Fall 2015

Wildfire in Washington

Representative Tom Dent, 13th LD

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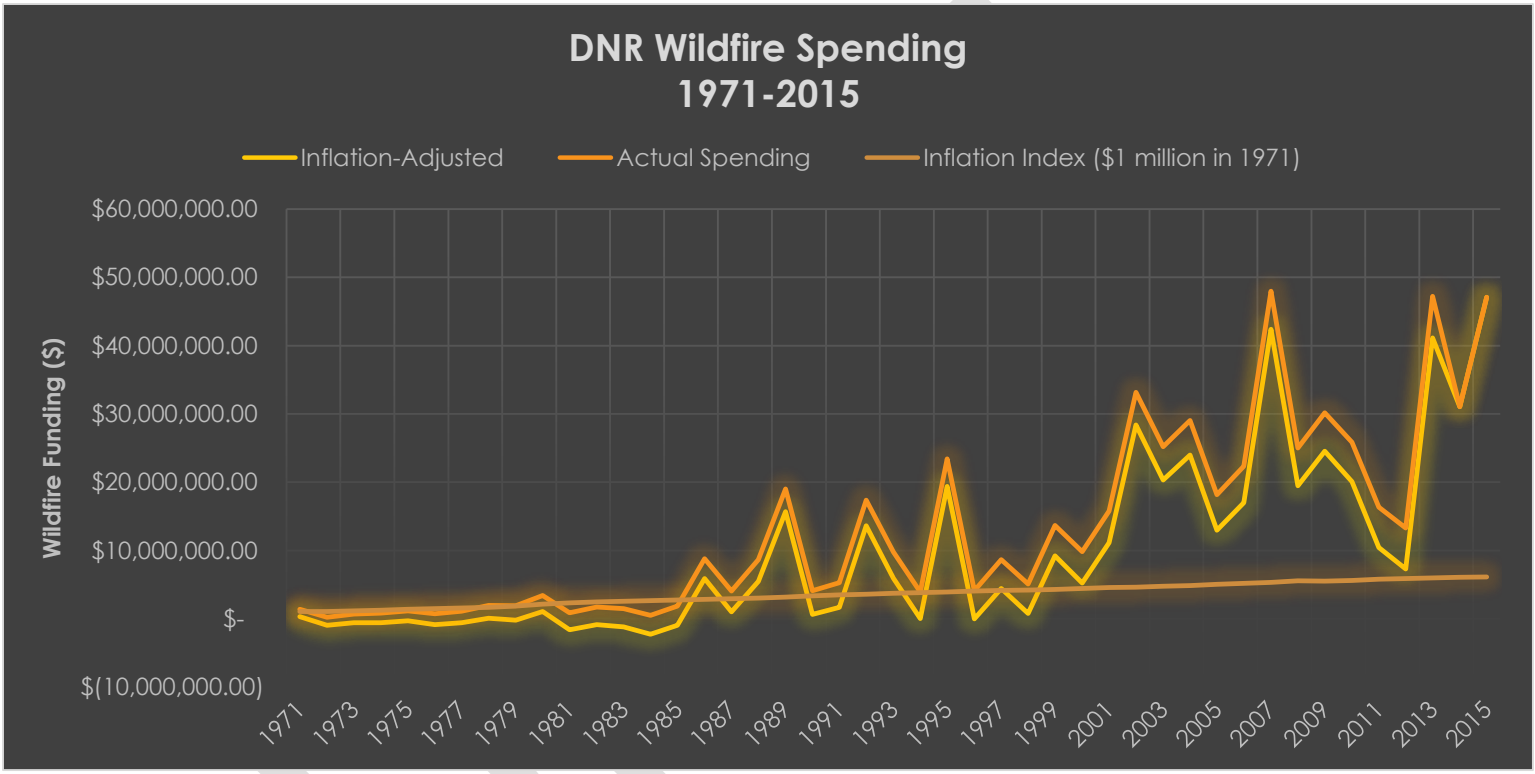
WILDFIRE IN WASHINGTON

In Washington state, 1,005,423 acres have burned in 1,541 fires in 2015. Of these, 1,084 were human-caused fires and 457 were lightning-caused. The estimated cumulative firefighting cost for all jurisdictions in 2015 currently stands at $319,551,300.[1]



This is unprecedented. Historically, of the 10 million acres of forests in eastern Washington, 5 million acres have experienced low-severity fire every 35 years or less on average (Barret et al. 2010). [2] Problems range from forest health to wildlife management, organizational communication and responsible budgeting.

The content of this report was compiled at the direction of Representative Tom Dent. Any questions or comments regarding this information should be directed to Representative Dent's office. Please see contact information on page 39.

[1] Northwest Interagency Coordination Center. (15, September 30). Retrieved November 5, 2015, from http://www.nwccinfo.blogspot.no/

[2] Eastern Washington Forest Health Report. (14, October 1). Retrieved September 2, 2015, from http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3822404.pdf

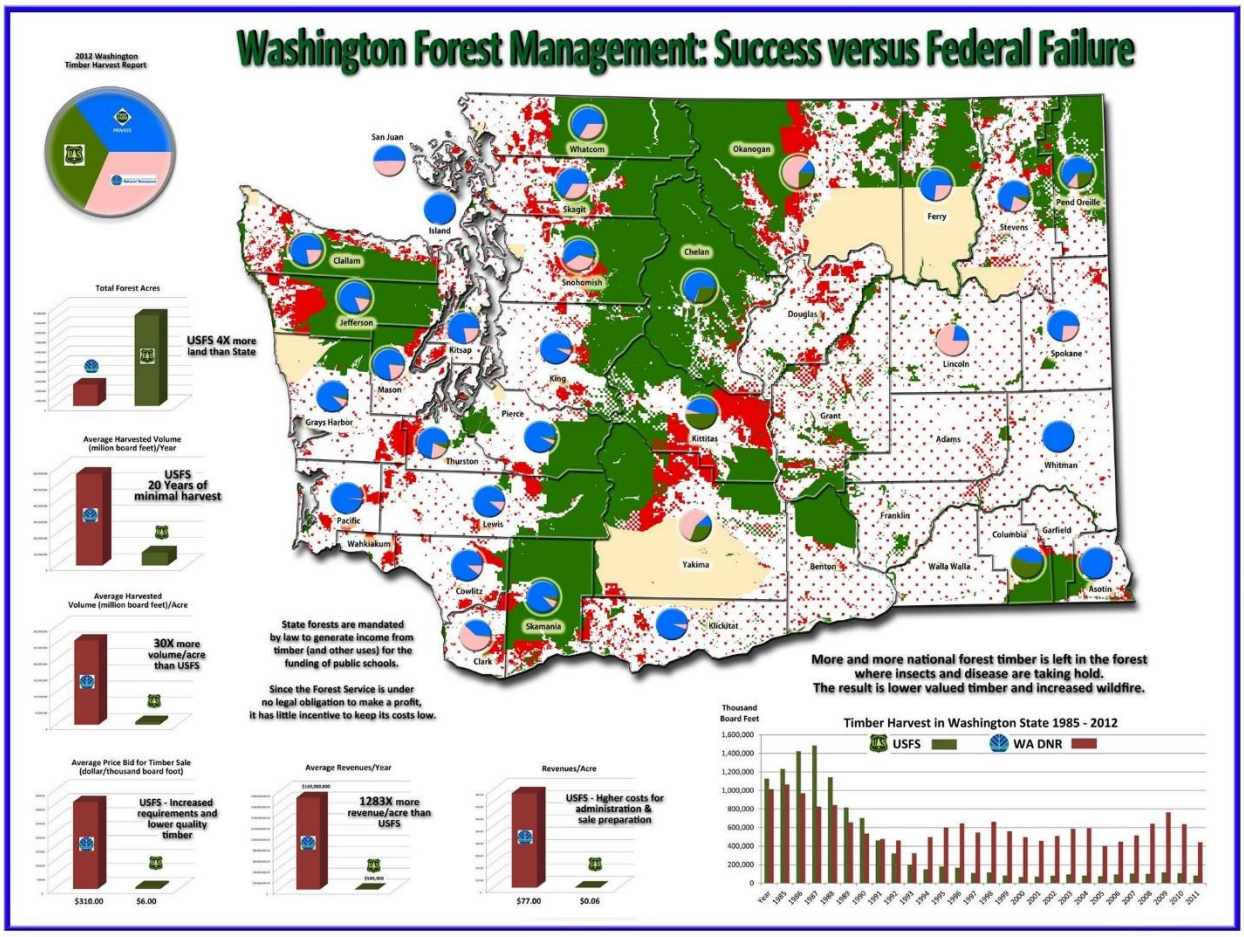
I. Insects

"The National Insect and Disease Risk Map (NIDRM) projects continued elevated levels of damage will occur (Krist et al. 2014). NIDRM estimates that 2.7 million acres of Washington state forestland are at risk to suffer severe damage from insects and diseases over the next 15 years."[3]

Year	Acres Damaged	% Federal	% Tribal	% State	% Private
2009	1,730,000	59%	8%	12%	22%
2010	937,000	69%	7%	8%	15%
2011	950,000	62%	6%	13%	20%
2012	1,080,000	59%	8%	13%	20%
2013	593,000	55%	11%	11%	23%

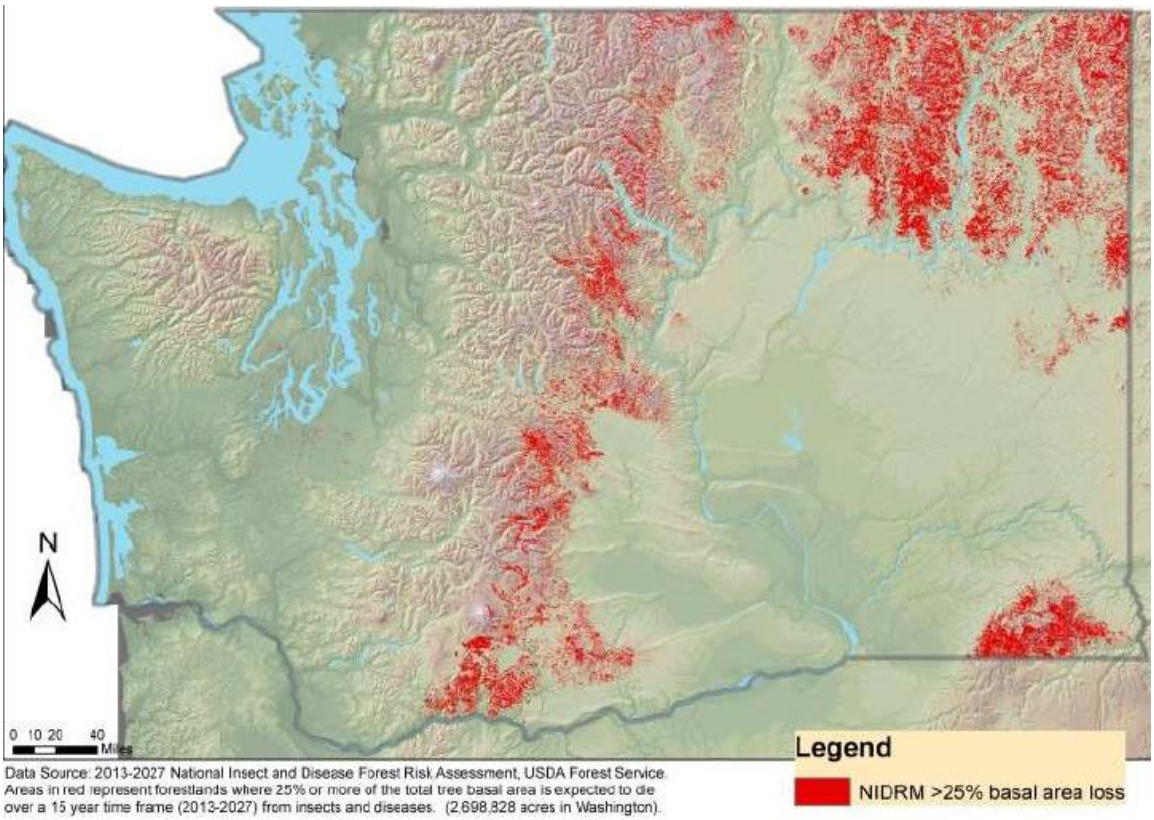
Source: Aerial Insect and Disease Survey. WDNR and the USDA Forest Service.

1: Total acres damaged by Forest Insects and Diseases in Washington 1969-2013. Source: DNR Eastern Washington Forest Health Report 2014.



