

2019

**Governor's Council for Wildfire
Response: Committee Reports**

Executive Summary

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The Governor's Council for Wildfire Response

Governor Kate Brown's Council on Wildfire Response

The Governor's Council on Wildfire Response brought together expert stakeholders from the diverse issue areas relevant to fire and forest management, including health and safety, economic impacts of wildfire, environmental and cultural impacts, infrastructure and land use, as well as water, labor, and transportation. Council representation (Appendix B) depicts the pervasiveness of wildfire impacts on Oregon life. Three sub-committees were tasked with developing recommendations around the following areas: fire suppression; mitigation and adaptation and recovery, which has emphasized economic recovery, public health, and land use.

The full Council collaborated to establish strategic objectives necessary to address wildfire prevention, preparedness and response. These strategic objectives have served as guiding principles for Council recommendations and should continue to be at the forefront of wildfire planning in Oregon. The following graphics will be used to throughout this report to thematically group recommendations:

Key Objectives



1. Human Safety



6. Healthy & Resilient Ecosystems



2. Human Health



7. Climate Change Benefits



3. Social Justice



8. Protection of Existing Business



4. Critical Infrastructure /Asset Security



9. Growth and Diversification of Economy



5. Vibrant, Stable Communities



10. Revenues for Critical Public Services (County and State)

Overview and Context

The magnitude of Oregon's wildfire mitigation problem is beyond the scope of any individual sector, and requires the collective power of public-private-partnership. Local, state and federal governments must align with the private sector, academics, non-profits, tribes and others to collectively implement a multi-billion-dollar, multi-decade program. While wildfire and wildfire mitigation have been and will remain a permanent fixture in the West, the Committee believes a specific "program" is warranted, at least until the massive backlog of hazardous fuels is reduced to a more sustainable level.

The Wildfire Mitigation Committee has been charged with evaluating potential actions that will reduce and mitigate risk associated with future wildfire events in the context of 10 objectives adopted by the Council, and that will do so at a meaningfully improved pace and scale. All of the Council's 10-adopted objectives are relevant to and to some degree addressed by the Mitigation Committee's work.

Because the Committee believes wildfire and smoke will remain a reality of life in the Pacific Northwest, the Committee's work is premised on how to meaningfully prioritize and take actions that reduce the negative impacts fire and smoke can pose to important societal values rather than a binary or zero-sum-game approach that continues to pit wildfire and suppression against one another. In other words, the question is not whether to try and prevent all wildfire on the one hand or eliminate suppression on the other, or whether wildfire will or should exist, but rather how might we shape the type, location, and amount of fire and smoke so as to, in turn, better realize both benefits and reduced risks to our society, economy, and environment associated with both wildfire and wildfire mitigation work.

The state must ensure its mitigation strategy does not drift apart from a cohesive overall wildfire strategy, including approaches to suppression and community adaptation. Mitigation, suppression and adaptation must be continuously integrated — in a world of limited resources — with the ultimate goal of stabilizing and lowering costs once hazardous fuels are brought to more moderate levels.

The state's role in the development of an Oregon public-private-partnership is pivotal. The most important role for the state is overall leadership of the program itself, and the public-private-partnership charged with its implementation. The following outline of Key Elements of a Wildfire Risk Mitigation strategy provides the overall framework for public-private partnership content.

Key Elements of the Strategy

Element 1: Catalyze Program

- a. State Capital Infusion
- b. Commensurate Federal Dollars
- c. State Personnel Investment and Integration

Element 2: Lead a New Oregon Public-Private Partnership

- a. State Objectives & Priorities
- b. Statewide Risk Assessment and Prioritization
- c. Scale and Time Horizons
- d. All Lands: treatments tailored to geography and condition
- e. Action Linkage—wildfire, suppression, hazardous fuel reduction
- f. Metrics, Accountability, and Governance
- g. Match Wildfire Mitigation Funding to all Oregon Beneficiaries
- h. Strategic Financial Plan (mitigation as one component within integrated plan)
- i. Western Coalition for Federal Advocacy

Element 3: Expand Private Sector Role

- a. Scaling Forest Sector to Mitigation Need
- b. Value Chain Support
- c. Workforce Development
- d. Markets for Wood and Agricultural Waste (e.g., Bio-energy) Agricultural Economy, Non-Timber Markets Including Conservation Finance.

Element 4: Enhance Agency Business Model

- a. Contracting, Hiring, Administration, Performance Measures and Incentives
- b. Capacity, Implementation Coordination and Integration
- c. Management Efficiencies
- d. Partnership Communications, Outreach, Information Management

**Recommendations provided in this report.

The Mitigation Committee's work to date has focused on defining the geographic nature of the wildfire risk concern across Oregon, how to prioritize across this geography, and the scope and scale of the challenge at hand. This work and related recommendations to the Council generally relate to **Element 2(a)-(c)** of the Key Elements outline and are expanded upon below. The remaining elements should be considered in the development of a comprehensive strategic-financial plan.

Element 2: Lead a New Oregon Public-Private Partnership

A. State Objectives & Priorities

The public-private-partnership and related state investments and policies must be directed by clear state objectives. The Governor's Council's work builds on the National Cohesive Wildland Fire Management Strategy as well as the recently signed state-federal Shared Stewardship Agreement. The Shared Stewardship Agreement established four broad outcomes (healthy terrestrial ecosystems, healthy aquatic ecosystems, vibrant communities, quality outdoor experiences). The National Cohesive Strategy includes three primary goals: 1) Resilient Landscapes, 2) Fire Adapted Communities, and 3) Safe and Effective Wildfire Response. These goals were developed in response to four primary issues: managing vegetation and fuels; protecting homes, communities, and other values at risk; managing human-caused ignitions; and effectively and efficiently responding to wildfire. In support of these goals and outcomes, and with the intent of directing committee-level work, the Wildfire Council established 10 Strategic Objectives organized around social, environmental and ecological values. Together, these outcomes and objectives constitute a "North Star" guiding strategic and tactical decisions.

1. *Human Safety: Public and firefighters*
2. *Human Health: Smoke and water*
3. *Social Justice: Most vulnerable communities protected and equitable funding*
4. *Critical Infrastructure Security: Housing, power, water, transportation*
5. *Vibrant, Stable Communities: Quality outdoor experiences, honoring customs and traditions*
6. *Healthy & Resilient Ecosystems : Forest, aquatic, rangelands*
7. *Climate Change Benefits: Adaptation and mitigation*
8. *Protection of Existing Business: Commercial timber, mill infrastructure, rural business, tourism, agriculture*
9. *Growth & Diversification of Economy: Non-timber forest business (carbon, water, recreation, ecosystem services) and new business (forests as quality-of-life magnet)*
10. *Revenues for public services (e.g., County payments)*

Statewide Risk Assessment and Prioritization:

Problem Statement: Recent scientific studies (sources needed) focused on wildfire risk have identified several challenges facing Oregon, particularly in the fire-adapted, more frequent fire return interval forests of southwest, central, northeast and eastern parts of the State. In particular, this research speaks to:

- Warming climate resulting in more intense weather events (e.g. more lightning ignitions, strong winds), increased risk of drought stress, and longer and drier fire seasons.
- Past management practices, including overstory removal and more than a century of active fire suppression, has resulted in at least a 10-fold increase in the number of small-diameter trees on the landscape, a shift in species composition towards more shade tolerant species, and much denser and more homogenous forest conditions.
- Increase in the number and likelihood of human caused ignitions.
- Expanding wildland urban interface (WUI) development and inadequate investments in fuel reduction and defensible space work being conducted around homes and structures.
- A lack of coordinated land management activities across ownership boundaries that effectively meet wildfire risk reduction and forest health goals at a landscape scale.
- Insufficient funding and declining agency capacity to conduct work at the pace and scale required to address the challenge on public lands.

Given the significance of the challenges and the vastness of Oregon's forested landscape and rangelands, it is important to not lose focus and instead determine how to best prioritize investment in limited resources in geographies and action types that will make a difference. The Committee's initial work therefore started here.

Background: Risk Assessment and Priority Mapping

The Committee grounded its work related to the following assessment and mapping products in the following purpose and guiding principles.

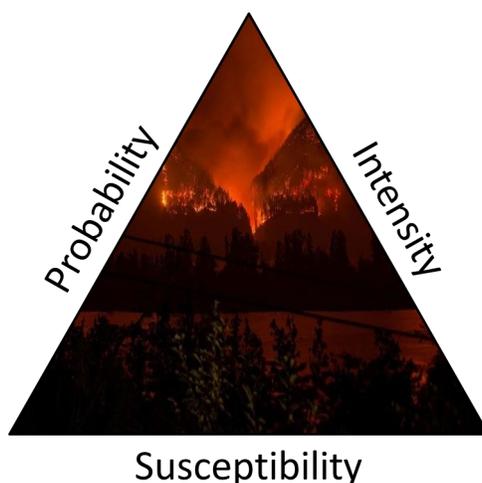
Purpose: Identify and prioritize geographic areas for wildfire risk mitigation activities and investments based on current wildfire risk and ecological, social, and economic values.

