop, and roll.” For 75 years, Smokey Bear has been the primary conduit for teaching Americans about wildfire and “only you can prevent wildfires”. The Smokey Bear Wildfire Prevention Campaign was originally created to warn Americans that their actions could lead to wildfires and that wildfire prevention could help win World War II by protecting valuable timber resources. Smokey Bear

has since evolved to remind the public that while it is our responsibility to prevent unwanted and unplanned wildland fires from human causes, wildfires do play essential roles in maintaining healthy and diverse ecosystems (The Ad Council, 2019). With wildfires increasing in frequency in Washington every year, it is more important than ever to revise classroom curricula to include topics like fire science, fire ecology, wildfire prevention, and wildfire safety.

## **Methods**

All Washington public state school districts were contacted via phone and email and knowledgeable individuals (e.g., district curriculum directors, principals, and superintendents) determined whether the individual school districts taught their students anything related to wildfires and if so, how these programs are taught. Survey data were collected from 168 Washington school districts. Survey responses were collected from districts in all regions of the state and from districts with small, moderate and large student populations.

A script, which included the question of whether the school district teaches anything about wildfire to any grade levels, was used for every phone call and email. The posed question was deliberately vague so that responses could include in-class instruction related to topics like fire science, fire ecology, and wildfire prevention.

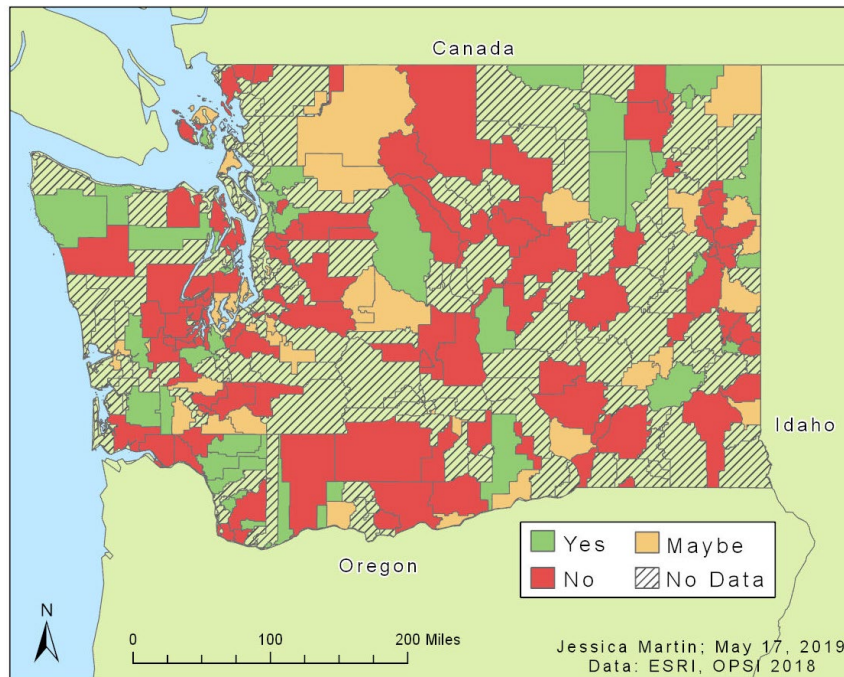
School districts in Washington state have a broad range in size and administrative structure, so initial contact with a school district was a phone call to their district office. From there, the call would be directed to the person or office best able to answer the posed question of this study. Generally, these people included school principals, school counselors, district curriculum staff, superintendents, and teachers. Emails were used once initial contact was made with a district and there was a specific person to email directly.

The collected responses were then separated into three main categories based on whether the school districts taught anything about wildfire. The three categories were: nothing is being taught about wildfires (no), students are being taught about wildfires (yes), and students might be taught about wildfires/ taught only if it is a current event (maybe). These categories encompassed all the responses received from all 168 school districts. The 'maybe' category includes school districts that could not be certain whether topics related to wildfires were taught or if wildfires were only mentioned when wildfires were current events. The 'yes' and 'maybe' categories were then divided into categories based on how the students were taught about wildfires. For the Yes category, the categories are: technical skill centers, Smokey Bear, class instruction, and guest speakers. For the Maybe category, the categories are: fire department or fire awareness lessons, class instruction, and current events.

## **Results**

Out of the 168 school districts included in this study: 39 (23.2%) fell into the Yes category, 37 (22.0%) in the Maybe category, and 92 (54.8%) in the No category (Map 1). In other terms, less than a quarter of the responding school districts formally taught their students