2: Map courtesy of Ted Murray, Okanogan County Planning and GIS Dept., personal communication.

[3] Ibid.



3: Projections of Tree Damage in Washington State. DNR Eastern Washington Forest Health Report, 2014.

The forest's major parasite is spruce budworm, which defoliates conifers and feeds on their cones. Management techniques include:

Chemical insecticides. Large forested areas can be aerially sprayed for short-term protection, and individual trees can be sprayed using ground equipment. Chemicals currently registered for use against the budworm include malathion, carbaryl and acephate. If spraying is needed, state or federal insect management specialists should be consulted for treatment timing, formulations, dosages, and the most current information on registered insecticides.[4]

Microbial insecticides. A microbial insecticide registered for use against spruce budworms is the bacterium Bacillus thuringiensis, a naturally occurring, host-specific pathogen that affects only the larvae of lepidopterous insects. It is environmentally safe to use in sensitive areas such as campgrounds or along rivers or streams where it may not be desirable to use chemical insecticides. Users should contact state or federal insect management specialists regarding formulations, dosages, and timing of treatment.

[4] David G. Fellin, Jerald E. Dewey, 1992, Western Spruce Budworm, *USDA Forest Insect & Disease Leaflet 52*, http://na.fs.fed.us/spfo/pubs/fidls/westbw/fidl-wbw.htm (12 November 2015)

II. Fuels

A study from a diverse set of stakeholders, including the U.S. Forest Service, The Nature Conservancy and the Sierra Nevada Conservancy, concluded:

"Thinning the forests and reducing hazardous fuels would substantially reduce the probability, extent, and intensity of wildfire in the watershed, leading to quantifiable cost savings. In short, strategic fuel reduction treatments are a good investment and produce multiple benefits to landowners, residents, and watershed interests and beneficiaries."[5]

Impacts from wildfire can include:

- Loss of life, homes and property;
- Impacts to recreation, tourism, service, agriculture and forest economies;
- Loss of visual esthetics and recreational opportunities;
- Loss of habitat for threatened and endangered species;
- Increase in atmospheric carbon, methane and particulate matter associated with global warming;
- Loss and damage to public infrastructure;
- Costs of emergency soil stabilization, forest regeneration and other post-fire mitigation; and
- Negative human health impacts from smoke.

The study used some of these factors to summarize present-value costs and benefits associated with investments in fuel removals for fire risk reduction using the Okanogan and Fremont National Forests. Calculating the positive net benefits of fuel reduction treatments on market and nonmarket values, they estimate a positive net benefit per acre value of at least $606 for moderate-risk and at least $1,402 for high-risk forestland.[6]

The 2012 Oregon forest restoration assessment found that $1 million invested in restoration returns $5.7 million to local economies. In Washington state, Ferry County is part of the Forest Health Hazard Warning Area and is tied with two other rural counties for the highest unemployment rate in the state at 8.2 percent. Pend Oreille and Stevens counties are also well above the statewide unemployment rate. Ferry, Pend Oreille, and Stevens counties have significant restoration needs as cited in the USFS-TNC restoration study, and certainly would be a focus of increasing restoration efforts in Washington.[7]

[5] Eastern Washington Forest Health Report. (14, October 1). Retrieved September 2, 2015, from http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3822404.pdf
[6] Ibid.
[7] Ibid.

III. Grazing

The DNR offers:

- 500,000 acres for grazing leases
- 322,000 acres for range permits
- 110,000 acres for dryland grain crops
- 32,000 acres for irrigated row crops
- 14,000 acres for orchards and vineyards[8]

However, additional grazing possibilities should be examined on WDFW lands.

IV. Thinning

DNR Timber and Vegetation Management Budgets for Eastern Washington, FY10 through FY14.

	Commercial Harvest	Non-Commercial	Forest Improvement Treatments	Total
FY 10	$1,539,627	$1,407,287	$298,908	**$3,245,822**
FY 11	$1,526,627	$1,023,011	$207,137	**$2,756,775**
FY 12	$1,627,456	$1,269,867	$298,392	**$3,195,715**
FY 13	$1,674,819	$1,409,728	$339,897	**$3,424,444**
FY 14	$1,989,842	$1,511,114	$901,420	**$4,402,376**
Total	**$8,358,371**	**$6,621,007**	**$2,045,754**	**$17,025,132**

Note: Fund sources RMCA and FDA; excludes supplemental appropriations, grants or other sources.

US Forest Service Timber and Vegetation Management Budgets for the Colville and Okanogan-Wenatchee National Forests, FY10 through FY 14.

Timber and Vegetation Management Budgets			
	Colville National Forest	Okanogan-Wenatchee National Forest	Total
FY 10	$5,047,000	$9,757,000	$14,804,000
FY 11	$5,220,019	$10,831,007	$16,051,026
FY 12	$6,087,101	$8,524,432	$14,611,533
FY 13	$6,428,745	$12,415,210	$18,843,955
FY 14	$7,669,119	$12,361,522	$20,030,641
Total	$30,451,984	$53,889,171	$84,341,155

Source: US Forest Service. This table shows the Final Budget Allocation for Collaborative Forest Landscape (CFLR/CFLN), Forest Management (NFTM), Vegetation and Watershed Management (NFVW), Hazardous Fuels Reduction (WFHF), Cooperative Work–KV Regional Projects (CWK2), and Timber Salvage Sales (SSSS) funding for FY10-14 on the Colville and Okanogan-Wenatchee National Forests. NFTM, SSSS and CWK2 are the primary funding sources for timber target attainment, which includes funding for planning, prep, and administration of timber sales and stewardship contracts. WFHF is the primary funding source for hazardous fuel reduction, of which 30% may be used for timber sale planning. NFVW is the principle funding source for noncommercial vegetation management, which includes activities such as planting, timber stand improvement, and riparian improvement. CFLR funds the forests' CFLR projects, which may or may not include commercial timber removal. These are the primary funding codes for Forest Management on National Forest System lands.

4: DNR Eastern Washington Forest Health Report, 2014.

[8]Agriculture and grazing on Washington's trust lands. (27 March 2013). Retrieved July 10, 2015 from http://wa-dnr.s3.amazonaws.com/publications/psl_ag_brochure.pdf

Of the estimated 2.6 million acres in eastern Washington that need forest restoration treatments, 31 percent are on private land. DNR will provide private forest landowners with matching grant funds to perform tree thinning in areas where forest health has deteriorated and wildfire hazards are high.[9]

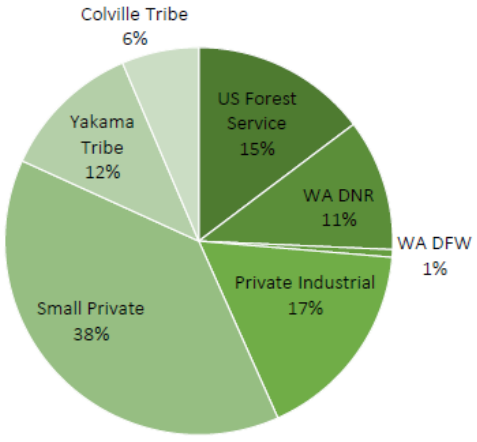
Table 10: Small Private Landowner Fuel Reduction and Forest Health Treatments in Eastern Washington Administered by DNR

State Funds	Acres	State Funds	Match Funds	Total
2009-2011	1,281	$606,420	$720,000	$1,326,420
2011-2013	3,085	$2,053,327	$1,768,593	$3,821,920
2013-2015[1]	3,752	$1,832,000	$1,832,000	$3,664,000
Total	8,118	$4,491,747	$4,320,593	$8,812,340
Federal Funds	**Acres**	**Federal Funds**	**Match Funds**	**Total**
2009	10,140	$5,903,254	$1,525,316	$7,428,570
2010	5,874	$3,407,664	$1,434,995	$4,842,659
2011	2,214	$1,505,820	$710,067	$2,215,887
2012	1,870	$953,027	$832,734	$1,785,762
2013	1,251	$704,350	$702,712	$1,407,062
Total	21,349	$12,474,115	$5,205,825	$17,679,939
All Funding Sources	**Acres**	**State and Fed Funds**	**Match Funds**	**Total Cost**
	29,467	$16,965,862	$9,526,417	$26,492,279
DNR Private Avg/year	5,893	$3,393,172	$1,905,283	$5,298,456

1. Includes completed and projected treatments for biennium.

4: DNR Eastern Washington Forest Health Report, 2014.

Percentage of Eastern WA Forest Treatments by Landowner



[9] Ibid.

V. Slash Burning

Slash burning is a sort of prescribed burn that removes slash piles from a forest's understory. All outdoor large burns are subject to a local or Dept. of Ecology air permit. UW College of the Environment has proposed creating biochar as a soil amendment by pyrolysing the slash pile instead of fully combusting it.[10] Slash burning is governed by WAC 222-30-010, the Forest Practice Rules. However, disturbance avoidance is required for spotted owls and marbled murrelets. The exact amount of slash creating fuels risk in Washington state is unknown.

VI. Work With Timber Companies to Improve Health

Eastern Washington Average Annual Commercial Timber Harvest and Non-Commercial Forest Treatments, 2009 to 2014

Landowner[1]	Commercial Harvests (Avg. acres/yr)	Non-commercial thinning (Avg. acres/yr)	Total (Avg. acres/yr)
US Forest Service[2]	7,930	13,038	20,968
Bureau of Land Management[3]	879	315	1,194
Washington State Dept. of Natural Resources	10,940[4]	5,287	16,227
Washington State Dept. of Fish and Wildlife	910[5]	100	1,010
Private Industrial	24,223[5]	Not available	24,223
Small Forest Landowners (non-industrial private)	49,326[5]	5,893[6]	55,219
Yakama Tribe[7]	12,249	4,548	16,797
Colville Confederated Tribes[8]	9,170	Not available	9,170
Total	115,627	29,181	144,808

1 Includes major landowners whose data were readily available. Does not include specific data on Washington State Parks, BLM, US Fish & Wildlife Service, Spokane Tribe, Kalispell Tribe.
2. US Forest Service derived from USFS FACTS database of accomplishments from 2009 to 2013. The US Forest Service treatments only reflect activities on the Okanogan-Wenatchee and Colville National Forests and the portions of the Umatilla and Gifford Pinchot National Forests that are in eastern Washington.
3. Bureau of Land Management (Mark Williams).
4. Includes 4,155 acres of Forest Improvement Treatments (break-even cost).
5. Derived from Forest Practices Applications database maintained by DNR and represents applications with an effective date of 7/1/2009 to 6/30/2014.
6. Includes DNR-funded projects, no data on activities conducted solely at landowners' expense.
7. Yakama Nation derived from GIS harvest layers representing harvests from 2009 to 2014.
8. Colville Confederated Tribes derived from GIS harvest layers representing harvests from 1985 to 2011.

5: DNR Eastern Washington Forest Health Report, 2014.

To operate effectively on public land, timber companies need permitting expertise. To thin overgrown stands, mills within reach need to accept small-log sales. Tax exemption is available to standing timber (RCW 82.04.334), and a surcharge is levied on timber and wood product manufacturers, extractors and wholesalers (RCW 82.04.261) for the purpose of supporting the Forest and Fish Support Account administered by the DNR.

[10] James, Sally (2011, October 6). Turning slash piles into soil benefit. *UW Today*. Retrieved from http://www.washington.edu/news/2011/10/06/turning-slash-piles-into-soil-benefit/.

I. First Responders

During the 2015 legislative session, DNR requested $4.5 million in pre-suppression funding to increase its firefighting capacity. Pre-suppression funding supports readiness, training, prevention, accounting, dispatch and reporting systems, management (including the Correction Camps crew program), grant and contract management and suppression of small fires, response to false alarms and patrol of fire prone areas. The Legislature appropriated a maintenance-level $21 million of GF-S and included $1.2 million of GF-S in the operating budget for increased firefighting capacity.

In preparation for the forthcoming 2016 supplemental budget, DNR has requested an additional $24 million for increased firefighting capacity in addition to a backfill of $135.6 million for suppression activities in 2015.

II. Single Small Engine Air Tankers

Toward the end of the 2015 legislative session, DNR prepared a conceptual amended decision package, including a fixed-wing single engine air tanker (SEAT) under a 90-day exclusive-use contract with DNR, plus flight hours associated with aerial coordination and retardant batch plant operator/loader, supervision and logistics costs. This would cost an additional $400,000 per year of GF-S.