Guiding principles:

- Incorporate and meaningfully address the ten (10) objectives identified and adopted by the Governor's Council for Wildfire Response.

- Effectively represent statewide interests by conducting the process across all-lands and all regions of the state.
- Utilize best available science and data.

Wildfire risk is a function of the probability of wildfire, intensity of the wildfire, and susceptibility of the resource to wildfire. While the likelihood of a fire starting in a given area (probability) and the way trees or other resources will burn (intensity / hazard) are part of the equation, identifying specific values and quantifying their susceptibility to fire is another key part (i.e., risk to what?). Independently, these elements are distinct, and it is the combination of these elements that results in an assessment of risk.



Work Product: The QRA Backbone—Addressing 6 of 10 Council Objectives.

The Committee chose to evaluate the 2018 Pacific Northwest Quantitative Wildfire Risk Assessment (QRA or PNRA) as the foundation of its approach to risk assessment and priority mapping. The QRA was collaboratively developed with participants from state and federal land management agencies, resource specialists, and fire fighters.

“The purpose of the USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) is to provide foundational information about wildfire hazard and risk to highly valued resources and assets across Oregon and Washington. A wildfire risk assessment is a quantitative analysis of the assets and resources across a specific landscape and how they are potentially impacted by wildfire.”

There are 28 individual data sets that underlie and inform the PNRA/QRA. While these data sets and corresponding resource values exist independently, the QRA assessed and aggregated these data into one integrated product. This product depicts the relative importance of valued resources to one another as well as the response functions of

those resources to wildfire using flame length values corresponding to fire intensity levels. As depicted below, the QRA did not weight all highly valued resources equally. Among these valued resources, “infrastructure” includes a host of data sources for electrical transmission lines (high and low voltage), railroads, interstate and state highways, seed orchards, ski areas, historic buildings, recreation sites, communication sites and cell towers, and sawmills. “Wildlife” is primarily focused on threatened and endangered species listed under the federal Endangered Species Act. For a complete list see Table 4 in the PNRA publication.

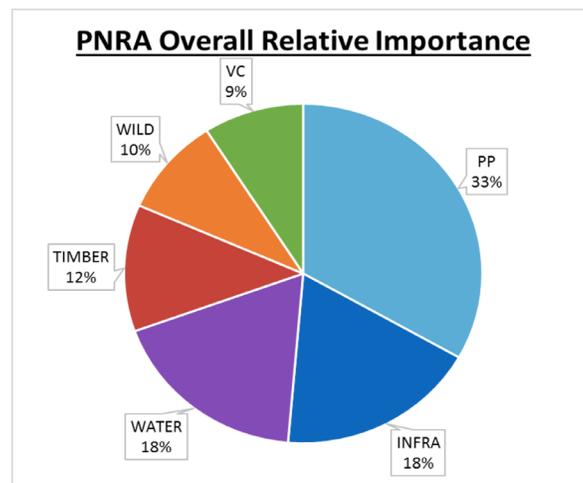
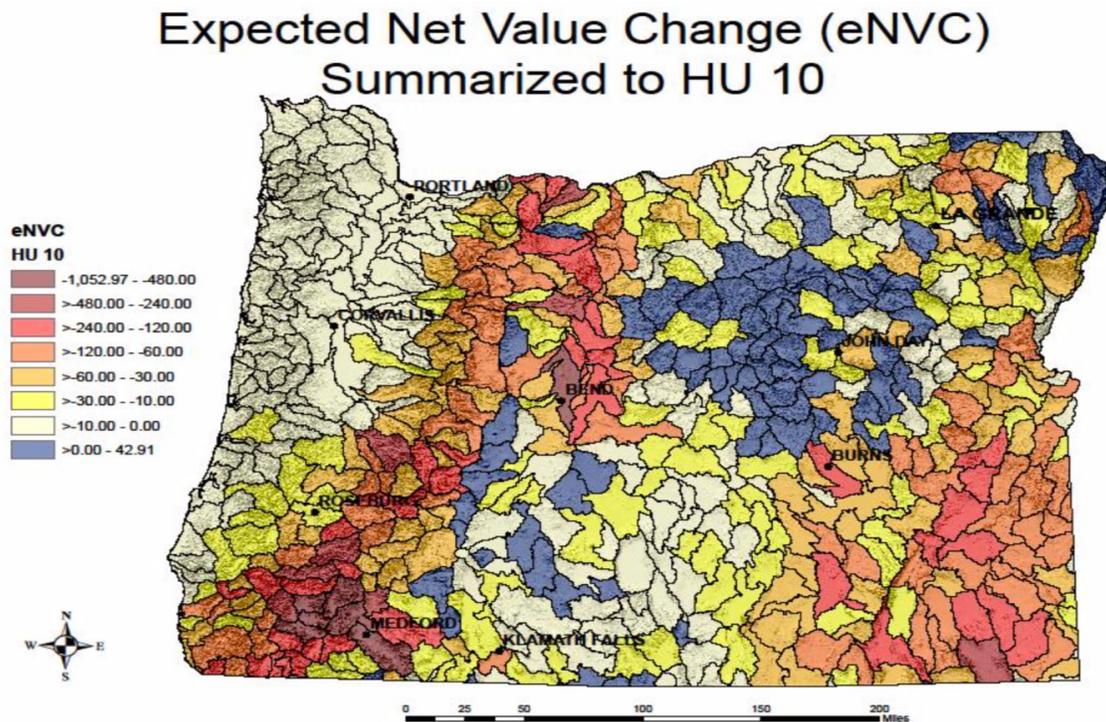


Figure 8. Overall HVRA Relative Importance for the primary HVRA's included in PNRA

Overall, in the QRA's identification and assessment of highly valued resources, the Committee found this product corresponds to six (6) of the Council's ten (10) objectives. As such, it is the backbone of the Committee's statewide risk assessment and prioritization mapping effort, as depicted in the map below. The expected net value change depicted by the QRA map below reflects the probability of a wildfire event occurring in a given area (scaled to the 10th field hydrologic unit / HU 10) and the anticipated impacts on highly valued resources associated with that event. The darker red colors reflect a highly negative result, and the blue reflects a positive or neutral impact from wildfire.

Figure 1.—QRA-based wildfire risk prioritization map.



Three portions of the state are highlighted as especially high wildfire risk based on existing conditions: Southwest Oregon, North Central Oregon, and Southeast Oregon.

The QRA is set to be revised every three (3) years. Committee members found this fact important primarily because (a) the QRA is based on a snapshot in time and conditions change due to management, wildfire, or other factors; and (b) it is not a perfect product and refinement to address other considerations can improve the product over time (see recommendations below).

Also, the QRA map is scaled to the 10th field hydrologic unit (HUC 10 watershed scale), which range from approximately 40,000 to 250,000 acres in size. Given the large swaths of land within this unit, it is important to note that areas highlighted in blue – “low risk” will still maintain areas of high risk within them, which can be revealed by further downscaling the map. For example, the overall watershed may have lower risk based on existing conditions, but a corridor near the electrical lines or the forest immediately surrounding a community may still pose a high risk in that watershed.

For this and other reasons, the Committee is considering the use of additional spatial wildfire risk assessment tools—namely the Potential Operational Delineations (PODs)

methodology¹—to further refine wildfire risk assessment work and address the integration of strategies including hazardous fuel reduction and suppression within discrete geographic units. PODs are polygons with boundaries drawn according to features relevant to fire control operations (e.g., roads, ridgetops, and water bodies). PODs are created with the engagement of fire experts with the help of analytical tools that build on the QRA and integrate fire control-related information. They can be useful for summarizing wildfire risk and planning strategic response to unplanned ignitions in a discrete area based on information relevant to the likely effectiveness of various strategies. PODs can be used to guide and communicate choices of related to strategic fuels planning and operational response, thereby potentially aligning active management strategies (e.g., hazardous fuels reduction / forest restoration; prescribed fire; timber programs, managed fire and suppression).

The Committee is particularly interested in further exploration of PODs work because PODs require cross boundary planning and coordination among key partners including state, federal, private and local communities, and this approach can potentially integrate across “fire response” and “mitigation” efforts through the strategic placement of treatments to achieve lessened risk to communities, infrastructure, public health and safety (including firefighter safety) while addressing ecosystem health and creating more fire resilient landscapes. Committee members are interested in further evaluation and potential advancement of the PODs approach, and all PODs data should be available for Oregon by December 2019.