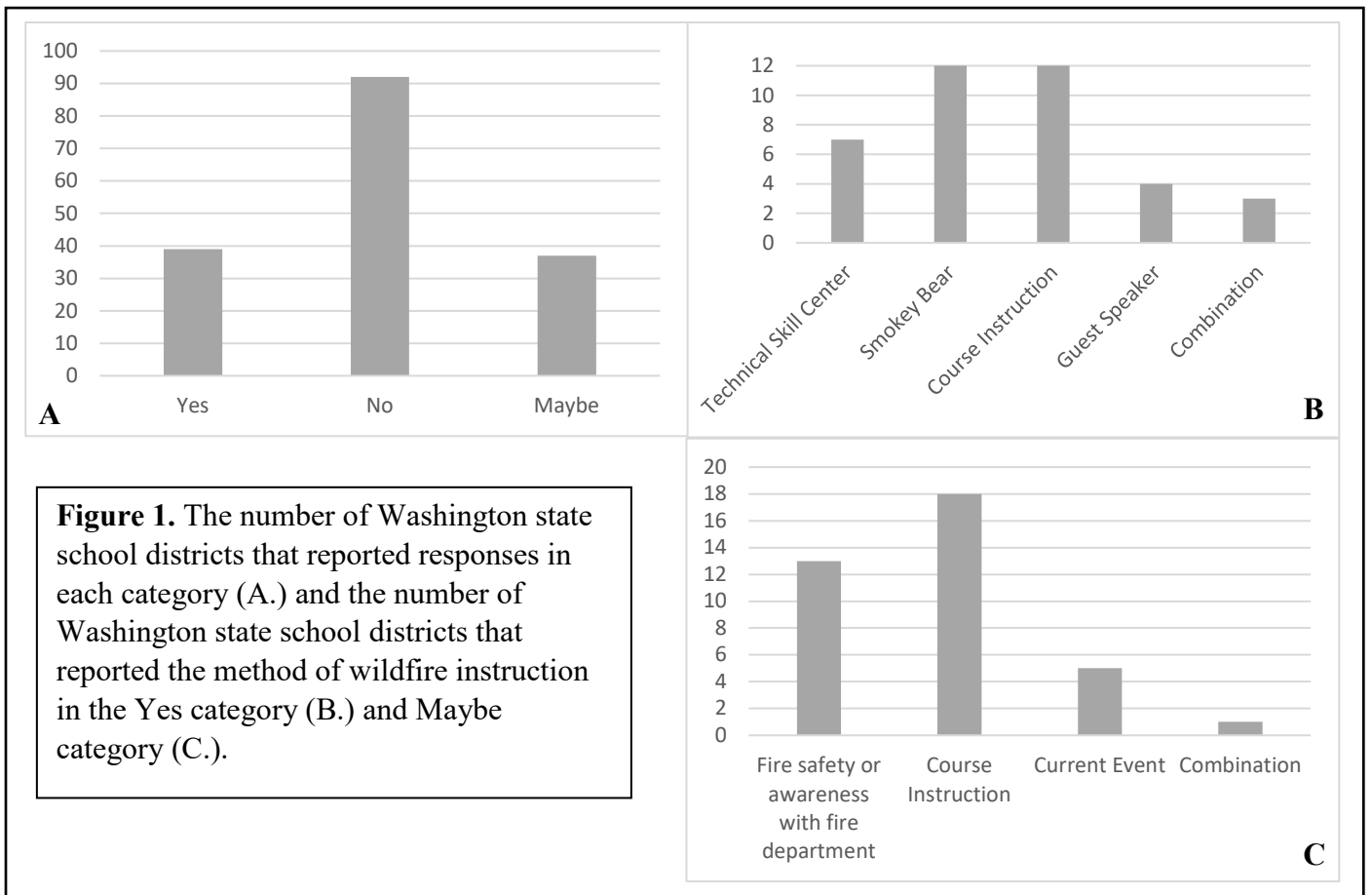
about wildfire. There did not appear to be any regional differences in whether or not wildfire issues were formally taught in school districts.



**Map 1.** Washington school district inclusion of wildfire education in class curricula.

Within the Yes category: seven school districts taught their students about wildfire through technical skill centers, 12 through Smokey Bear, 12 through specific course instruction, four through guest speakers, and three through a combination of the above methods. Within the Maybe category: 13 school districts taught their students about wildfire through fire department

or fire awareness lessons, 18 through course instruction, five in times when wildfires were current events, and one through a combination of the above methods (Figure 1).



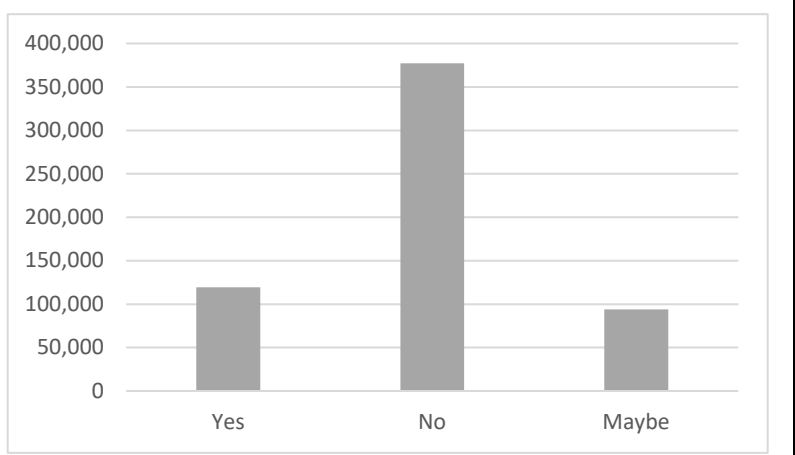
**Figure 1.** The number of Washington state school districts that reported responses in each category (A.) and the number of Washington state school districts that reported the method of wildfire instruction in the Yes category (B.) and Maybe category (C.).