- **"Comparison of the cost and retardant delivery effectiveness between SEATs and large air tankers:**[11]

a. Two (2) single-engine air tankers would each deliver 2,400 gallons of retardant every hour, for a total of **4,800 gallons delivered** to the incident for a **total cost of $10,800**.
b. A large air tanker **delivers 2,600 gallons** of retardant to the incident for **$20,700** if flown only one hour.
c. Thus, two SEATs can deliver 185% more retardant in an hour at nearly half the cost of the large air tanker.

- **Comparison of airworthiness issues and aircraft availability between SEATs and large air tankers:**

d. The single-engine air tanker program utilizes current production, American-made, purpose-built airframes with reliable turbo-prop engines. There were 85 SEATs on federal contracts in 2012. More SEATs are readily available if additional contracts (providing adequate revenue-generating potential) are awarded.

[11] All SEAT and Air Tractor information comes from a personal communication between Kristin Edwards, Vice President of Sales, at Air Tractor, Inc. and Rep. Tom Dent. Accessed 10/27/2015.

e. The existing large air tanker program relies on aircraft that will become unsafe to fly as they rapidly approach the end of their service life. There were only 11 large air tankers on contract with the Forest Service in 2012.
f. Replacing the existing fleet of large air tankers with C-130 J aircraft will cost approximately $70 million per replacement.

- **While SEATs cannot and should not completely replace large air tankers, the best solution is an appropriate mix of large air tankers, helicopters, and increased numbers and usage of SEATs to extinguish fires in initial attack before they cost millions of dollars and destroy homes, lives and natural resources.**

    - Air Tractor, Inc. is the world's leading manufacturer of agricultural and firefighting aircraft, with nearly 3,000 aircraft produced since 1974. Currently, there are eight different models in production, ranging in size from 400 to 800-gallon capacity, with a 1,000-gallon aircraft in development and FAA certified. These aircraft are powered by PT6A turboprop engines ranging from 550 to 1424 shp.
    - The AT-802F (land-based single-engine air tanker) and Fire Boss (amphibious water-scooping version) have been in production since 1993 and 2003, respectively. Approximately 250 of both of these models have gone into firefighting service worldwide. They are purpose-built for aerial firefighting and FAA certified for this mission.
    - Both Air Tractor, Inc. and Wipaire, Inc. (manufacturer of the floats & scooping system) are U.S.-based manufacturers, providing employment for hundreds of people in Texas and Minnesota.
    - The AT-802F is a highly effective aerial firefighting tool when utilized during initial attack operations. It can be positioned close to the fire to reduce turn-around time, and is a "close air support" resource for ground firefighters providing structure protection. It has a low acquisition and operating cost, which means it is a cost-efficient use of taxpayer dollars."[12]

III. Local Spray Contractors

In May 2015, Rep. Dent issued a letter to aerial spray applicators asking for comments from those interested in spraying water over small fires in a low-risk suppression situation.

[12] Ibid.

In discussions, DNR shared concerns about the funding and liability of aerial spray applicators assisting in such situations.

Local spray contractors would:

- Limit area to a 30-mile radius
- Be willing to attend training
- Be covered for fire under commercial insurance policy (most already are-e.g. chemicals)
- Be willing to work as needed
- Be willing to update communications systems.

Contractors expressing willingness to be involved:

- B&R Crop Care (Connell, WA.);
- Quincy Flying Service (Quincy, WA.);
- Ferguson Flying Service (Quincy, WA.);
- Flight Level Zero (Othello, WA.);
- Conner Flying Service (Othello, WA.);
- Ag Air (Royal City, WA.);
- Moses Lake Air (Moses Lake, WA.);
- Gavin Morse;
- Nick Bungers; and
- GEM Air Inc. (Warden, WA.).

IV. Other Aerial Suppression Efforts

Spain has 250 aircraft available to fight wildfires. The Legislature can and should study techniques used in Spain (modeling and aerial suppression) instead of reinventing our own techniques. How do we find more aircraft? How do we enable firefighters and aircraft operators to succeed in more effective and efficient ways?

V. New Tanker Bases

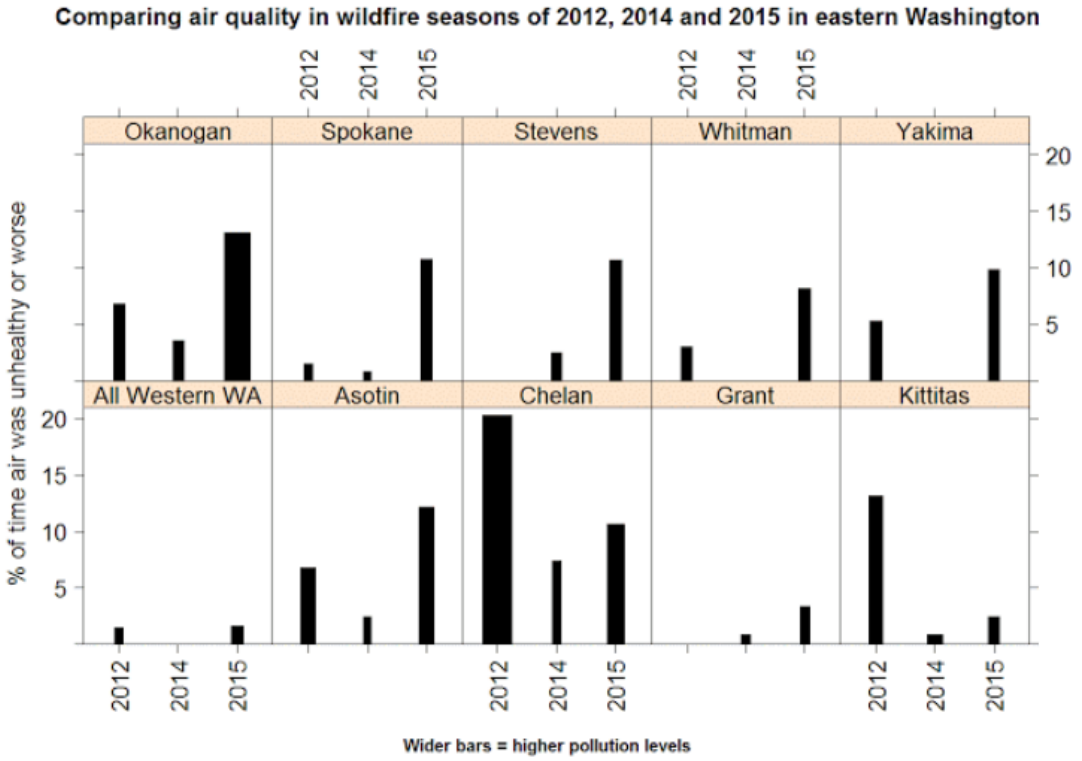
Can we cite additional areas for tanker bases in Washington state? The Town of Wilbur has offered to develop storage space for tankers and other equipment.

6: A plane drops water near Orjen, Spain. Source: The Australian, 2012.

I. Impact of Fires on Air Quality

In the past several years, outdoor air quality has remained above the Washington State Department of Health's 'unhealthy' level, which means;

> Everyone should limit time spent outdoors. Everyone should avoid exercising outdoors (including sports teams) and choose non-strenuous indoor activities. People with asthma, respiratory infection, diabetes, lung or heart disease, or have had a stroke should stay indoors. Infants, children, pregnant women and adults over age 65 should also stay indoors.[13]



7: Source: Washington Smoke Information Blog, http://wasmoke.blogspot.com/

II. Impact of Fires on Water Quality and Fish Passage

The Washington State Department of Ecology is responsible for monitoring river basins for flooding after wildfire events. Since groundcover is depleted, rain events can wash enormous amounts of sediment into riverbeds and adjacent areas, creating floods and problems for water quality and blocking fish passage within culverts. This is well-

[13] Washington Air Quality Advisory for Smoke and Other Fine Particle Air Pollution (13, August 26). November 12, 2015, from https://fortress.wa.gov/ecy/enviwa/App_AQI/AQI.en-US.pdf

documented in academic literature.[14] USGS corroborates that water quality can be impaired for several *years* after a wildfire event.[15] Therefore, wildfire events can create financial concerns for farmers, state agencies and businesses that must meet surface water quality standards to protect for ESA-listed species. Additionally, devastated riparian areas are both difficult to reestablish and vital for anadromous fish survival.

III. Carbon Emissions

The Forest Foundation commissioned a 2008 report by Forest Carbon Emissions Modeling which found that combustion emissions per acre of forested land create anywhere from 12 metric tons of CO_2 per acre to 46.2 metric tons of CO_2 per acre.[16] In 2015 alone in Washington state, that would mean anywhere from 12,065,076 to 46,450,542 metric tons of CO_2 combusted. This is anywhere from 13-50% of Washingtonians' total carbon emissions per year.

IV. Public-Sector Impacts

For local governments, payment in lieu of taxes (PILT) payments can be reduced based on devalued property as a result of wildfires. For tribes, treaty rights are infringed upon due to loss of habitat for treaty-protected species.

V. Private-Sector Impacts

Communication infrastructure is often permanently damaged by wildfires, and power loss often persists for months after a wildfire event. This means businesses close doors and the state's rural economy suffers. In this year's wildfires, thousands of power line poles were destroyed and only a few have been rebuilt. More than 50 structures were destroyed In the Chelan Complex, many of which were private homes.

I. Suppression Costs

The DNR requests backfill costs for fire suppression every year. During the 2016 legislative session, they will request a sizeable $136 million, plus $24 million for increased firefighting capacity throughout 2016.

[14] Meixner, Tom, Wildfire Impacts on Water Quality, 2004, University of California, Riverside Department of Environmental Sciences website, http://swhydro.arizona.edu/archive/V3_N5/feature7.pdf (12 November 2015)
[15] Storms after Wildfire Lead to Impaired Water Quality (15, September 28). Retrieved November 12, 2015, from http://www.usgs.gov/newsroom/article.asp?ID=4342&from=rss#.VkUSRO-FNCo.
[16] T.M. Bonnickson, Greenhouse gas emissions from four California wildfires: opportunities to prevent and reverse environmental and climate impacts, 2008, *FCEM Report 2* 19, http://www.idahoforests.org/img/pdf/FCEMReport2Final3-6-08.pdf (12 November 2015)

NEW IDEAS

I. Volunteers

During peak activity of the 2015 fire season, more than11,450 firefighters and support personnel were actively working on fires in Washington state. Types 1 and 2 Incident Management teams were mobilized 56 times, and at least one team was in place for 109 consecutive days from June 12 to September 28. [17]

Despite the tremendous time and energy firefighters dedicated to Washington wildfires, additional help was needed. From April 22 to May 21, wildfire preparedness outreach meetings were held in Twisp, Omak, Lyle, Wenatchee, Colville, and Yakima in an effort to train private citizens in various preparedness efforts.

August 2015 brought increasingly devastating fire conditions, so DNR issued press releases asking for volunteer firefighters. More than 3,000 Washingtonians responded to requests to help, and were funneled through centers in Omak and Colville.

DNR provided 315 blue cards and identified more than 100 pieces of previously unregistered equipment that could be used if needed. More than 1,000 people were not utilized due to lack of training and/or not having the required safety equipment, but DNR encouraged them to become red card-certified in preparation for next year.

For additional capacity, DNR could appoint a volunteer to the position of volunteer coordinator. Can the state grant special time off to volunteers who help on fires?

Questions about the fire volunteer program can be directed to Joe Smillie, (360) 688-3392, or joe.smillie@dnr.wa.gov.

II. Training

DNR has agreed to expand their training sessions this winter. Questions:

- Should the Legislature come up with a specific number of blue and red cards that should be issued?
- How can DNR partner with firefighter unions to ensure that training happens in concern with established standards?

Legislative offices should structure outreach programs to help constituent landowners receive their red and blue card certifications in the winter months. Can other state agencies assist in this outreach effort?

[17] 2015 Northwest Fire Statistics to Date. (15, September 30). Retrieved November 5, 2015, from http://www.nwccinfo.blogspot.no/.

III. Command Structure

County sheriffs could be the primary commanders of fire operations until they choose to designate another agency. Counties could create a fire commander position under the supervision of the sheriff. In a fire situation, DNR dispatch could work with the sheriff to determine what resources are available within the county.

IV. Memorandums of Understanding Between Agencies

- Should DNR sign an MOU with USFS on Forest Health?
- Should the Legislature facilitate an MOU between DNR and Ecology (or Local Air Authorities) to allow more prescribed burning?
- How can we improve communication between agencies to increase the speed of response time?
- How can we promote suppression to primary effort to legally allow it to supersede other regulations?