Work Product: Non-QRA Risk Assessment—Addressing the Remaining 4 Council Objectives.

As stated, the QRA is based on data that corresponds to six (6) of the ten (10) Council objectives. The four Council objectives not addressed by the QRA are: 1) social justice, 2) human health, 3) protecting existing businesses, and 4) diversifying the economy. Therefore, in order to be consistent with the principle of meaningfully addressing all ten of the Council objectives, the Committee endeavored to do so using a different / non-QRA approach for the above four.

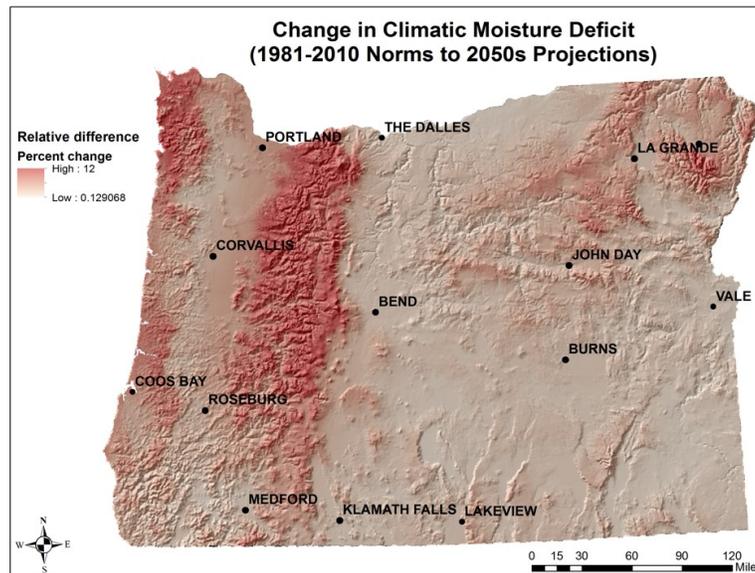
In addition, the QRA is focused on wildfire risk and represents a snap shot in time based on existing conditions and data availability related to fire. The QRA does not include data to evaluate the risk to resources based on non-wildfire-based forest health factors such as the related issues of drought stress (relevant to climate change considerations) and insect and disease outbreaks. Committee members felt the design of programs and investments should not only focus on mitigating current wildfire risk (snapshot in time), but planning and preparing for the likely effects of climate change, drought, insects and disease.

¹ <https://www.youtube.com/watch?v=NMbzXNY9RU8&index=4&t=0s&list=PLNsZX2SBTIVn1ce0I9-0C6CCbl-DOj2kwn>

The following maps highlight the additional data sets produced based on Committee input tied to the four additional Council objectives (the non-QRA objectives) as well as the climate, drought, and insect and disease considerations. When combined with the QRA data and map, the Committee has spoken to and addressed all ten (10) Council objectives.

Climate Change / Drought

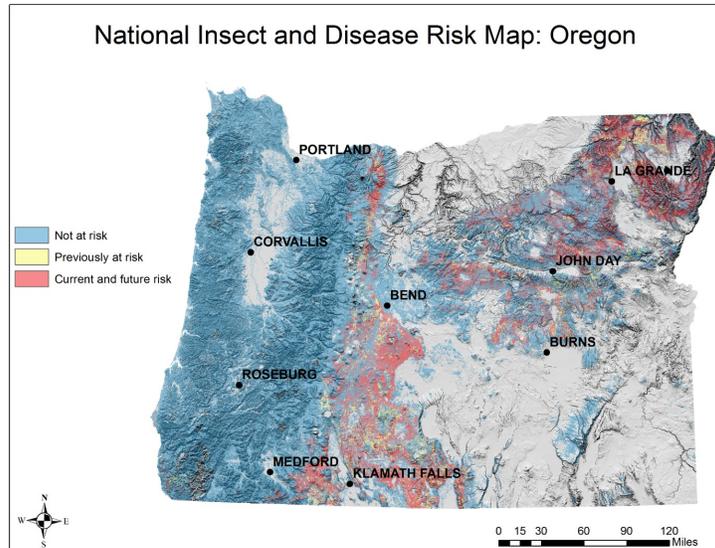
Drought is likely to have the most adverse consequences to forests on the north and central coast, Cascade Range, and the Blue Mountains of north east Oregon.



Insect and Disease Risk²

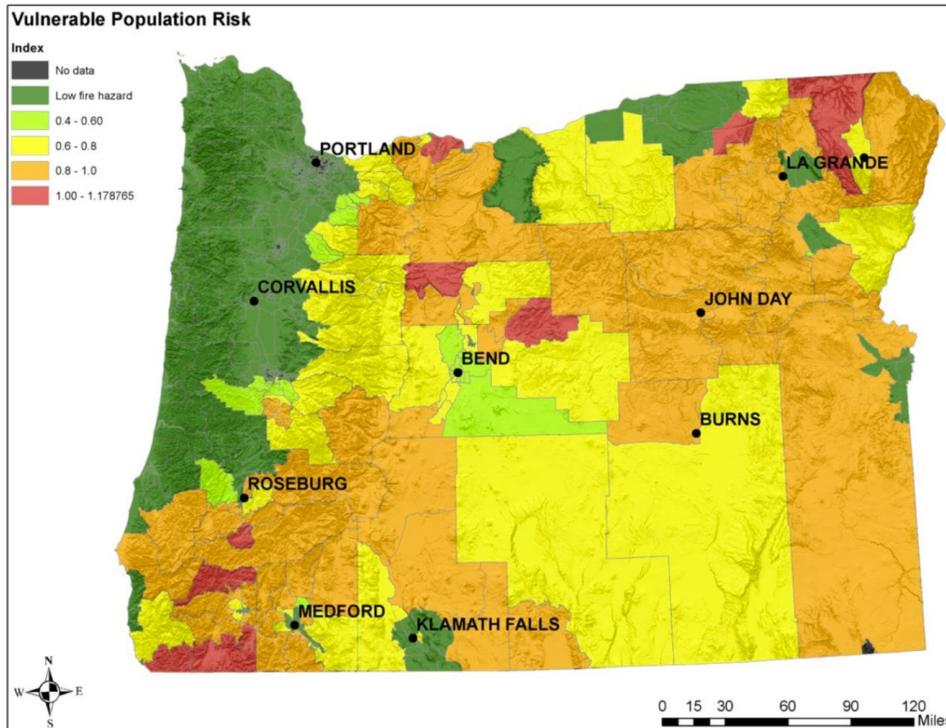
The map below shows areas at risk of losing 25% or more canopy cover as a result of a future insect or disease outbreak. Large portions of south-central and northeast Oregon are highlighted for this forest health risk.

² USDA Forest Service partners with the State of Oregon to map current insect and disease outbreaks and evaluate risk of potential future outbreaks. Data is based on cooperative aerial surveys conducted by Forest Health staffs of the Oregon Department of Forestry, Washington Department of Natural Resources, and the USDA Forest Service Pacific Northwest Region. Data collected from 1947 to present and includes projections of insect and disease risk for the period ending in 2027.



Social Justice

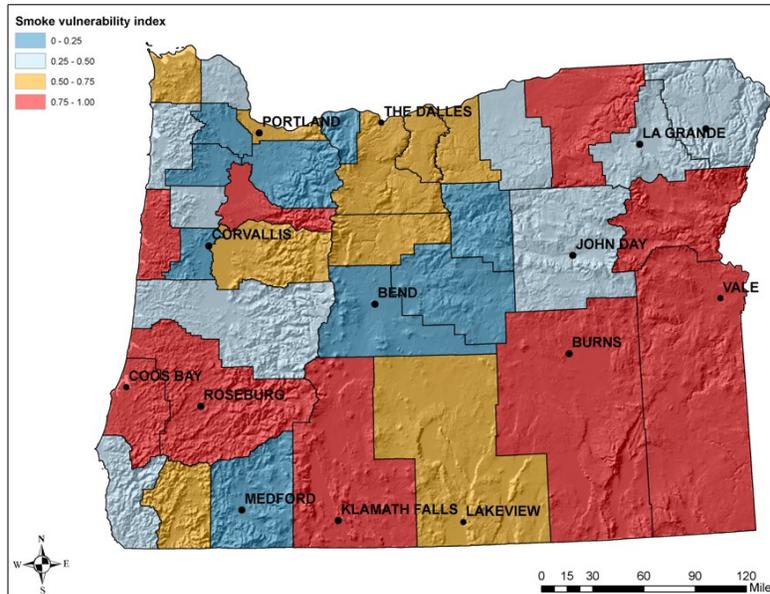
Wildfires in the U.S. often have outsized impacts on vulnerable communities. The map below is based on a social-ecological approach for characterizing fire vulnerability, as applied to >70,000 census tracts across the United States. The approach incorporates both the wildfire potential of a landscape and socioeconomic attributes of overlying communities. The map highlights census tracts identified as being vulnerable combined with the expected net value change (eNVC) from the QRA map above.