Based upon the survey results, 119,376 students receive formal wildfire education (figure 2). An estimated 377,197 students receive no wildfire education and 93,933 students are taught about wildfire opportunistically. For the 168 school districts included in this study, that is a total of 590,506 students that are either being taught about wildfires or not (OSPI, 2019). Around 20.2% of students go to school in school districts that fall in the Yes category, 15.9% of students in the Maybe category, and 63.9% of students in the No category. That is, 20.2% of students that go to school in school districts included in this study receive some type of wildfire education

while 79.8% of students do not receive any wildfire education, might receive some discussion about wildfires, or only get exposed to wildfire education if it is a current event (Figure 2).

**Table 1.** Statistics for student population in each district by response category.

Response	Mean	Median	Range
Yes	3,061	691	24-20,954
No	4,100	1,112	5-31,043
Maybe	2,539	810	14-18,783
<b>Total</b>	<b>3,515</b>	<b>937</b>	<b>5-31,043</b>



**Figure 2.** The number of students in the combined Washington state school districts that reported responses in each category.

## Discussion

Among those districts that provided formal wildfire education, there were a range of teaching platforms or strategies employed. Most of them either utilized Smokey Bear specifically or they reported that they offered courses with topics centered around wildfires or offered courses with units that included wildfire topics. Because Smokey Bear has been a foundation for public wildfire education for decades, it was not a surprise to learn that school districts used that iconic character as a key component of their wildfire education programs. The Ad Council provides educational resources for educators of various grade levels to “introduce a whole new generation of children to Smokey Bear and his message of wildfire prevention” (Ad Council 2019). However, school districts mostly understand that the Smokey Bear education campaign strongly focuses on wildfire prevention, which largely ignores the benefits of fire on the natural landscape and the long history humans have living with and managing wildfire. Broader

discussion about wildfire were included in classes about fire science, earth science, local natural history, and other related ecology courses. Select courses within a few school districts reported that students even had the opportunity to receive training to obtain an incident qualification card or “red card,” which may qualify students to serve on wildfire crews.

Four technical skill centers are included in the school districts that reported that students have the opportunity to receive wildfire education through those centers. These centers include The New Market Skills Center, West Sound Tech Skills Center, Spokane Valley Tech, and Sno-Isle Tech. These centers allow students to take classes at their home high school for half the day and then go to the center for the other half of the day for technical training in courses like fire science and firefighting. All these centers are open to multiple school districts and enable technical training while in high school.

Lastly in the Yes category, are the school districts that teach their students about wildfire through guest speakers. These guest speakers are primarily firefighters and fire management specialists from the US Forest Service, local fire districts and Washington Department of Natural Resources. The talks given by the guest speakers range from wildfire prevention and safety to the benefits of wildfire on various ecosystems. In addition to formal class presentations, many districts invited local firefighters to high school career fairs, which often resulted in students developing an interest in future employment as a wildland firefighter.

Of the school districts that fell in the Maybe category, many of them reported that they thought that if they taught about wildfire at all it might be casually mentioned in a related class, discussed during general fire safety awareness education with the fire department, or only when there were large wildfires in the region that generated interest among faculty, students and local residents. For the school districts with the responses that they only discussed wildfires in the



context of current events, many of them clarified that the conversations were held if wildfires were affecting their areas locally. For example, some school districts described that they would explain to their students that poor air quality from wildfires prevented them from holding recess outside. Much of the classes that might include discussions of wildfire science or ecology related courses. Some specific courses that were reported include AP Environmental Science, Natural Resources, Climate Science, Washington History, Biology, and Forestry. Typically, the school districts that could not confirm formal wildfire education reported that students might get exposure to wildfire education during the general fire safety or awareness training with local fire department representative.

A majority of the school districts included in this study reported that their school districts do not teach their students about wildfires. A significant purpose of going to school is to gain the necessary knowledge and skills to successively live in today's world both individually and as a global citizen. Climate change models predict that snowpack seasons will decrease and summers will become drier and warmer, both of which may result in more and more intense wildfires statewide. Community fire safety and human health issues related to fire-caused air quality impairment will become bigger concerns of students and adults alike and schools need to take a leadership role in educating students about wildfire risk, environmental impacts and adaptation strategies. All Washington school districts need financial and technical support to formally integrate wildfire education into their curricula for elementary, middle school and high school students. As this study has shown, there are a multitude of ways and methods that students can get exposure to wildfire education. There is class instruction, professional guest speakers, technical job training, and the traditional Smokey Bear. More research is necessary on how best

to teach students about wildfire, but it is imperative that students are receiving a comprehensive education about the world that they are living in today.

## References

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