V. Improve Road Systems

Transportation funding is backlogged at the state level, and priority projects are generally in Western Washington. How can the Legislature partner with counties and cities to improve rural transportation networks?

VI. Early Detection Technology and Modeling

Technosylva and its founder Dr. Joaquin Ramirez hold several contracts in fire modeling. Technosylva hosts a comprehensive fire suppression software system that conducts real-time modeling in 10-second intervals based on a complex network of communications providing continuous feedback to the model. In other words, each firefighter is his or herself a weather station that assists with prediction so a central command center can more safely and effectively position fire resources. Currently, the best model we have is a 12-hour model for a 3-mile radius. Technosylva's model conducts millions of simulations and provides a 2-3 hour model with a much larger radius. The company also offers vegetation mapping that assists with fire prevention strategies. Ultimately, the idea is that firefighting of the future will rely on data. Currently, we don't have much.

Central Washington University is in the beginning stages of developing a Wildfire Sciences degree, which will include additional training for wildfire modeling.

VII. Weather Stations

Washington state has just 250 weather stations in total. That means our knowledge of conditions is often inadequate, so our firefighters are put in additional danger. Pacific Gas and Electric, a San Diego utility, has 450 stations in the county alone.

VIII. Advanced Training for Logging Companies

When wildfire conditions become extreme, DNR reluctantly has to 'shut down the woods' to logging operations. Operators from adjacent logging operations often then wish to assist with wildfire suppression based on their comprehensive training and appropriate equipment. DNR should prioritize training of logging operators in winter months.

IX. Safe Distance Exemption

A legislative option would be to exempt red and blue card certification if a landowner or volunteer is digging a fire line at least one mile from the fire.

X. Salvage

Several reports study the benefits of logging burnt timber shortly after a wildfire is mopped up. Prestemon et al. found that any delaying salvage logging due to administrative procedures depletes timber values by 25%.[18] Sierra Pacific Industries found that sediment loading was decreased at the sites where they conducted post-burn salvage logging, even *before* a rain event occurred.[19] Additionally, a study found that soil condition improved in regenerating forests that were salvaged within 2-3 years after a wildfire event because canopy removal allowed nitrogen-fixing shrubbery the sunlight it needed to contribute to productive soils and a healthy understory.[20]

XI. Civil Air Patrol

The Civil Air Patrol could possibly be used for fire spotting patrol. Early detection of the fire could be very beneficial to keeping the fire small and manageable.

XII. 747 Air Tanker

The state could support the 747 Air Tanker's certification and implantation as a suppression asset.

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[18] Jeffrey P. Prestemona, David N. Wear, Fred J. Stewart, Thomas P. Holmes, 2003, Wildfire, timber salvage, and the economics of expediency, *Forest Policy and Economics* 8, 312-322, http://naldc.nal.usda.gov/download/32400/PDF (13 November 2015)

[19] James Cajun, 2014, Post-Wildfire Salvage Logging, Soil Erosion, and Sediment Delivery—Ponderosa Fire, Battle Creek Watershed, Northern California, Sierra Pacific Industries, http://www.bof.fire.ca.gov/board_business/binder_materials/2014/november_2014/full/full_14.0_post_wildfire_salvage_logging_summary.pdf (13 November 2015)

[20] Stephanie Yelenik, Steven Perakis, and David Hibbs 2013. Regional constraints to biological nitrogen fixation in post-fire forest communities, *Ecology* 94:739–750, http://dx.doi.org/10.1890/12-0278.1(13 November 2015)

Russ Hobbs, Kittitas County Fire District 7

In response to the questionnaire, I appreciate this opportunity to share my thoughts and concerns.

Please allow me to provide a brief background. I have been in the fire service for 40 years. 30 years as a structural firefighter on the Westside and 10 years as the Fire Chief for Kittitas County Fire District 7. I have significant experience as a Wild-land firefighter; my first State mobilization was the Columbia Fire in 2007. I represent the fire service on the Washington state Fire Adapted Communities Learning Network. You recently toured Hidden Valley, near Cle Elum. Hidden Valley was one of the first communities selected to receive a grant from the WA-FAC Network.

Page 5, Comments

Spruce Budworm devastation

In my opinion, it is in our best interest to treat our forest. Whichever method is most prudent, I would strongly support. As an example, the damage to the Teanaway drainage has significantly increased and will unchecked continue to adversely affect the forest health in this region. Looking at the devastation in Canada, I can only hope we act swiftly to curb the mounting devastation.

Fuel reduction

I am a strong proponent of fuel reduction programs. I have been asked to share my concerns at the National level, and while I agree whole heartedly with prescribed burning, a real shortfall is the lack of commercial harvest, prior to setting fire to the ground. I have been told that mislead environmental groups have thwarted efforts though the judicial system to the point that the agencies have given up on harvesting valued resources. In my opinion, commercial logging and thinning reduces fuel loading, which can substantially reduce the intensity of wildfire, while providing jobs and revenue to support our schools. How do we collectively solve this issue?

Grazing leases

Living in the Teanaway, I have significant history with cattle grazing. While I believe Sheep and goats are much better at reducing ladder fuels, cattle do a good job of controlling grass. They do come with a price, homeowners continually deal with cattle knocking over fences and damaging private property.

Thinning

Small private landowner fuel reduction projects have increased greatly in Kittitas County, due in part to educationally outreach programs, through the combined efforts of Kittitas Conservation District, DNR and Kittitas County Fire District 7. KCFD7 and KCCD have teamed up to provide a Fuel reduction crew. The crew's roving chipper program has been very successful throughout the County.

Slash Burning

Slash burning is primarily conducted on USFS land and by private landowners in Kittitas County. DNR has a fee schedule based on tonnage being burnt, which I believe is counterproductive. Smoke generated can be a source of irritation in the community. The complaints can be mitigated, by continually educating the public as to the benefits and by providing advance notice of burning.

First responders

DNR has a history of looking down unfavorably upon local fire protection districts. I understand not all fire districts participate in Wild land firefighting, and may not have the training or equipment. Those that do fight wild land fires are typically well trained and equipped. Kittitas County is a prime example; the two largest districts have as many wild land engines as they do structural engines. (KCFD7 has 10 brush trucks) Every department in Kittitas County has a wild-land brush truck and typically responds outside their perspective districts to assist other districts. The smaller districts typically have limited staffing, and do not respond to state mobilizations, they do back-up the departments that do send resources out of district.

2015 fire season brought about a whole new level of cooperation between local fire districts, DNR and the USFS. While all these agencies have worked together in the past, this year was triumphant in that agencies came together at an unprecedented level of cooperation. Knowing resources were at best thin if totally unavailable; every fire agency in Kittitas County agreed to immediately dispatch resources to assist in wild-fire suppression. The City of Cle Elum was threatened by a fire on I-90 and again by a fuel tanker fire that threatened to spread into the city. Through a combined effort by all agencies, the fires were suppressed with-in 8 hours and contained within 24 hours. Never before have agencies in Kittitas County worked at this level of cooperative effort.

Single Engine Air Tankers

I have witnessed SEATs at work, while working a fire in Spokane. Helicopters and SEATs worked a fire that broke out across the valley from the fire. The fire held while ground crews mobilized. Quick response and turn around were the ticket that held the fire in check. From a finance standpoint SEATs appear to be an economical resource available when and as needed. While Helicopter has been our main platform in Kittitas County, Seats as close as Moses Lake would be an invaluable resource. DNR Southeast region office is located on Bowers field Airport in Ellensburg. Bowers Field has the capability of providing a safe platform to work from.

Volunteers

I cannot underscore the invaluable training provided by DNR to local resources. Basic Red Card training is just enough training to allow firefighters to appreciate the dangers of wild land firefighting. Basic Red Card training can be compared to a fire department recruit school. You're given enough training and instruction to give you the tools to begin learning your craft. You are by no means a true wildland firefighter, you do have rookie status. Working alongside of experienced firefighters and continued education are as critical to developing as a wildland firefighter as would be a structural firefighter.

DNR has historically provided training to local fire districts, and will hopefully continue to provide this resource to both local fire departments and privates. In my opinion, there should not be a limit to the amount of Red cards issued.

Blue cards are issued to non-combatants, such as Tender drivers and Law Enforcement officers, and are a minimal safety precaution.

Fire Districts and departments provide training for the public on a regular basis. Adding additional instructors to the pool is a great idea and probably already exists in certain locals. Red Card refresher training is conducted in house in a number of fire houses.

One of the major concerns that most fire departments deal with on a regular basis, is DNR deliberately holding back advancement to local fire district personnel. Our firefighters do the initial training, complete their arduous fit test, and complete their task book assignments in the field. And then get push back from DNR personnel. I hear this complaint over and over from firefighters on both the Westside and Eastside of the mountains. If I work hard to complete my task book and take the required course, I shouldn't be held back. This is so persuasive, that Wenatchee has pulled back from the DNR and attests their personnel in house. Firefighters from King, Snohomish, Kittitas and Grant County all have the same complaints. DNR needs to become a big brother to local fire resources, and except the fact we all play in the same sandbox.

Union firefighters should be training to Red Card standards same as any other wildland firefighter. Putting structural firefighters in the path of fast moving fire, without specific wildfire training is a monumental mistake.

Command Structure

30 years as a structural firefighter did not give me the tools to handle today's wildfires. My Incident command training provided the tools to work in the ICS system used in the Wildland, but understanding fire behavior comes from training and experience in the field. County Sheriffs have even less training in the field and are more likely to put firefighters in harm's way. Yes these are talented individuals, but they are not firefighters.

As the Chief, I signed an agreement with the DNR and the USFS that specifically outlined the rules we would operate under, including how each agency would be paid if it became an extended attack. The jurisdiction having authority agreed to work under a unified command structure, without giving up operational authority. These agreements are updated in the off season. When a partner needs assistance from another agency, the request is made through dispatch and everyone sends available resources. Automatic aid agreements that are in place essentially erases boundaries, eliminating confusion and focusing on the job at hand. Interagency agreements are the key to automatic dispatching of resources. Dispatch looks at the response cards and dispatches units responsible for fire suppression. Our firefighters confirm that DNR has been notified as standard procedure.

Air Quality Control

Local air authorities and the department of ecology are difficult to work with at best. They impose restrictions outside of air quality, such as wind events. Uncontrolled wildfires have devastated the air quality in Eastern Washington and on occasion the drift smoke has affected Western Washington. Prescribed burning is a much more controlled event, and considerable less smoke is produced. Burning when conditions are favorable reduces the probability of a devastation wildfire, which is considerably healthier for the environment and air quality in particular.

Modeling Fire Conditions

I had the opportunity to meet with Mr. Ramirez. I was not able to attend the demonstration held after the event that Central Washington College sponsored. His modeling program sounds very promising.

Weather Stations

The firefighters we lost at Twisp may have been able to take advantage of better weather forecasting. Predicting a changing weather pattern based on real time information can be critical in decision making on the fire line. My crew and I responded with KVFR to the firing range this summer. The spot weather forecasts called for a 180 degree wind shift that afternoon at 4pm, knowing this we tried to complete a hand line prior to the shift. When the shift occurred, it happened in minutes and we had to abandon our line and change tactics. We expected the change and still it happened so quick we had to abandon our line. Knowing it was going to happen, we at least knew what to expect.

Logging Crews

Loggers are inherently smart people when it comes to building road or dropping hazard trees. They do need the basic red card training to understand not only fire, but how firefighters approach a situation and limiting factors. Using logging crews is a great idea and historically has been used to great advantage.

Safe distant Exemption

Landowners have been handcuffed and removed from fires for putting in line. Working to protect their investment is something every landowner is going be motivated to do. Working in concert with Command would go a long way to reducing tensions amongst landowners and fire service personnel. I have used landowners to set up lines, provide water resources, such as pumps and occasionally use heavy equipment to plow fence lines. I may have taken some risk or liability, but the outcome was always better than not using these folks.

Salvage Operations

I compliment DNR for actions taken to salvage timber after the Table Mountain Fire. By contrast I don't believe the USFS attempted to do any salvage operations. Why would you not want to? Removing burnt logs and capturing some value in a timely manner would seem intuitive by nature. It would also help remove some of the scarring done by the fire, especially if there is real value to the eco system in doing so.