Human Health³

Rappold et al. 2017 developed the “Community vulnerability index (CHVI) to the health effects from smoke exposure.” The map below is based on factors known to increase the risks of health effects from air pollution and wildfire smoke exposures, and as the CHVI author’s note, “Identifying communities vulnerable to adverse health effects from exposure to wildfire smoke may help prepare responses, increase the resilience to smoke and improve public health outcomes during smoke days.” Map data can help identify or prioritize areas of the state for additional investment to protect vulnerable populations from the health impacts associated with smoke, which has particular relevance to the Adaptation Committee but is linked to the Mitigation Committee because prescribed fire is a principal tool in reducing risk over time.

³ The CHVI is based on factors including “county prevalence rates for asthma in children and adults, chronic obstructive pulmonary disease, hypertension, diabetes, obesity, percent of population 65 years of age and older, and indicators of socioeconomic status including poverty, education, income and unemployment. Using air quality simulated for the period between 2008 and 2012 over the continental U.S. we also characterized the population size at risk with respect to the level and duration of exposure to fire-originated fine particulate matter (fire-PM_{2.5}) and CHVI.”



Economic Indicators – Protecting Existing Business and Diversifying the Economy

Readily available data or analyses that speak directly to the Council objectives of protecting existing business and diversifying the economy do not exist. Scientific / technical advisors to the Mitigation Committee identified a number of existing data and an approach to measuring employment in fields most relevant to wildfire risk: forestry, agriculture, and tourism. Maps for each of those are depicted below.

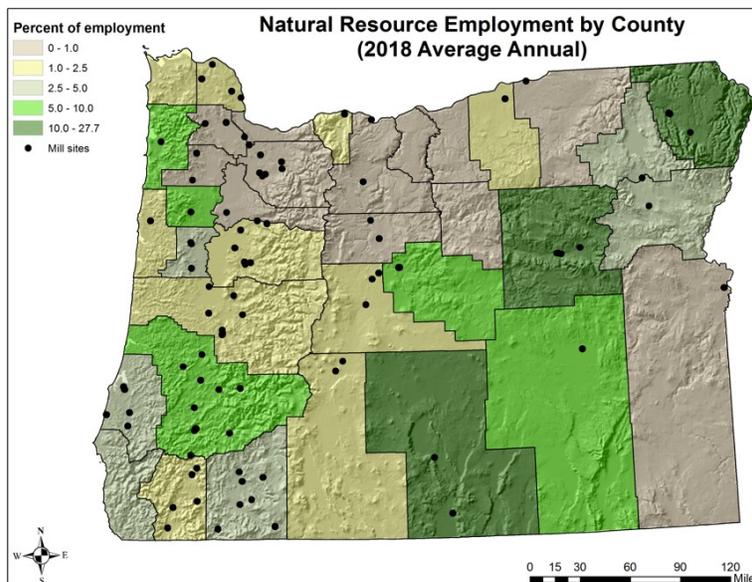
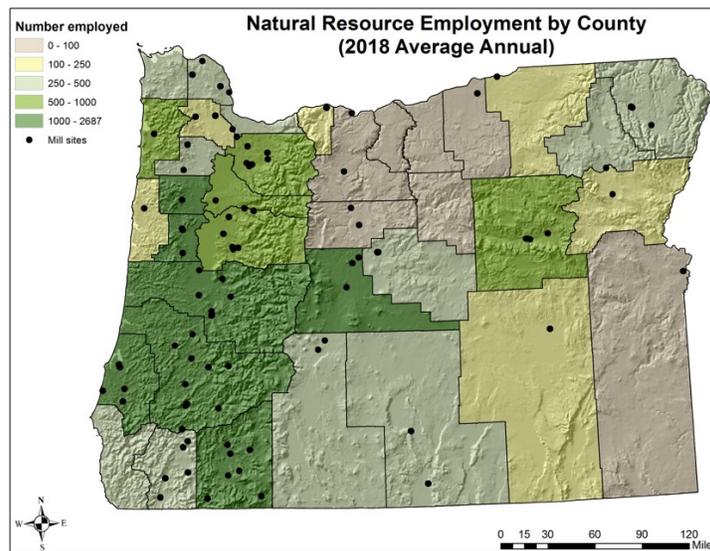
** Additional data and analysis on economic impacts associated with public lands management work has been conducted by Headwaters Economics. Specifically, existing products associated with reforming Secure Rural Schools (SRS) and Payment In Lieu of Taxes (PILT) may be relevant to the interests of the Council. The Committee proposes to consider how this work could refine the economic data and maps below.

Forestry Related Employment⁴

The first map below shows the raw number of people employed in the forest / natural resource sector by county as well as existing mill sites in Oregon. Areas in green have a higher level of existing workforce capacity related to wildfire risk mitigation work. Other counties may need investments in workforce development to be able to conduct wildfire risk reduction activities.

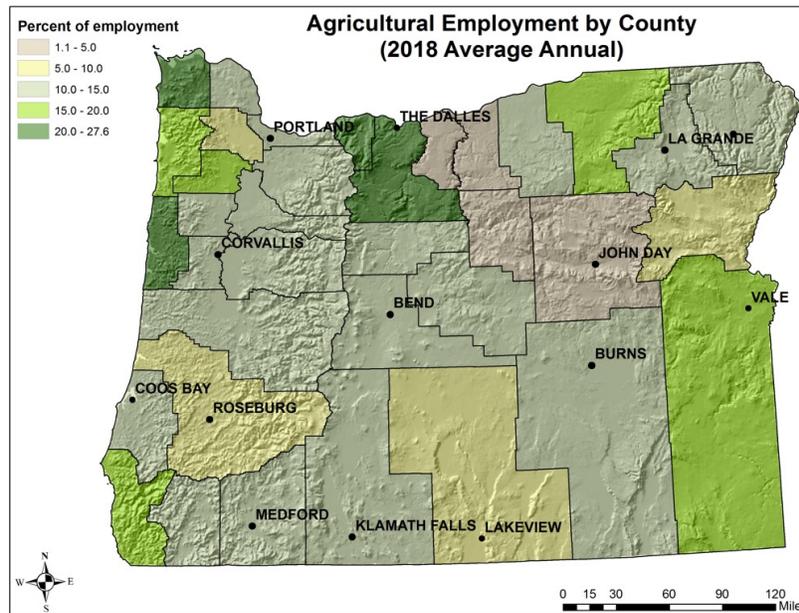
⁴ Data from Bureau of Labor Statistics and Oregon Dept. of Forestry. Includes forestry, logging, forestry support, fishing, hunting, and trapping. Does not include data on mining or agriculture.

The next map below shows percent of employment in the forest / natural resource sector by county. Percent of total employment - as contrasted with raw job numbers (first map) - provides a better sense of the relative importance of forest / natural resource jobs to a given county. Green colored counties have a strong economic connection to natural resource management, with at least 10 percent of employment in forestry related fields. Grant County is an outlier with more than 27% of employed people residing in the county working in forestry or a related job. Wallowa County and Lake County are also highly natural resource dependent.



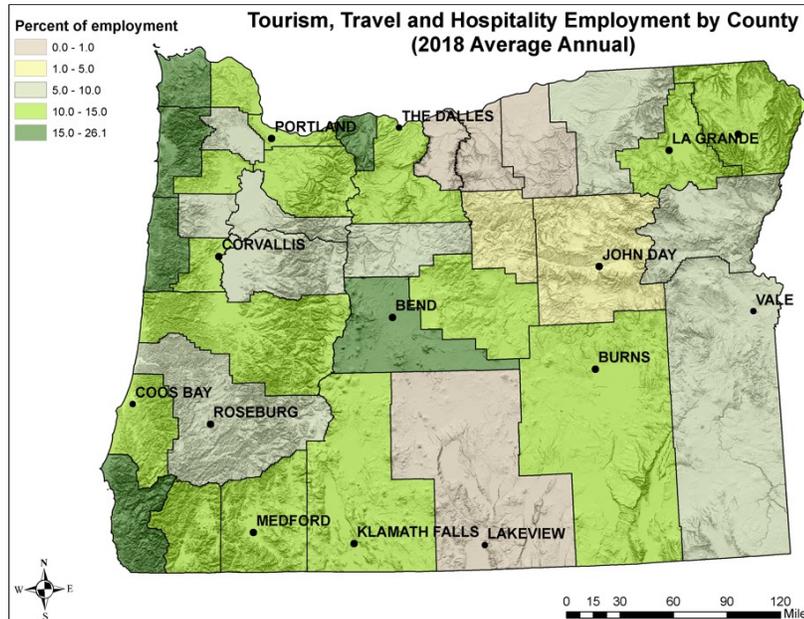
Agriculture Employment

The map below depicts the percent of employment in the agriculture / natural resource sector by county. This is especially relevant in the context of rangeland wildfire and related mitigation work. Note that adjacent counties of Harney and Malheur show strong relative importance in the forest and agricultural sectors respectively.



Data: Bureau of Labor Statistics

Travel, Tourism, and Hospitality



Data: Bureau of Labor Statistics

Recommendations—Statewide Risk Assessment and Prioritization:

The Mitigation Committee believes the QRA provides the best available information capturing values at risk across Oregon. As explained and presented in further detail above, the QRA depicts 6 of the 10 objectives defined by the Council. The Committee used additional resources to generically map the remaining four objectives/values defined by the Council.

The QRA and additional mapping sources are intended to provide a high level, geographic representation of priority risks across the State of Oregon and across ownership boundaries. The intent of the QRA and supplemental maps for the purpose of the Mitigation Committee is to educate land managers and the public about where overlapping priorities and values at risk exist on the landscape. Guided by the belief that maps don't and shouldn't in and of themselves make decisions (people do), the Mitigation Committee envisions the mapping tool and products will provide critical information and context from which strategic planning and decisions can be made. It is important to note, on-the-ground decisions must still comply with all relevant, legal management plans.

Recommendation (a): The QRA / PNRA is the best available current model to use for depicting a statewide assessment of wildfire risk. Use the QRA to frame wildfire risk prioritization efforts in the short term, doing so at the 10th field HUC

scale. The QRA should remain an iterative product.⁵ When revising the QRA in 2020 (and every 3 years thereafter), expand the inclusion of partners in informing the refinement effort and incorporate values (and related data layers), to the extent practicable, that reflects the full slate of Council objectives.

Recommendation (b): When allocating increased wildfire risk mitigation investments, use areas identified by the QRA plus data and products tied to the additional four (4) Council objectives to prioritize investments. Needs exist statewide, and where overlap between the QRA is and additional layers (four non-QRA Council objectives) is weak or unclear, a **significant portion / no less than 30%** of funds should be dedicated to areas with demonstrated wildfire risk mitigation treatment needs, at-risk forest products infrastructure, public health, or social justice concerns that are identified in products related to the additional four Council objectives.⁶

Recommendation (c): When prioritizing project funding and designing projects at the local level, refine the QRA information with locally-derived and adapted information and considerations, so long as not inconsistent with QRA.

Recommendation (d): Increased wildfire risk mitigation funding should not come at the expense of or be used to undermine existing investments in forest health programs at the community level (e.g., CFLRP). Funding should leverage existing capacity, mutually-supportive priorities or existing investments with new or increased wildfire risk mitigation funding wherever possible.

Additional Consideration on Refining Risk Mapping / Funding Over Time:

Once an area has been treated to reduce hazardous fuels (e.g., thinning and prescribed fire complete), it may transition to “low risk” on the QRA map. That said, this condition will not be permanent as the area will continue to accumulate vegetation and fuels over time, and will likely transition away from low risk if maintenance does not occur. The Committee is interested in ensuring increased wildfire risk mitigation funding is available for maintenance work and is also discussing the appropriate role of managed fire as a maintenance action. As noted earlier, the Committee is still discussing and considering the use of the PODs methodology to further evaluate and refine wildfire risk and address the integration over time of strategies including hazardous fuel reduction, suppression and potential managed fire within discrete geographic units.

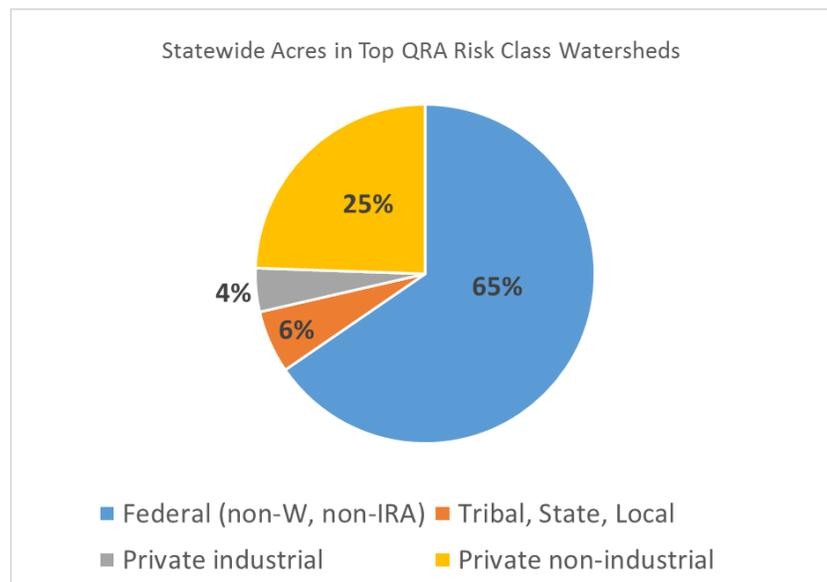
⁵ The Mitigation Committee did not take a position or change the evaluations/weightings that underpin the QRA. As stated here, future iterations of the QRA, expected 2020, should include additional data layers in coordination with key stakeholder and partners.

⁶ At its September 6, 2019 meeting, Committee members reached consensus in the use of either the “significant portion” or “no less than 30%” language highlighted here, with the exception of two members who respectively felt much stronger in opposite directions to one another. With the introductory framing language in this Recommendations subsection, Committee members have agreement on the “significant portion” language.

Scale and Time Horizons

Mitigating wildfire risk includes addressing the forest and rangeland conditions that fuel a level of wildfire behavior and risk that is historically high and unnecessarily threatening to environmental, social, and economic values. Management history—including a long history of effective forest fire suppression, under-implementation of fuels management, and invasive annual grass intrusion into rangelands—and the onset of climate change combine to increase risk factors including the location, rate of spread, and intensity of wildfire today, bringing urgency to this task. The scale of the task is immense, and the Committee has endeavored to provide estimates of acreage and related costs that would meaningfully address wildfire risk mitigation if applied strategically.

The Committee has used the QRA to capture—in broad strokes—acres at risk, ownership, and costs to implement treatments under the status quo (existing budgets, laws, regulations, and existing tools). The Mitigation Committee's initial analysis reveals that the challenge facing Oregon involves multiple millions of acres and multiple \$ billions in work costs to address areas currently at risk to negative wildfire impacts (i.e., this acres are within the top 4 of the 8 QRA risk classes) across public and private land ownerships (forest and rangelands). The graph below depicts the proportion of QRA acres by ownership in these risk classes. The Committee is currently refining this initial analysis in order to produce specific acreage and dollar figures representing the proposition at hand.



As part of its methodology for arriving at cost and acreage estimates, the Committee looked at scenarios including costs associated with wildfire risk mitigation treatments addressing 100% and 40% of this high risk acreage (top 4 QRA risk classes). Unit cost and related estimates underlying the Committee's analysis approach are based on figures associated with current practices / the status quo across eastern and western Oregon (and recognizing distinctions between federal and private costs) and a series of assumptions set forth below. While a number of caveats exist, Committee members felt comfortable with this as an initial approach to estimating the scale of the cost associated with the QRA-based acreage.

The Committee has landed on the 40% rather than the 100% treatment scenario for a variety of reasons including:

- Current science indicates that, in order to have a meaningful effect on wildfire behavior at a landscape scale, not all of the landscape needs to be treated. If done strategically, wildfire behavior can begin to be meaningfully changed with active management (fuels reduction through tree removal, thinning, prescribed fire) applied at around the 30% acreage treatment level. It should be noted that this assumption related to the resulting landscape scale effect on fire behavior is based on natural or managed fire being allowed to treat acres beyond those treated through active management.
- For reasons of legal compliance and/or administrative planning overlays—as well as practical considerations related to physical geography or otherwise—treating 100% of the acres is unrealistic.
- As acreage treated moves towards the 100% level, there is a positive correlation to increasing costs. For example, machinery and labor costs grow significantly when certain acreage is brought into the treatment picture (i.e., helicopter logging to address steep slopes). There is a balance between costs relative to commensurate benefit from treatment.