Lastly I would like to comment on the efforts to build Fire Adapted Communities in Washington State. The Washington Fire Adapted Learning Network Steering Committee is composed of individuals from BLM, DNR, USFS, 3-Conservation Districts, FEMA, EMD, DOD, the Chumstick Coalition and the Fire Service. WAFAC's paid staff, work directly and indirectly with communities to reduce the threat of wildfire, by becoming fire resilient communities. BLM provided the initial funding for operational cost and grant funding for selected communities through 2016. Actions are substantiated by reports provided by the Communities to the WA-FAC staff. Fire Adapted Communities acknowledge and take responsibility for their wildfire risk.

Russ Hobbs,
Kittitas County Fire District 7

Carolyn Berglund, Kittitas County Fire District 7

Thank you very much for the opportunity to read and respond to your **Wildfire in Washington** Fire Caucus report.

I am a home and landowner in Cle Elum who was evacuated during the Taylor Bridge Fire in August of 2012. I am a "sparkplug" for the Firewise Community of Hidden Valley Vistas and Meadows as well as for the Hidden Valley / Swauk Fire Washington State Adapted Community. I am a red-carded volunteer firefighter (rookie) and Public Education Coordinator for Kittitas County Fire & Rescue #7.

I respectfully submit the following comments:

FOREST HEALTH

Pg 5: Chemical Insecticides: I am extremely concerned about this proposal due to damage to watersheds and water supplies, harm to wildlife and humans accessing the forests, and potential killing of pollinators. A much better and safer alternative, in my opinion, is the Microbial Insecticide described in the report.

Pg 5: Grazing: Available grazing lands are shrinking (per Sam Kayser, NKC Tribune article of 11/19/15), so opening Forest Service lands for grazing could be a practical and economically sound way to reduce ladder fuels, especially if goats and sheep are the animals considered. KCFD#7 assisted PEMCO Insurance with a Firewising project this year using goats on a steep hillside behind a residence, and the goats were extremely effective at removing ladder fuels.

Pg 7: Thinning: Optimum for fire suppression may be to mimic natural, small wildfires. The largest trees would naturally survive in a wildfire – opposite of what is done in many logging operations.

Note: It's my understanding that much of our burned acreage has been in rangeland, not forestland.

NEW IDEAS:

Volunteers

Pg. 13: Kittitas County Conservation District and Kittitas County Fire District #7 hosted a very successful community wildfire outreach day with attendance of 138 people, which generated a broad response of fuels mitigation, ingress/egress planning and implementation, and added private water supplies. Both organizations have presented at numerous Home Owner Association meetings throughout the county and are very active in outreach to homeowners.

KCCD and KCFD#7 have partnered to form a Fuels Reduction crew, which provides employment for red-carded firefighters, provides fuels mitigation, and promotes public/private partnerships.

Kittitas County Conservation District GIS Specialist Suzanne Wade, describes the partnership this way:

"The Kittitas County Conservation District (KCCD) has formed a very strong partnership recently with our local fire districts. These districts have helped us write and update our county wildfire

protection plan. They provide education to landowners on how to reduce the risks of wildfire and how to improve their home's defensible space. With the recent high demand for fuels reduction and defensible space assistance, Russ Hobbs of Kittitas County Fire District #7 partnered with KCCD to fill this need by providing a competent fuels reduction crew of volunteer firefighters. This crew is trained to remove brush, limb and thin trees to WA Department of Natural Resources standards, as well as chip piles that landowners accrue due to their own fuels reduction work. KCCD provides the funding through various grants, as well as home assessments, project layout and compliance.

This alliance not only helps the community by educating landowners on identifying risks and reducing fuels and improving forest health in the county, the crews become more familiar with the high wildfire risk areas they may be called on to defend. The other fire districts allow this crew to complete work across fire district boundaries, because in the end, it makes it safer for everyone in a wildfire situation. This year the crew started in March and will keep going until the snow stops the projects."

Training

Pg. 13: Implementing a mandated number of red and blue cards could limit the number of qualified people if the number is exceeded. If not enough people are trained this mandate could encourage the certification of under-trained or otherwise non-qualified individuals, putting themselves and others at risk of injury or death. As a rookie red-card holder, I consider this training to be just the beginning of my education in wildland firefighting.

Berglund comments on Wildfire Report, pg. 3

Pg. 13: Encourage local volunteer fire departments to recruit those interested in wildland fire suppression only (as well and those who also want to fight structure fires) so that they are available not only for state mobilizations but also for helping to quickly extinguish small local starts.

I would support wildfire education for landowners who want to stay and defend their propery.

Command Structure

Pg. 14: Questions: How are county sheriffs more qualified to command? Are there more or less resources in this area? How will this affect the efficient notification of property owners to evacuate if the sheriffs now have the added duty of Incident Command? As a rookie firefighter, and especially in the light of the deaths of three rookie firefighters this year, I am extremely concerned about having an Incident Command that is not an experienced, well-trained wildland firefighter. I think money would be better spent on training qualified leaders rather than shifting leadership to another organization.

Memorandums of Understanding Between Agencies

Pg. 14: Strong working relationships between agencies should be a priority. This year the town of Cle Elum was threatened by two, possibly, three fires that could have swept into the town proper had it not been for the preplanning and working agreements between agencies including DNR. I personally saw how these agreements were put into action and how my own community benefited.

Advanced Training for Logging Companies

Pg. 15: Funding for such training would help keep loggers employed during the fire season and help make logging/thinning more economical feasible.

Notes

Pg. 25: Additional funds to help local fire districts train and maintain red- and blue-carded individuals could help to decrease response time and increase the ability to extinguish fires quickly while they are small. Most local districts need updated equipment and assistance with recruiting and keeping volunteer firefighters. Training mandates from the legislature have discouraged new participants because of the time commitment required by the volunteers.

Berglund comments on Wildfire Report, pg. 4

Pg. 25: Change the pay structure and funding of DNR and other agency responders to reward quick suppression of fire.

Pg. 26: Washington State Fire Adapted Communities program seeks to make communities in or near the WUI resilient to wildfire. Funding should be increased for cost-share programs with local landowners to mitigate fuels, increase water supply and provide for better ingress/egress roads. Firewise is one aspect of Fire Adapted Communities, and other aspects should be supported as well to create resiliency.

Related ideas:

Cost share projects with private landowners and local agencies: Defensible space to reduce structure loss and slow the spread of wildfire.

Revise building codes to encourage use of non-combustible building materials, reducing hazards fuels in and around communities.

Public land use regulations around populations could encourage or require fuels mitigation to slow wildfire as it comes near populated areas.

Firewise program applications to DNR need to be processed quickly and efficiently, and landowner assistance prioritized.

Programs need to be expanded to include other resiliency concepts such as Ready Set Go and the more comprehensive Fire Adapted Communities.

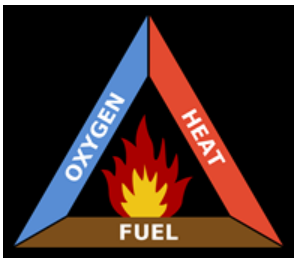
Please consider funding land and homeowner training workshops. KCFD#7 and KCCD is already planning for our next big community workshop on Wildfire Preparedness Day 2016. We want to empower our neighbors with knowledge about what they can do before, during and after a wildfire. According to FEMA statistics, for **every $1 spent on mitigation, $517 of property value was saved.**

Thank you for your consideration and for your forward-thinking efforts on combating wildland fire,

Carolyn Berglund,
Kittitas County Fire District 7

Jason Spadaro, SDS Lumber Company

1. The Fire Triangle:



- Fire needs three elements; fuel, oxygen and heat. Fuel is only one leg of the triangle that we can control.

2. Fuel Management:

To me, the report seems to need a deeper look at what landowners are (or are not) doing in our State that create the risk of catastrophic fire, losses of life and property, and higher fire suppression costs.

- What land management actions or inactions increase fire fuels and create risk?
  - lack of forest and fuel management,
    - failure to thin overstocked forests
    - failure to remove fuels in areas of higher risk such as eastern Washington, areas of population density and along highways
    - failure to create significant fuel breaks through tree cutting
    - failure to graze and manage grass and fine fuel loads in eastern washington
  - failure to treat diseased or bug infested forests and thereby creating a hazardous condition
  - abandonment and removal of roads that create lack of accessibility for fire suppression
- Which landowners and what actions are creating these conditions?
  - USFS is the greatest source and greatest risk
    - total lack of management and removal of tools such as timber harvest and grazing to manage growth on the landscape
  - The State of Washington (DNR) is a large source
    - DNR Habitat Conservation Plan for Spotted Owls and Marbled Murrelets
      - large areas where no harvest occurs for Spotted Owls
      - DNR is currently amending it's HCP to adopt a Marbled Murrelet conservation strategy that will result in more forests off limits to harvest and management
      - Should the Legislature and DNR Trust Beneficiaries take a more active and interested role in this process?? I think they should.
  - Residential housing in forest lands and in the urban/forest interface is a large source of the problem
    - houses located in the wrong areas divert resources away from the job of fire suppression and toward structure protection during a fire.
    - protection of residential structures in the forest consumes a large percentage of the fire suppression budget with very little, if any, contribution to fire suppression costs.
    - After the Oso landslide much attention has been given to whether we should allow houses to be located in areas of risk to unstable slopes. Why are we allowing houses to be located in areas of high fire risk?

    - Private industrial and small non-industrial tree farms are the least risk. Actively managed forests that are thinned, harvested, grazed, have road access and people actively working on the landscape are the most safe!
- Can we create consequences or costs for landowners who are creating the risks? Can we incentivize landowners to treat fuels and manage their forests? Can we penalize landowners that are not treating fuels or actively managing their lands? Can we create a consequence for inaction?

3. I believe Tribes (Yakama and Colville in particular) are natural allies in this discussion. They want more active management of forests, particularly from USFS, in our State.

Specific Comments

1. Page 2 graph correlates timber harvests with fuel reduction. Environmentalists are always accusing the timber industry of using fire hazard reduction as an excuse to cut trees. Because of this controversy, as an industry we've tried to say the objective is improving forest health and without tying it to volume harvested. Re-framing the measure of success as acres actively managed instead of volume of timber harvested may avoid some controversy.

2. Page 3,, first paragraph. The Spruce Budworm is not the major parasite in all forests in Washington. I'd suggest saying the "Spruce Budworm, and Pine and Douglas fir Bark Beetles are the major forest parasites on Eastside forests".

3. Page 5, comparison of DNR vs USFS vegetation management budgets. Why is the DNR being allowed to put State Trust land in "no management" status (as done in the HCP for Owls and Murrelets) without any analysis of fire risks created or any plan or budget for fire hazard reduction in those areas?

4. Page 6. The table indicates that 5,893 acres of DNR and Private lands have been treated out of 2.6 million acres needing treatment. We do not have enough money in the State Budget to make any meaningful impact in addressing the risk. This observation supports a different approach, as discussed above, where we create incentives for landowners to manage fuel loads on their property or create a penalty for their inaction.

5. Page 12, Improving Road Systems. Forest Roads are fire breaks. We need to force the USFS to analyze under NEPA the additional fire risk created when they decommission forest roads. On DNR, we should be investing in forest roads as fuel breaks by increasing their width and accessibility. We should have DNR create Master Fire Plans for each DNR Region that identifies Roads and water sources and analyzes fuel conditions to identify where timber harvests should occur to create fuel breaks, Minimizing the risks of fire spreading should take priority over other forest and habitat plans in order to reduce the intensity, severity and losses associated with wildfire and the costs to the State budget of fire suppression.

6. Page 13. Training for Logging Companies. I completely agree that we need to make it easier for locals to be trained and able to respond. If they are not trained and on the list, DNR will not use them. But even if trained and on the list, many are reluctant to sign in to a fire because they will be under the direction and control of the fire command (either DNR or USFS). Many locals find it frustrating to "sit around and do nothing" once they have signed in to a fire. They want to actively attack the fire, put it out and get back to work but fire command will not accept their input, will not allow them to operate their machinery to suppress the fire and will not aggressively approach fire suppression. I know local loggers who are certified who

refuse to sign in and be under the control of fire command. As a result, their local knowledge of the landscape and expertise is not being used.

7. Page 13. Salvage. Existing State laws and State permitting Agencies (DNR and DOE namely) are a source of some of our problems. Forest landowners faces significant challenges in getting permits to treat fuels, address forest health problems or conduct salvage on large areas. Getting State issued permits to clean up after wind storms, fires, and insect outbreaks over large areas is extremely difficult. It needs to be made easier.

SUMMARY

We need to change the way we think about forest management and how we approach fire suppression.

We need a more active approach to managing vegetation and preventing fires. We may need to increase the budget to respond to forest fires but we also need to conduct a thorough review of what is creating such a fire prone landscape in the first place. What can we do to lessen fuels and get landowners who choose not to manage their lands and create greater risk to pay more of the costs?