Currently, as applied to just the US Forest Service's portion of the high-risk acres identified in the QRA map (top 4 classes), the agency's fuels budget is approximately \$40 million / year in Oregon and Washington, which results in treatment of approximately 254,000 acres per year. Oregon comprises approximately 2/3 of this dollar figure and acreage. Relative to this existing scale of investment, and using the higher risk acres in the QRA map as a frame (risk classes 1-4), the Committee is therefore recommending a multi-fold increase in fuels management over the status quo.

Recommendations—Scale and Time Horizons:

Recommendation (a): Oregon, in partnership with the federal government, private sector, and other partners, should detail a 20-year strategic plan for addressing the millions of million QRA high risk acres and billions in costs derived from the 40% treatment level. More precise acreage and cost estimates are forthcoming related to this planning effort.

Recommendation (b): The plan should establish and be monitored according to 5-year increments for treatment and initially take advantage of current shelf stock (i.e., NEPA ready) that corresponds to the high-risk QRA-based federal acres.

Recommendation (c): The plan should incorporate Committee work (ongoing) related to alignment of action types and geography with mitigation need. The action types taken, condition and location of acres chosen for work (e.g., WUI, non-WUI, forest, rangeland), and approaches to advancing the work in different land types are all critical to strategic deployment, overall effectiveness, and costs considerations for this strategy. Maintenance actions (and costs) are another significant item that the QRA (snapshot in time) and costs presented in this report section do not address. The role of managed fire, continual thinning or prescribed fire in the maintenance and cost context is under further Committee discussion.

Recommendation (d): The plan should also incorporate the outcome of ongoing Committee work (and related efforts) tied to business model changes, management efficiencies, workforce and private sector alignment / support, and partnership.

Caveats on Cost Assumptions: The estimated costs associated with treatment of high-risk QRA acres is and will remain an estimate. When refined, downscaled, or applied to real projects, certain assumptions are likely to vary. In addition it should be noted that not all costs would require appropriations or dollars to support them, and costs could be reduced in other ways. The role of monetizing timber removed as a byproduct of fuels reduction, the further development of small diameter or other markets, as well as business model changes and management efficiencies can all play a role in defraying or reducing costs. These considerations are part of ongoing Committee discussion. That said, the reality of fuel conditions today as well as nature of the work needed address wildfire risk in the context of forest resilience, community protection, and rangeland health requires a significant investment of funding in work that entails costs beyond what commercially viable timber bi-products can cover alone.

Cost Assumptions:

- Statewide costs estimate is intended as cost needed to treat acres over a 20 year time period. Thus the cost estimate should be divided by 20 to arrive at a per year investment.
- Scenario Treatment of 100% of acres in QRA Risk Classes 1-4 on all ownerships
 - Federal treatments DO NOT include Wilderness or Inventoried Roadless Areas (IRAs)
 - Note: Wilderness and IRA tally <11.2% of all federal acres (1.1M of 9.9M total federal acres)
 - All nonfederal ownerships (tribal, state, industrial, nonindustrial) are assumed to be forest or range and 100% of acres are treated
 - Range treatments are not distinguished from forest treatments, such that both use cost assumptions below

- Cost assumptions:
 - Assume status quo policy and business model in planning and implementing projects on federal land.
 - Do not account for potential to offset overall costs with timber revenue. Do not account for maintenance of treatments necessary to maintain reduced fire risk.
 - Do not account for stand specific differences such that some acres are less expensive to implement than other acres for the same prescription.
- For federal treatments, prescriptions as follow (with cost – including NEPA).
 - 25% of acres – commercial harvest, noncommercial thin, pile & burn
 - Cost: EOR \$1,120/ac, WOR \$1,898/ac
 - 50% of acres – commercial harvest, broadcast underburn
 - Cost: EOR \$439/ac, WOR \$1,043/ac
 - 25% of acres – noncommercial thin, broadcast burn
 - Cost: EOR \$622/ac, WOR \$1,443/ac
- For nonfederal treatments, one treatment Rx/cost assumption: EOR \$459/ac, WOR \$544/ac
 - *Note: treatment costs include layout for commercial or noncommercial actions and pile & burn (reduced by 1/3rd from Fed)*

Note: 25% of statewide priority acres in nonindustrial ownership, accounting for 68% of all nonfederal land

Overview and Context

Recent fire seasons in Oregon—and in neighboring states—have shown we are vulnerable as individuals and communities to the impacts of wildfire, both in terms of physical infrastructure but also in terms of economic disruption. The State has a very limited “toolkit” to support community preparedness, adaptation and recovery. While more federal tools are available for both preparedness and recovery, due to the specific nature of wildfire disasters and limitations in local capacity, significant gaps remain.

The disaster preparedness and response system is designed and intended to address “all hazards.” However, wildfires pose challenges that have revealed several weaknesses and gaps in the system. Wildfires challenge the system in unusual ways:

- **The acute period** of wildfire events can last for months, during which County emergency managers are inevitably focused on response activities. This contrasts with a flood event, for instance, that may last for a few days, after which the emergency response infrastructure can shift to recovery.
- **The frequency and scale** of wildfire, which are clearly increasing, are stressing the emergency response system as a whole, in a similar way that is pushing against the limits of the ODF’s traditional method of suppression.
- **The increasing frequency and intensity** of wildfire threatens to create a “new normal” that may require more fundamental changes to communities. A clear example is the threat to the visitation economy of Southern Oregon posed by repeated smoky summers.
- **The “Stafford Act” disaster declaration** rarely to wildfire. While wildfires can cause major economic disruptions, they very rarely create the kind of public infrastructure impacts that trigger the federal Act that makes a higher level of federal disaster aid available.

The recommendations below are designed to both address some of the underlying weaknesses in disaster recovery capacity, on the one hand, and to better address the specific characteristics of wildfire disasters.

Key Elements of the Strategy

Element 1: Increase Capacity of Existing Emergency Recovery System

- a. Exercise & test existing capacity under the Oregon Disaster Recovery Plan (ODRP)
- b. Expand Office of Emergency Management staffing with regional positions with a particular focus on preparedness and recovery
- c. Improve inter-agency coordination in communications to business and individuals regarding recovery for individual disasters

Element 2: Address gaps in the recovery & preparedness systems

- a. Fund existing programs that support community recovery
- b. Create a state-level emergency grant/loan program for businesses
- c. Request the federal government expand the recovery tools available upon an Federal Fire Management Assistance Grant (FMAG) declaration

On-going Work that the Council Wishes to Recognize and Support

- a. Small Business Development Center Network is considering adoption of a "Small Business Disaster Assistance & Resilience Program." The program includes steps to increase the knowledge and ability of SBDC counselor's to provide assistance to businesses in recovery mode and in disaster preparedness.
- b. Travel Oregon: Regional Destination Marketing Organizations have been directed to set-aside 5% of state funds for recovery & preparedness
- c. The Insurance Division of Financial Regulation is developing a plan to establish a standard or framework under which businesses might seek compensation under their business interruption insurance in the case of voluntary evacuations.

Strategic Plan: Key Elements

Element 1: Increase Capacity of Existing Emergency Recovery System

Adopted in 2018, the Oregon Disaster Recovery Plan is a reflection of the State's growing awareness of the role it must play to assist communities in the event of a natural disaster. While the development and adoption of this plan was an important and useful step, the collective ability of all levels of government to recover from and adapt to wildfire is limited. This is a problem of resources, on one hand, and focus, on the other. The priority focus of the system is often preparing to respond to very large scale disasters. This can come at the expense of work to prepare for and recover from the more common wildfire threat. As an example the ODRP specifically directs users to a Disaster Recovery Assistance Guidebook "to aid local and tribal governments in accessing disaster recovery assistance support."⁷ The document is so out of date it is literally "out of print." OEM recovery staff do not have the capacity within existing workloads to write a new version.

Even as the federal government has expanded the eligible uses of some disaster mitigation grants to preparation for wildfire, human resource capacity remains a barrier to accessing these resources. Office of Emergency Management and Department of Land Conservation and Development staff both report more federal resources being available for disaster preparedness work than the system has the capacity to manage and implement. These sources of funding could support hardening of individual properties against wildfire, education about the importance of establishing "defensible space," planning for evacuation, etc.

a. Exercise & Test Existing Capacity Under the Oregon Disaster Recovery Plan (ODRP)



Problem Statement:

The ODRP has well-defined roles for state agencies to play in disaster recovery. However, in part because the system is new, the community economic recovery elements have rarely been triggered. This is particularly problematic when one considers the individuals tasked with key roles on the ground may not even be aware of the part they will be asked to play. Furthermore, while "table top" exercises are a common practice in the disaster preparedness world, they rarely give substantive attention to the recovery phase.

Recommendation to Council:

Direct Business Oregon and Department of Consumer and Business Services (DCBS) to mobilize State Recovery Function 2 (Economic Recovery) at least two times each

⁷ State of Oregon Emergency Management Plan, Vol. IV: Oregon Disaster Recovery Plan, March 2018, p. 1-6.

year. These could take the form of “table top” exercises or as a response to an FMAG-declared fire.

b. Expand Office of Emergency Management staffing with regional positions with a

Action Items:

Task OEM to develop scenarios ranging from those similar to the 2017 Gorge Fire to the 2018 Paradise disaster on which to train state and regional staff. Capture key findings from these exercises.

particular focus on preparedness and recovery



Problem Statement:

At the state level, OEM has a very limited staff to support community recovery. Much of this capacity is necessarily devoted to providing support to communities with declared federal disasters as they seek reimbursement from FEMA. Each county has an Emergency Manager; however, in many rural counties this person has no staff and is responsible for a wide range of planning and response activities. The system as a whole lacks much capacity to “surge”—particularly in the absence of federal disaster declaration. The nature of the wildfire disaster threat described in the foundational statement above is stretching the capacity of the system in new ways that it is not well equipped to handle.

Recommendation to Committee:

Request the legislature consider a Policy Option Package to establish six *regionally-based* additional positions.

Action Items:

- A. Define appropriate physical locations within regions. (Likely candidates are Regional Solutions Centers and Councils of Government.)
- B. Develop job descriptions in concert with regional emergency managers. Key roles likely include: training regional partners in recovery practices; providing technical assistance on grant applications and implementation; and directly supporting community and business recovery operations.
- C. Coordinate \$1.6 million per biennium funding ask between Association of Oregon Counties, League of Oregon Cities, and Oregon Emergency Management Association for coordinate and technical assistance capacity within OEM.

c. Improve inter-agency coordination in communications to business and individuals regarding recovery for individual disasters



Problem Statement:

Regional Solutions Coordinators have provided a hub for communications to businesses impacted by wildfire. These efforts have been appreciated by County-level emergency managers who are typically still focused on wildfire response activities when this information is most needed. However, this *ad hoc* approach often fails to create a cohesive, coordinated system.

Recommendation to Council:

Include within the ODRP a consultative step to establish which agency (either local or state) will assume responsibility for collecting and disseminating information regarding resources available to assist individuals and businesses with recovery. Ensure the Oregon Emergency Public Information Collaborative (Oregon EPIC) develops a recovery transition plan when mobilized to support response operations

Element 2: Address gaps in the recovery & preparedness systems

a. Appropriate monies to existing funds that support community recovery and adaptation



Problem Statement:

The legislature (and others) have previously recognized the need for the state to provide critical matching funds for federal hazard mitigation grants and efforts to adapt to regional economic challenges. The legislature previously established funds to provide matching funds for disaster response and pre-disaster mitigation. They have also established a Local Economic Opportunity Fund (LEOF), which was funded for the 2017-19 biennium with a particular focus on supporting resilience work. One example of the type of project funded was a study of how recent fire seasons have impacted visitors' perceptions of southern Oregon as a travel destination. None of these mechanisms are funded in the current biennium.

Recommendation to Council:

Request a legislative appropriation of \$1 million to the LEOF, with guidance making clear that eligible uses of funds include pre-disaster mitigation work and to match

federal hazard mitigation grants—in addition to other resilience related activities

Action Items:

- A. Include \$1 million in the Governor's budget for LEOF.
- B. Business Oregon and OEM define appropriate inter-agency coordination and division of responsibilities regarding review of LEOF grant applications.

b. Create a state-level emergency loan program for businesses



Problem Statement:

In any disaster, if the State provides documentation of at least five impacted businesses, the Governor can request that the Small Business Administration (SBA) make Economic Injury Disaster Lending available (it is made available automatically in the case of a federal disaster declaration). However, the process of requesting and receiving the associated declaration can take several months. In addition, some businesses can be excluded from EIDL due to insufficient collateral or other issues. Many states have established disaster lending programs to supplement/fill gaps within federal programs.

Recommendation to Council:

Establish a program modelled after [Florida's small business loan program](#) to provide gap lending to businesses that have an identified repayment source, such as insurance or federal aid. In order to create the right incentives, such a program could be restricted to businesses that have the appropriate insurance in place and can demonstrate that they have completed some level of disaster preparedness planning. Such a program could also offer low interest or even forgivable loans in some instances of particular hardship. Given the considerable staffing required to operate such a program on an 'as needed' basis, the State should consider issuing grants to non-profit lenders or regional economic development organizations to create and administer revolving loan funds explicitly designed to meet this need.

Action Items:

- A. Direct the Insurance Division of the Department of Financial Regulation, Business Oregon, and representatives of the Economic Development Districts and Small Business Development Network to develop a more detailed proposal to be considered by the next full legislative session.

c. Request the federal government expand the recovery tools available upon an "FMAG" declaration



Problem Statement:

As described in the Foundational Statement above, wildfires often do not reach the level of public infrastructure destruction to “trigger” a federal disaster declaration. A common benchmark for federal disaster declaration is \$1 million in direct public, non-federal infrastructure damage within one county. However, many wildfires, including those that severely disrupt businesses, do not reach that level of infrastructure damage

Recommendation to Council:

Request the U.S. Congress consider tying eligibility to business assistance programs, particularly the Small Business Administration's Economic Injury Disaster Loans (EIDL), US Department of Agriculture disaster recovery programs, and US Economic Development Administration disaster funding, to FMAG wildfire declarations

Overview and Context

Smoke and wildfire impacts are among the severe and accelerating risks to human health tied to climate disruption. Therefore, the Health Subcommittee believes that meaningful action to address climate change must be the first and overriding priority. Oregon's Climate and Health Resilience Plan reinforces the importance of actively engaging diverse community partners throughout Oregon and elevating the voices of our most vulnerable populations to inform local and state policy priorities.

The Public Health Subcommittee seeks to protect and preserve the health of those who live, work, learn and play in Oregon.

The following recommendations cover both immediate actions and long-term preparation for protecting and preserving human health related to wildfire mitigation, and wildfire response and preparedness. The most effective interventions are those that benefit communities and the people most likely to be adversely affected by wildfire, smoke and climate change.

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Key Elements of Strategy

Element 1: Immediately protect all community members with special focus on vulnerable populations during wildfire and smoke events.

- a. Air filtration system instillation
- b. Identify, plan for and prepare public clean air spaces
- c. Address special circumstances where people live
 - i. Convene cross sector partners
 - ii. Review and analyze policy
 - iii. Remove barriers for people to protect their health

Element 2: Help communities to prepare for wildfire and smoke events so they can achieve the best possible health outcomes over the long term.

- a. Increase community resilience and preparation to lessen poor health outcomes from wildfire and smoke exposure.
 - i. Air Quality and technical assistance
 - ii. Water infrastructure
 - iii. Public safety
- b. Increased coordination, outreach and awareness
 - i. Interagency coordination
 - ii. Outreach and awareness

DRAFT

Strategic Plan: Key Elements

Element 1. Immediately protect all community members with special focus on vulnerable populations, during wildfire and smoke events.

a. Air filtration systems



Problem Statement:

Uncontrolled wildland forest fires pose direct risks of death and injury from fire, from accidents that occur when seeking to escape fires, and mental health impacts from stress and emotional trauma associated with loss of life and property, as well as economic and social disruption. Wildfire can degrade sources of drinking water and generate soot (black carbon) that accelerates snowmelt, in turn reducing snowpack reserves that contribute to adequate water supplies in summer and fall. However, the wildland fire impact that may affect the largest number of community members (whether from wildfire or prescribed burning) is smoke inhalation. While smoke contains numerous air pollutants, the direct health effects of inhaling fine particulates 2.5 micrometers in size, or PM 2.5, are of special concern for those with underlying heart or lung disease, and the associated health risks for these members or out community or lung disease, are especially well documented. A recent comprehensive review of the science regarding exposure to fine particulate matter found with respect to short-term exposures (defined as “hours to days”):

- There is a causal relationship between short-term fine particulate exposure and heart disease death and disability.
- There is likely to be a causal relationship between short-term PM 2.5 exposure and respiratory effects.

Others at risk from smoke exposure include children, older adults, pregnant women and those living in poverty. Figure 1 illustrates the number of people in Oregon with demographics that make them more susceptible to the harmful effects of smoke.

	Number of People in Oregon
People with pre-existing conditions*	
1. Asthma (adults)	362,900
Asthma (youth)	50,000
Heart Disease	130,800
COPD	189,600
Children (0-14)**	722,570
Adults 65+**	714,200
Pregnant women***	43,000
People living in poverty**	547,000
*2017 BRFSS	
**Oregon Population Research Center, 2017	
***2018 Oregon vital statistics, number of births in 2017	

Figure 1

Recommendation to Council:

Accelerate the installation of air filtration systems where people live, work, learn and play to immediately protect health. Identify, plan for and prepare public clean air spaces for a Wildfire or smoke event, including transportation to such spaces.