We need a more active approach to fighting fires. What can we do to get fire commands to more aggressively attack fires with direct suppression efforts instead of taking indirect approaches and back burning that cause more damage?

Norm, I'm happy to contribute further thoughts as this Legislature looks for solutions to these problems.

Best regards,
Jason
SDS Lumber Company

APPENDIX I: DNR 2016 OPERATING AND CAPITAL BUDGET PROPOSALS

2016 Supplemental Operating Budget Proposal Summary					
#	Maintenance Level Requests	FTEs	Other	GF- S	Total
	Expenditure Authority (RMCA)		5,300,000	0	5,300,000
	Expenditure Authority (CFT)		26,000	0	26,000
	Expenditure Authority (ORV)		1,836,000	0	1,836,000
	Expenditure Authority (Survey & Maps)		3,000,000	0	3,000,000
	Total Maintenance Adjustments		**10,162,000**	0	**10,162,000**
	Policy-Level Requests				
1	Increase Fire Response Capacity	50	0	24,279,000	24,279,000
2	Emergency Fire Suppression Placeholder	0	137,229,000	0	137,229,000
3	Earthquake and Tsunami Hazards	4	0	540,000	540,000
4	Teanaway Community Forest	1	0	471,000	471,000
5	Forest Practice Re-investment (FFSA)	7	1,114,000	0	1,114,000
Total Operating Budget Request		**62**	**138,343,000**	**25,290,000**	**163,633,000**

***8**: DNR Operating Budget Priorities 2016 document; personal communication*

2016 Capital Budget Request Proposal Summary				
#	**Project (Biennialized FTE)**	**FTEs**	**Total**	**SBCA**
1	Trust Land Transfer – Teanaway		18,810,000	18,810,000
2	Blanchard Working Forest		7,571,000	7,571,000
3	State Forest Land Replacement (incl all counties)		3,000,000	3,000,000
	Total Capital Request		**29,381,000**	**29,381,000**

9: DNR Capital Budget Priorities 2016 document; personal communication

APPENDIX II: DNR 2015 THEORETICAL FIXED-WING AIRCRAFT DECISION PACKAGE

CONCEPTUAL D R A F T

PRELIMINARY 6/12/15

AGENCY: 490 Department of Natural Resources

AMENDED DECISION PACKAGE

(PLEASE SEE BN 2015-17 DECISION PACKAGES SUBMITTED September 17, 2014.)

FR Increase Fire Response Capability
and
FS Fire Suppression

Budget Period: 2015-17

Budget Level: PL – Performance Level

Recommendation Summary:

Rapid aggressive initial attack with adequate resources keeps wildfires small and minimizes impacts to GF-State. Longer fire seasons with more challenging firefighting environments, combined with the financial impacts of recession budget cuts and inflation, have resulted in a diminished firefighting capacity for the Department of Natural Resources (DNR) to fulfill its core mission of containing wildfires to protect citizens, forests, and property.

DNR requests funding to restore some of this firefighting capacity via increased fire engines and engine staffing, additional specialized Helitack crews to more fully utilize the DNR helicopter firefighting fleet, other enhanced initial attack capacity and safety improvements, and an additional fixed-wing single engine air tanker contracted to DNR to supplement the state's aerial firefighting resources.

INCREASE TO FR – FIRE RESPONSE CAPABILITY

As **requested in the September 2014** submitted Decision Package, DNR requested that **$4,555,000** be added to the DNR GF-S Allotment for **Fire Control**.

This Amendment requests an **additional $400,000/year** be added to the DNR GF-S Allotment for Fire Control in order to fund for each year of the biennium an **additional 90-day exclusive use contract for a fixed-wing single engine air tanker** (SEAT) (@$364,000 for availability charges), plus **associated aerial coordination (@$60,000** in availability charges), plus estimated **retardant batch plant operator/loader, supervision and logistics costs (@$40,000**).

Fiscal Detail

Operating Expenditures	FY 2016	FY 2017	Total
001-1 General Fund – Basic Account – State	2,465,000	1,990,000	4,455,000
+ fund SEAT contract	**464,000**	**464,000**	**928,000**

OVERVIEW OF WILDFIRE FUNDING FOR WA DEPARTMENT OF NATURAL RESOURCES

THE KEY SOURCES OF FUNDING FOR WILDFIRE PROGRAM, DISTINGUISHED FROM ACTUAL SUPPRESSION COSTS

COLOR KEY:

Blue shades - funds for Prevention, Preparedness, and Small Fire Response (the Basic Fire Program to be available and ready to suppress fires).

Beige shades - funds for fire Suppression.

FUND	SOURCE	HOW USED	HOW ADJUSTED	NOTES
GF-S Biennial Allotment to Fire Control [DNR 21 codes]	Legis Approp	PREVENTION, PREPAREDNESS, SMALL FIRE RESPONSE Base Fire Program – Readiness, Training, Prevention, Accounting, Dispatch and Reporting Systems, Management incl. Correction Camps crew program, grant and contract management + suppression of small fires, response to false alarms, patrol fireprone areas	Biennial/Annual Legis Approp's (Increases during BN only for technical fixes such as health insur rates adjstmts)	THIS IS THE ALLOTMENT WE HAVE REQUESTED MAINTENANCE LEVEL BE INCREASED IN BN 15-17 TO ENHANCE BASIC FIREFIGHTING CAPACITY
FFPA	Collected from forest landowners; spending authority approved by Legis	PREVENTION, PREPAREDNESS, SMALL FIRE RESPONSE Base Fire Program (see above)	Statute – rate currently capped at $17/forested parcel + 27 cts/ac over 50 ac	DNR equitably splits base program costs between GF-S and FFPA
GF-F	Federal agencies; spending authority approved by Legis	PORTION CONTRIBUTES TO PREPAREDNESS Some readiness and training funded by federal sources	Legis authorizes expenditure	
GF-S Suppression (Proviso) [DNR 22 codes]	Legis Approp	SUPPRESSION Allotment maintenance level amount (presumed to be adequate for the biennium's fires) based on 6-yr retro average; includes pre-positioning ("responding to high fire potential"), standby, contractor exclusive use agreements		SOME OF THE INCREASED CAPACITY WILL BE CHARGED TO SUPPRESSION WHEN FIRE POTENTIAL IS HIGH OR FIRE IS REPORTED
GF-S "Supplemental" (Suppression Proviso) [DNR 22, 28 codes]	Legis Approp	SUPPRESSION SUPPLEMENTAL When maintenance level did not cover actual costs incurred for suppressing fires	Biennial/Annual Legis Approp's	SOME OF THE INCREASED CAPACITY WILL BE CHARGED TO SUPPRESSION WHEN FIRE POTENTIAL IS HIGH OR FIRE IS REPORTED
GF-S Disaster Response Acct	Legis Approp	SUPPRESSION Capped amount available for actual costs of suppressing wildfires	Legis authority	DNR's access ltd to $5M/biennium for suppression costs

RECENT HISTORY OF FUNDING ALLOTED FOR DNR'S WILDFIRE RESPONSIBILITIES

BN	GF-S ALLOTMENT TO BASE FIRE PROGRAM[i]	FFPA	GF-F	GF-S ALLOTMENT FOR PROJECTED SUPPRESSION	GF-S SUPPLEMTL FOR ACTUAL SUPPRESSION COSTS	GF-S DISASTER RESPONSE
2007-09	7.69	9.84	2.461	25.25	18.96	5.0
2009-11	4.44	12.7	3.23	22.26	15.5	5.0
2011-13	5.17	11.1	3.06	20.07	32.0	5.0
2013-15	5.77	11.0	2.14	38.2	77.0	5.0
2015-17(Req)	6.21 (maintnc level + non-discr incrs) + 4.45 reqd incr capacity	11.1	2.23	38.2 + 4.7 reqd incr to maintnc level	n/a	n/a, up to 5.0
TOTAL FUNDS FOR BASE FIRE PROGRAM 2015-17 projected	19.54					
INCREASE TO BASE PROGRAM REQUESTED	4.45					

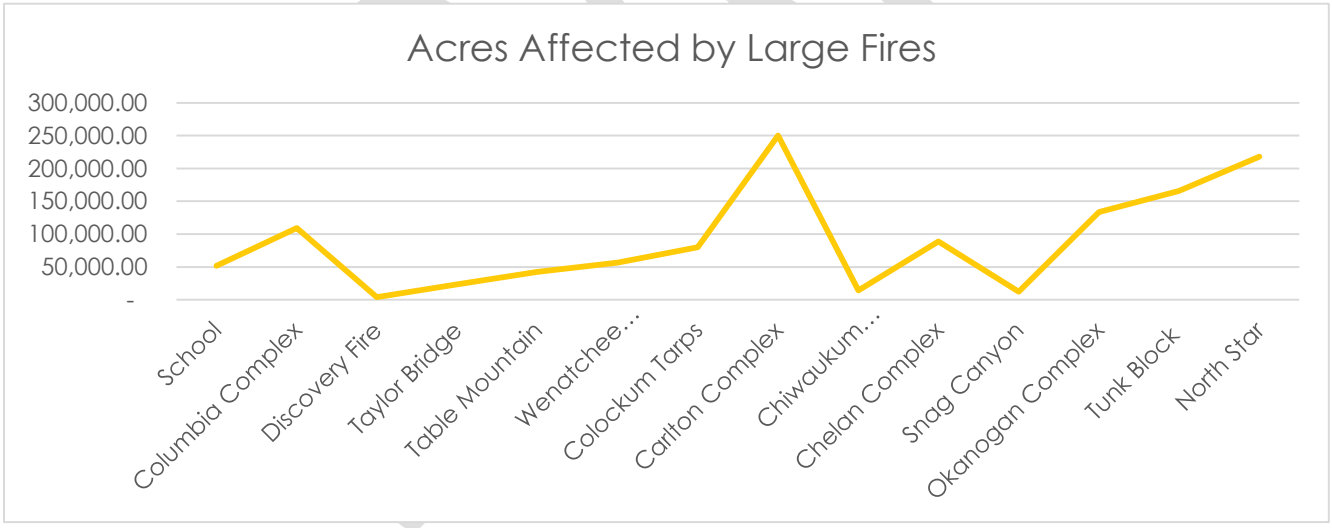
[i] Figures include "Fire Control" GF-S. "Fire Regulation" not addressed in this table; needs further refinement; is not substantial impact on GF-S.

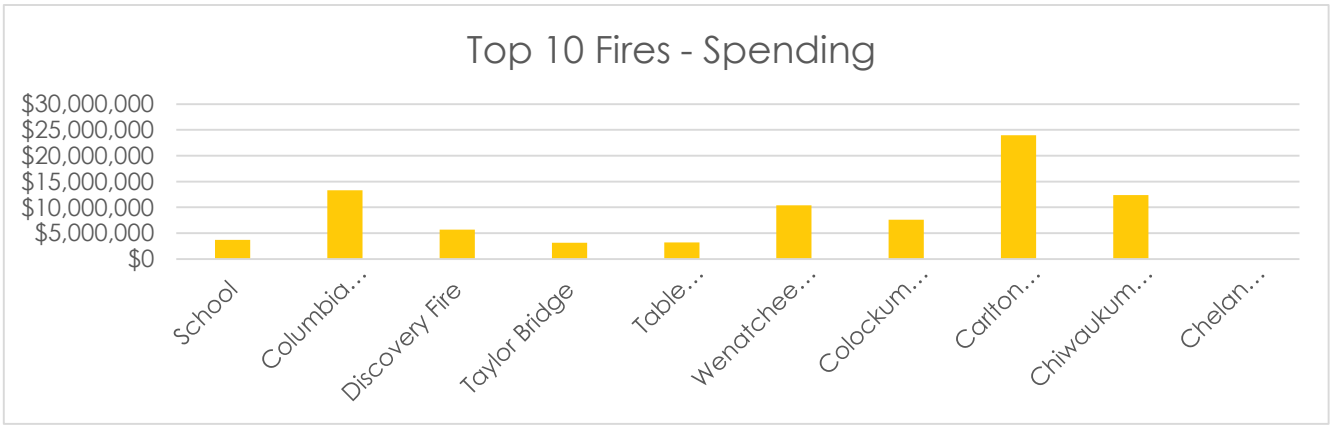
10: DNR document; personal communication.

APPENDIX IV: MISCELLANEOUS STATISTICS

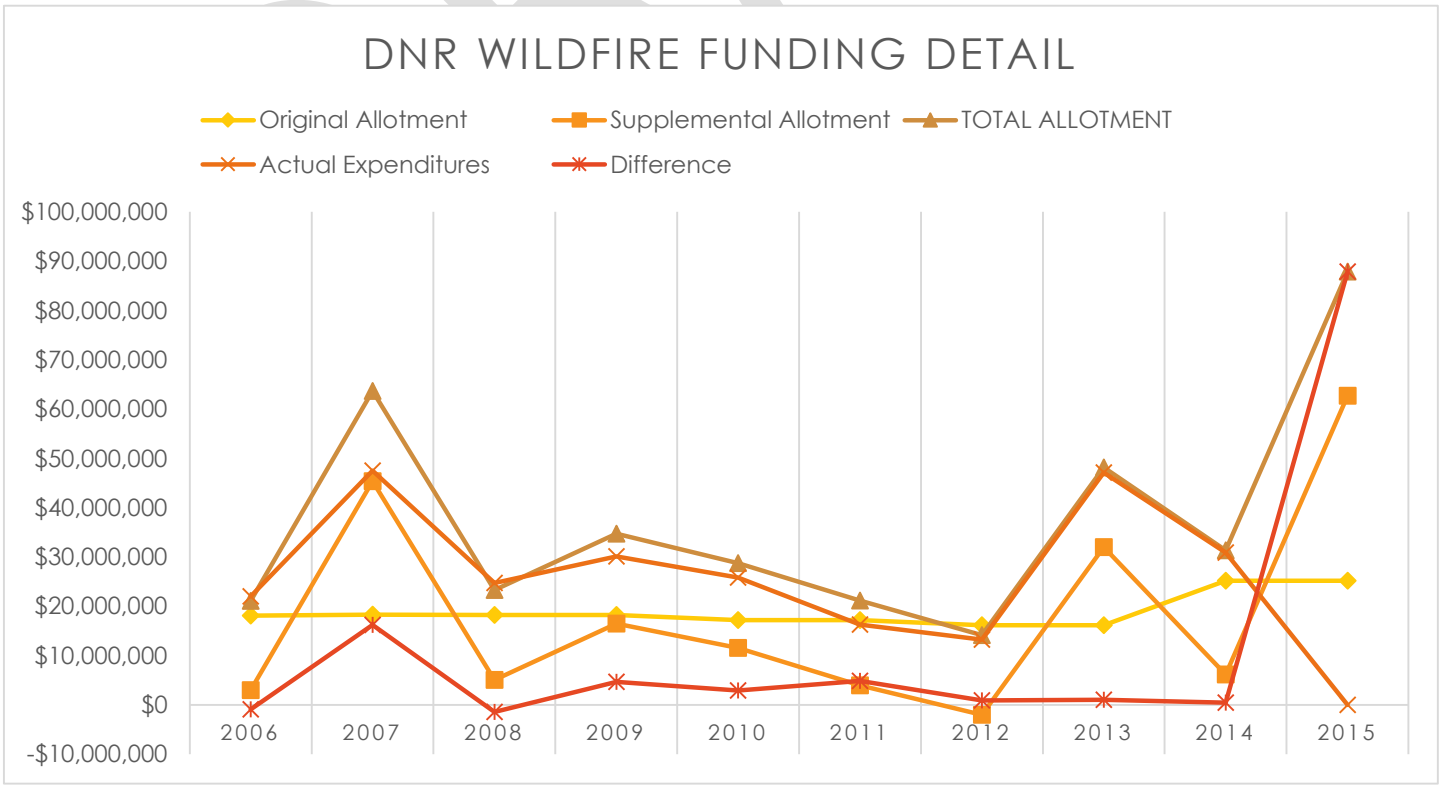
Table 1: Acreage Burned and Costs of Large Wildfires in the Past Decade. *Source: DNR.*

FY year	Fire Incident	County	DNR Cost	Acres	$/Acre
2005	School	Garfield/Columbia	$ 3,700,000.00	52,000.00	$ 95.89
2007	Columbia Complex	Columbia	$ 13,300,000.00	109,402.00	$ 1,116.78
2010	Discovery Fire	Yakima	$ 5,674,643.02	4,120.00	$ 873.18
2013	Taylor Bridge	Kittitas	$ 3,150,000.00	23,500.00	$ 76.10
2013	Table Mountain	Kittitas	$ 3,220,000.00	42,312.00	$ 184.14
2013	Wenatchee Complex	Chelan	$ 10,400,000.00	56,478.00	$ 94.94
2014	Colockum Tarps	Kittitas	$ 7,600,000.00	80,053.00	$ 134.04
2014	Carlton Complex	Okanogan	$ 24,000,000.00	250,280.00	$ 1,377.34
2014	Snag Canyon	Kittitas	$ 14,000,000.00	12,536.00	$ 121.57
2014	Chiwaukum Complex	Chelan	$ 12,400,000.00	14,201.00	$ 71.15
2015	Chelan Complex	Okanogan	TBA	88,985.00	$ 317.82
2015	Okanogan Complex	Okanogan	TBA	133,450.00	$ 317.82
2015	Tunk Block	Okanogan	TBA	165,918.00	$ 317.82
2015	North Star	Colville Indian Reservation	TBA	218,138.00	$ 317.82





Department of Natural Resources					
Allotted vs. Actual Program Emergency Fire Suppression Funding					
All Funding					
Fiscal Year	**Original Allotment**	**Supplemental Allotment**	**TOTAL ALLOTMENT**	**Actual Expenditures**	**Difference**
2006	$18,089,000	$2,984,000	**$21,073,000**	$21,980,400	($907,400)
2007	$18,289,000	$45,400,000	**$63,689,000**	$47,488,200	$16,200,800
2008	$18,225,500	$5,084,000	**$23,309,500**	$24,725,955	($1,416,455)
2009	$18,225,500	$16,500,000	**$34,725,500**	$30,084,542	$4,640,958
2010	$17,197,500	$11,542,000	**$28,739,500**	$25,813,189	$2,926,311
2011	$17,197,500	$3,961,000	**$21,158,500**	$16,300,625	$4,857,875
2012	$16,144,800	($2,007,000)	**$14,137,800**	$13,232,484	$905,316
2013	$16,144,700	$31,991,160	**$48,135,860**	$47,123,380	$1,012,480
2014	$25,207,500	$6,172,000	**$31,379,500**	$30,903,624	$475,876
2015	$25,206,000	$62,704,000	**$87,910,000**	$47,110,000	$87,910,000
Average FY06-15	**$18,992,700**	**$18,433,116**	**$37,425,816**	**$25,765,240**	**$11,660,576**
Note (1): Other than the supplemental column, all figures include GFS, federal, local and landowner contingency account funds.					
Note (2): Does not include Attorney General or LOC Admin					
Source: OFM Enterprise Reports					



BASS - BDS017

State of Washington

Decision Package

FINAL

Agency: 490 Department of Natural Resources

Decision Package Code/Title: C1 Increase Firefighting Capacity

Budget Period: 2015-17

Budget Level: PL - Performance Level

Recommendation Summary Text:

Washington has endured two consecutive record-breaking wildfire seasons that have inflicted catastrophic harm on communities and landscapes. There's an urgent need to increase in-state, on-call wildfire suppression capacity to protect public safety, natural resources and ecosystems, threatened wildlife populations, and the economic viability of communities across the State. To prepare for and respond to wildfires, DNR requests funding to increase firefighting capacity of DNR and local partners by adding: grants to support local fire districts, coordinated pre-season fire training with agency and contract partners, more contracts for heavy equipment and aircraft, contract and asset management support, and fireline safety supervision.

Fiscal Detail

Operating Expenditures	FY 2016	FY 2017	Total
001-1 General Fund - Basic Account-State		24,279,000	24,279,000
Total Cost		**24,279,000**	**24,279,000**

Staffing	FY 2016	FY 2017	Annual Average
FTEs	.0	50.0	25.0

Package Description:

The Department of Natural Resources (DNR) is the State of Washington's on-call wildfire department with statutory responsibility to protect 13 million acres of state-owned and private forest land. Responding quickly and aggressively fighting wildfires minimizes their duration, damage, and ultimate suppression cost. DNR strives to contain wildfires to the smallest size possible. However, without additional personnel, equipment, and training for DNR and local partners, the resources available are insufficient to meet the growing scale of wildfire risks. DNR and our partners must have sufficient firefighting capacity to protect the public, communities, and natural resources.

In the past two fire seasons approximately 1.5 million acres have burned. Homes and businesses have been destroyed and precious lives have been lost in Washington wildfires. It is imperative to interrupt the trajectory of increasing wildfire devastation with adequately prepared, equipped, coordinated, and professional wildland firefighting forces statewide. DNR requests General-Fund State (GF-S) funding to better prepare this agency and our local firefighting partners for rapid initial response and surge capacity. Likewise, fire fuels on the landscape must be reduced drastically to stem the intensity and rapid growth of fires and provide anchor points from which wildland firefighters can stop wildfires from spreading.

The components of this proposal are:

A. Preparedness and Rapid Emergency Response Capacity

DNR will organize and coordinate pre-positioned emergency response resources to rapidly deploy to high-risk areas.

1. A grant program will be created with $6 million GF-S to help local fire districts modernize and increase their capacity with equipment and training. This expansion of DNR's partners' capacity will act as a resource multiplier for existing state and federal resources. One DNR Grant Specialist (NRS2) will administer the grants.

2. To increase firefighting readiness, DNR will add resources to support both rapid emergency deployment and surge capacity for efficient and cost-effective management of larger incidents.

a. DNR will develop and position rapid response task forces comprised of a combination of DNR, local fire district, and contract resources to be deployed on a moment's notice. These pre-positioned rapid response forces will include engines, hand crews, dozers, tenders, aviation assets, and fireline leadership. This will enhance DNR's ability to respond rapidly across the most fire-prone landscapes utilizing experienced and knowledgeable local staff. DNR's ability to safely, effectively, and promptly deploy fireline resources will be assisted by:

- Three additional FTEs (WMS 1) to add senior fire commanders in acutely fire-prone regions to coordinate local and regional fire response.
- Six additional DNR fire FTEs (Fire Unit Foresters - NRS2) to provide supervision and incident command for resources at the region unit level.
- Eight FTEs (Fire Forester-NRS1) to directly supervise fire engines and other responding resources during initial attack.
- One FTE Wildfire Fiscal Accountability Specialist (WMS1) to provide expert oversight and counsel to maximize cost-effectiveness of suppression activities and to guard against waste, unjustified expenses, or fraud.
- One geographic specialist Logistics Dispatcher (NRS3) to procure logistical resources for initial attack and large fire needs. - A Wildfire Intel Coordinator FTE (NRS3) to standardize and compile reports of resource availability, needs, and gaps in critical resource categories.
- A Fire Response Coordinator FTE (NRS3) to facilitate coordination among DNR, federal, and local dispatch centers to ensure timely prioritized dispatch of scarce resources.

b. For expanded aerial firefighting capacity during initial emergency response:

- One FTE (Wildfire Division Assistant Division Manager for Aviation-WMS 2) will be added for programmatic supervision of both DNR and contracted aviation fire suppression resources.
- Two additional FTEs (NRS3) will fill critical needs for aviation dispatch.

c. To modernize outdated emergency response communications, DNR will invest in radio communications systems maintenance and upgrades ($1.2M) in coordination with partners through the State Interoperability Executive Committee.

3. To raise capability and capacity of Washington's collective firefighting forces, DNR will coordinate a program of ongoing comprehensive interagency wildfire training and capacity improvements for state, local, and tribal fire personnel and private fire resource contractors.

DNR will conduct coordinated wildfire training to interagency standards, expanded to include local fire districts, Washington National Guard, tribes, and private contractors.

- One DNR FTE (Fire Training Specialist - NRS3) will coordinate interagency training among state, local, tribal and federal partners. - Six FTEs (Training Coordinators - NRS3) will facilitate regional training programs that include direct assistance to local fire districts to achieve wildfire training and equipment standards.
- One FTE (Contract Specialist - NRS2) will proactively enroll and provide training for wildfire suppression contractors (particularly heavy equipment operators and other local resources) prior to the start of fire season.
- DNR will plan and conduct classroom and live-fire field exercises for DNR's partners to participate alongside DNR employees in professional wildland firefighter training.

B. Wildfire Prevention and Fuels Reduction

Approximately 2.7 million acres of the 10 million acres of forestland in eastern Washington are at high risk of damage by disease, insects, and wildfire. Decades of past management practices have changed the structure of these forests, resulting in species compositions in overstocked stands that are susceptible to intense burns. Climate change is expected to worsen these challenges.
Homes built on and near forestland have increased human exposure to these risks.

- Funding will be added ($500,000) for contracts with communities willing to commit to being Firewise (create defensible spaces around structures, take precautions during fire season, educate neighbors).
- Funding will be added so that more wildfire fuel reduction and forest health restoration can be conducted in the near term to reduce the ferocity of fire behavior in wooded landscapes ($2 million for private lands; $2 million for state trust lands).
- Three additional FTEs (Wildfire Prevention Coordinators-NRS3) will implement Firewise, wildfire prevention education, and other community outreach programs, and coordinate the grants and contracts that help landowners reduce fire fuels.
- Four additional FTEs (Stewardship Foresters-NRS2) will serve as local contacts who provide information and technical assistance to landowners regarding effective fuel reduction techniques, and administer contracts to accomplish grant-funded work.
- Five Fire Wardens (NRS1) will patrol fire-prone areas to ensure landowner compliance with grant and contract requirements, burn permit conditions, and industrial fire precaution levels.

Narrative Justification and Impact Statement

What specific performance outcomes does the agency expect?

Efficient and rapid response with sufficient resources to contain wildfires to ten acres or less 95 percent of the time. Responding quickly, with adequate resources, helps keep wildfires small and reduces the overall costs of fire suppression. Funds will be used to hire, train, and place additional resources in strategic locations in areas at greatest risk for wildfires in order to reduce response times as conditions escalate during the fire season.

With prevention and fuel reduction funding, DNR will aim to enroll at least 100 more Firewise communities and conduct fuel hazard reduction treatments on at least 17,000 acres of forested land.

Performance Measure Detail

Activity: A011 Fire Preparedness - Training and Forest Fire Protection Assessment **Incremental Changes**

No measures submitted for package

Activity: A012 Fire Regulation and Prevention

Incremental Changes

No measures submitted for package

Is this decision package essential to implement a strategy identified in the agency's strategic plan?

This proposal supports the Department of Natural Resources' 2014-17 Strategic Plan as follows:

Goal 2A: Protect Washington's Communities and Natural Resources from Wildfire and other Natural Hazards.
Strategy 1: Coordinate and target efforts to minimize human-caused wildfire starts.

Strategy 2: Suppress Wildfires Safely, effectively, and cost-effectively.
Strategy 5: Improve DNR's capabilities to respond to complex incidents and disasters.

Does this DP provide essential support to one or more of the Governor's Results Washington priorities?

Yes. This proposal supports the Governor's Results Washington, Goal 1: Healthy and Safe Communities: Wildland fires put human lives at risk and have the potential to cause substantial loss to property and critical infrastructure. DNR strives to keep losses to a minimum by strategically positioning DNR's fire resources, equipment and support teams and personnel throughout the state.

This proposal supports the Governor's Economy Priority. The Governor is committed to protect and manage scarce resources: land, water, energy, labor, capital, and credit.

This proposal indirectly supports the Governor's Budget Priorities, including the following:

1) Make significant and targeted investments in education to meet our constitutional obligations under the McCleary decision through the protection of trust land resources that generate revenue for K-12 schools.
2) Promote policies and opportunities to grow jobs.
3) Prepare Washington for a vibrant, thriving economy.

Implementation of this package involves efficient firefighting, which serves to enhance the protection of education-linked revenue in the form of the state's natural resources. Facilities vital to the Governor's Education Priorities come to fruition through revenue generated by the resources that DNR protects.

Adding personnel to the firefighting and forest fuel treatment programs, and enrolling more private contractors as proposed, are small but deliberate opportunities to grow jobs. Effective wildland firefighting safeguards related industries, which plays a vital part in a productive state economy.

What are the other important connections or impacts related to this proposal?

DNR's firefighting mission is essential to maintain Washington's forests for current and future generations, and to protect trust revenue generated from State forests that supports schools, universities, and local governments.

DNR accomplishes its fire protection mission in cooperation with local, federal, tribal and international firefighting agencies and relies heavily on private-sector resources. When any of the partners' resources are inadequate, firefighting response capabilities of the cooperating agencies are adversely affected. Prompt and aggressive initial attack on fires depends upon all regional cooperating agencies, including DNR, having sufficient resources, especially during highly active fire seasons.

Although effective wildland firefighting is seldom linked directly to the health of Puget Sound, the aftereffects of wildfire, such as flooding and barrenness of earth, do affect ecosystems beyond the immediate vicinity of the burn scar. Effective forest health treatments and wildland fire suppression yield benefits agencies that are focused on watersheds, aquatic lands, and uplands.

What alternatives were explored by the agency, and why was this alternative chosen?

DNR participates actively in federal property surplus programs to reduce the costs of specialized firefighting equipment. The "militia" strategy utilizes DNR's regular workforce, supplemented by seasonal DNR firefighters and private contractors. The efficiency of this approach was validated by a 2013 legislatively-directed review conducted by the Washington Institute for Public Policy.

DNR continues to explore alternatives to maximize suppression resources. A full contingent of engine and helicopter resources, with sufficient staff support and safe supervision, is the most cost effective method of having a positive impact on DNR's fire suppression mission.

Although media messaging about wildfire hazards is prevalent and heavily promoted by DNR, public response seldom materializes in action without DNR's proactive involvement with communities and landowners. The Firewise program has proven effective and yields self-reliant local preparation for wildfires. Cost-shared contracts for forest health/fuel reduction treatments have resulted in thousands of acres improved, accompanied by landowner investment in reducing wildfire risk.

What are the consequences of adopting or not adopting this package?

DNR will have improved ability to aggressively attack wildfires to strive to contain wildfires to ten acres or less during all but the most active periods of fire occurrence. Additional staffing will enable an increased number of engines and helicopters to be staffed during lightning episodes and increase the response capability during elevated burning periods when additional suppression forces are required. A reduced number of large fires will lower the risk of loss of life, property/community damage, and loss of timber resources. Fewer fires escaping initial attack will decrease suppression costs which often require DNR to submit supplemental requests for additional GF-S funding to the legislature.

Reducing wildfire hazards around communities and in forested landscapes also benefits public safety and public funds. With more community engagement in creating defensible spaces around structures, firefighters will be more likely to succeed in structural protection. As more landowners address overstocked forest stands in poor health, and reduce wildfire ladder fuels, firefighters will be more likely to contain fires to smaller areas of acres burned.

What is the relationship, if any, to the state's capital budget?

None.

What changes would be required to existing statutes, rules, or contracts, in order to implement the change?

None.

Expenditure and revenue calculations and assumptions

NOTE: All the staff listed below will be ongoing starting July 1, 2016 and include ongoing associated costs for goods & services and travel.

A. Preparedness and Rapid Emergency Response Capacity - TOTAL FY 2017 COSTS: $17,926,000

1. Grant Program FY 2017 costs:
$6,131,000 Grants - $6,000,000
(decreases in FY 2018)
- 1.0 FTE Grant Specialist - Natural Resource Specialist (NRS2) - $131,000 (includes $9,000 in one-time costs for workstation and computer).

*Starting in FY 2018, and each year thereafter, annual grant costs will decrease to an estimated $3,000,000 for an ongoing cost of $3,122,000 each year.

2. Rapid Deployment Task Force FY 2017 Costs: $3,204,000
- 3.0 FTEs (WMS1) will add Senior Fire Commanders in acutely fire-prone regions to coordinate local and regional fire response - $523,000 (includes $104,000 in one-time costs for workstations, computers & 3 vehicles).

- 6.0 FTEs Local Wildfire Response Leaders (NRS2) will provide localized, hands-on supervision and incident command for resources at the region unit level - $941,000 (includes $208,000 in one-time costs for workstations, computers & 6 vehicles).

- 8.0 FTEs Wildfire Resource Supervisors (NRS1) will directly supervise fire engines and other responding resources during initial attack - $1,177,000 (includes $279,000 in one-time costs for workstations, computers & 8 vehicles).

- 1.0 FTE Wildfire Fiscal Accountability Specialist (WMS1) will provide expert oversight and counsel to maximize cost-effectiveness of suppression activities and to guard against waste, unjustified expenses, or fraud - $149,000 (includes $9,000 in one-time costs for workstation and computer).

- 1.0 FTE Logistics Dispatcher (NRS3) will procure logistical resources for initial attack and large fire needs - $138,000 (includes $9,000 in one-time costs for workstation and computer)

- 1.0 FTE Wildfire Intelligence Coordinator (NRS3) will standardize and compile reports of resource availability, needs, and gaps in critical resource categories - $138,000 (includes $9,000 in one-time costs for workstation and computers).

- 1.0 FTE Fire Response Coordinator (NRS3) will facilitate coordination among DNR, federal, and local dispatch centers - $138,000 (includes $9,000 in one-time costs for workstation and computer).

*Starting in FY 2018, and each year thereafter, costs will decrease to an estimated $2,577,000 each year.

2a. Expanded Aerial Firefighting Capacity FY 2017 Costs: $443,000
- 3.0 FTE Aviation Assistant Division Manager & Aviation Dispatchers (1 WMS2 & 2 NRS3) for programmatic supervision of both DNR and contracted aviation fire suppression resources - $443,000 (includes $28,000 in one-time costs for workstations and computers).

*Starting in FY 2018, and each year thereafter, costs will decrease to an estimated $415,000 each year.

2b. Emergency Communication Equipment FY 2017 Costs: $1,200,000 (these are one-time costs)

3. Coordinated Wildfire Training FY 2017 Costs: $6,948,000

Training Program costs $5,700,000 (decreases in FY 2018)
- 7.0 FTEs Fire Training Specialist & Fire District Support Coordinators (NRS3) will coordinate interagency training among state, local, tribal and federal partners. They will facilitate regional training programs that include direct assistance to local fire districts to achieve wildfire training and equipment standards - $1,116,000
- 1.0 FTE Grant Specialist (NRS2) will proactively enroll and provide training for wildfire suppression contractors (particularly heavy equipment operators and other local resources) prior to the start of fire season - $132,000 (These costs include $227,000 in one-time costs for workstations, computers & 6 vehicles).

*Starting in FY 2018, and each year thereafter, annual training program costs will decrease to an estimated $3,000,000 for an ongoing cost of $4,021,000 each year.

B. Wildfire Prevention and Fuels Reduction - TOTAL FY 2017 COSTS: $6,353,000
Contracts - $500,000 (ongoing)
Fuel Reduction & Forest Health Private Lands - $2,000,000 (ongoing)
Fuel Reduction & Forest Health Trust Lands - $2,000,000 (ongoing)
Prevention and Fuels Reduction Staffing - $1,853,000 (includes $416,000 in one-time costs for workstations, computers and 12 vehicles)

- 3.0 FTEs Wildfire Prevention Coordinators (NRS3) will implement Firewise, wildfire prevention education, and other community outreach programs, and coordinate the grants and contracts that help landowners reduce fire fuels.

- 4.0 FTEs Stewardship Foresters (NRS2) will serve as local contacts who provide information and technical assistance to landowners regarding effective fuel reduction techniques, and administer contracts to accomplish grant-funded work.
- 5.0 FTEs Fire Wardens (NRS1) will patrol fire-prone areas to ensure landowner compliance with grant and contract requirements, burn permit conditions, and industrial fire precaution levels.

*Starting in FY 2018, and each year thereafter, costs will decrease to an estimated $5,937,000 each year.

Agency administration cost will require 5.0 FTE starting in FY 2017 and is calculated at 27% and shown as Object T.

Which costs and functions are one-time? Which are ongoing? What are the budget impacts in future biennia?

The one-time costs include computers for new staff, vehicles and $1.2 million for the radio communications systems maintenance and upgrades. All other costs are ongoing.

Object Detail		**FY 2016**	**FY 2017**	**Total**
A	Salaries And Wages		2,528,000	2,528,000
B	Employee Benefits		1,012,000	1,012,000
E	Goods\Other Services		16,929,000	16,929,000
G	Travel		207,000	207,000
J	Capital Outlays		2,192,000	2,192,000
T	Intra-Agency Reimbursements		1,411,000	1,411,000
Total Objects			**24,279,000**	**24,279,000**

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NOTES

Thank you to the following individuals who contributed to this report:

Dye

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McCabe

Klippert

Short

Kretz

Warnick

Parlette

Smith

Thank you,

Tom Dent

In honor of Richard Wheeler, Tom Zbyszewski, and Andrew Zajac, who tragically sacrificed their lives in service in a firestorm near Twisp on August 19, 2015.