Action Items:

- A. Communities designate and prepare public cleaner air spaces and shelters for refuge during smoke events (wildfire or prescribed burns), including clean air rest stations for those responding to these events. This may include transportation to public spaces and retrofitting buildings with air filtration systems. Depending on the size of the smoke/fire event communities should prepare to shelter 3-10 percent of their population. (Note: 1 toilet for 20 people)
- B. Coordinated Care Organizations use Health-Related Services dollars to purchase high-efficiency particulate air filtration systems for members.
- C. Require assisted living, skilled nursing, and DHS licensed facilities for youth and adults with disabilities to install or provide air filtration systems in common spaces, and individual units.
- D. During Wildfire or smoke events provide clean air refuges for the emergency response staff (Fire Fighters, EMS, Police, National Guard)
- E. Engage public and private utilities, Energy Trust, and other interested parties to consider the role of utilities in increasing installation and use of air filtration systems in private homes.

b. Cross sectional collaboration to removing barriers for air filtration systems in homes



Problem Statement:

Protecting community members from smoke is more than just offering public clean air spaces. In every community there are individuals for whom it is difficult for them to leave their home. The ability to take charge of one's health is not only empowering, it is a critical aspect of preparing for any emergency, including a wildfire or smoke event. However, not all people living in Oregon are able to take full charge of the places where they live. This is especially true for the close to 40 percent of Oregonians who rent their home. In rural and smaller communities well over half of the population rents their home.

Families and individuals with fewer resources, older adults, and vulnerable community members, many of whom are renters, benefit from solutions that allow them to take charge of their home environment to protect themselves and family members from smoke.

Addressing affordable housing protections and ensuring cleaner air spaces in people's homes is dependent upon intentional collaboration across government and private sector partners in housing, transportation, health and human services. To date the collaboration focused on increasing clean air spaces in people's home has been limited. Government programs promoting energy efficiency and weatherization for low income homes generally do not include energy efficient air purifiers coupled with the air cooling units.

i. Convene cross sector partners

Recommendation to Council:

Convene a cross section of community partners and decision makers to align the Governor's affordable housing priorities, climate change and community resiliency plans, and health and safety priorities of vulnerable populations including children and families, older adults and people living with a disability or chronic condition.

Action Items:

Define roles, responsibilities, and measures that need to be taken to ensure that Oregonians do not run into significant barriers to maintain their health during wildfire event.

ii. Review and analyze current policy

Recommendation to Council:

Review renter protection statues and evaluate the degree to which renters are protected from the adverse impacts of wildfire.

Action Items:

- A. Review ORS 90.320 (Landlord to maintain premises in habitable condition) and consider amendments so that the definition of habitable dwelling conditions includes air filtration mechanisms. Offer subsidies to landlords with 4 or fewer properties and meeting an income threshold.
- B. Review ORS 90.300, and consider amendments to ensure tenants are not held responsible for smoke damage caused by external forces (wildfires and/or prescribed burns) in a manner that affects their ability to get cleaning deposits back.
- C. Review ORS 90.260, and consider amendments to protect tenants who receive medical treatment due to smoke inhalation as a result of a wildfire or prescribed burn that causes them to miss a rent payment or a fee. Ensure tenants are not held liable in these situations.

iii. Remove barriers for people to protect their health

Recommendation to Council:

Explore avenues to empower renters, low income homeowners, and landlords to adapt to wildfire.

Action Items:

- A. Identify opportunities to support relocation for low-income renters and homeowners that find themselves displaced from their home due to wildfire damage.
- B. Explore opportunities to expand the Oregon Housing and Community Services program for low income homeowners and renters for all wildfire and smoke events, including increasing access to the energy and weatherization program, utility bill repayment, and ensuring access to air filtration systems through the low-income home energy assistance program.
- C. Explore what insurance can and should cover for the landlord and the tenant. Ensure that insurance status is not a barrier to increasing family and community resiliency to wildfire and smoke events.

Element 2: Help communities prepare for wildfire and smoke events so they can achieve the best possible health outcomes over the long term.

a. Increase community resilience and preparation to mitigate poor health outcomes from wildfire and smoke exposure.



Problem Statement:

Prescribed forest burning is a valuable tool to prepare a logged site for replanting of trees. By reducing excess fuels, it also lowers the risk of wildfires. Under the Oregon Smoke Management Plan, ODF meteorologists regulate the number and size of burns, based on weather and wind conditions, to minimize smoke intrusion into populated areas. Unlike wildfires, communities can plan for prescribed burning and take actions to protect vulnerable populations, including young children, older adults, and people living with chronic conditions. As the Mitigation committee recommends increasing the pace and scale of prescribed burning, the health committee recommends an investment in community and technical assistance supports to mitigate poor health outcomes from exposure to smoke. These are intended to be seen as complementary recommendations with humans at the center of the solution. In addition to establishing clean air spaces for immediate need in the event of a wildfire or smoke event, communities will also need to consider more sustainable options for clean air during future events.

i. Air Quality and Technical Assistance

Recommendation to Council: Increase access to air quality monitoring stations throughout Oregon and technical assistance for agencies involved in mitigating the health impacts of smoke.

Action Items:

- A. Department of Environmental Quality in collaboration with community partners Increase air quality monitoring stations in all Smoke Sensitive Receptor Areas.
- B. Increase the fees for prescribed burning and dedicate 10% of fees to a grant program administered by Department of Environmental Quality to mitigate the health impact from smoke.
- C. Oregon Department of Forestry, Smoke Management Program can increase technical assistance for communities implementing the Community Response Plan, which includes a communication framework and community outreach.
- D. Update the Smoke Management Program guidance for communities including adapting the Wildfire Response Protocol to address prescribed burns.
- E. Department of Environmental Quality, Oregon Department of Forestry and the Oregon Health Authority explore alternative emission reduction technologies (e.g. Air Curtain Burners) that both protect health and promote forest health through prescribed burning.

ii. Water Infrastructure

Recommendation to Council:

Ensure security, resiliency and emergency preparedness of all public water systems.

Action Items:

- A. Ensure all public water systems have emergency response plans in place by 2021. (EPA requirement)
- B. Office of Emergency Management adds to the Emergency Response Check-list for communities' coordination with public water systems, specifically knowing the source of drinking water (ground vs. surface).

iii. Public Safety

Recommendation to Council:

Ensure security, resiliency and emergency preparedness of all individuals dependent on life saving devices during planned outages.

Action Items:

Identify critical infrastructure and ensure access to backup power and communication alternatives for individual's dependent on lifesaving devices 24/7, during planned outages.

b. Increased coordination, outreach and awareness



Problem Statement:

There are many things that communities, families and people can do to prepare for any hazard or natural disaster. Increasing access to community supports and coordinated planning efforts across neighborhoods, state and local government agencies will ensure easier and longer lasting recovery for individuals, families and communities.

i. Interagency coordination

Recommendation to Council:

Expand interagency coordination and capacity by directing resources to improve communication.

Action Items:

- A. Clear expectations and directives for state and local agencies to provide resources (time, staff) to strengthen collaboration across agencies specific to addressing emergency response, including wildfire.
- B. Increase awareness and efficiency of Oregon Emergency Management System and state and local agency collaborations in existence.
- C. Increase resources available at the local level for emergency response planning and mitigation.
- D. Support local businesses to ensure they are creating clean air space for their employees as part of their Continuity of Operations Planning (COOP)
- E. Prioritize partnerships with communities designated by the Pacific Northwest Quantitative Wildfire Risk Assessment as being "high risk" to formulate a plan for prescribed burns

ii. Outreach and awareness

Recommendation to Council: Enhance alert and data systems to ensure public awareness of air quality conditions and potential health impacts.

Action Items:

- A. Build from the Oregon State University Fire Summit and host a second statewide summit reaching out to more community partners, and other types of experts related to wildfire mitigation (health and environment), and recovery (economic, health and environment).
- B. Advance the early alert system through greater investments in ALERTWildfire, ensuring the Department of Forestry has camera systems set up throughout the state. Collaborate with the University of Oregon and other western states implementing the ALERTWildfire system.
- C. Included in required community health assessments and health improvement plans, hospitals should ensure communication protocols between hospitals/local governments, tribes and health authorities exist and are reviewed annually.
- D. Increase awareness of Health Alert Network. Require all state and local public employees and contractors to register with the Health Alert Network (HAN).
- E. In collaboration with the Office of the Chief Information Officer, invest in and strengthen the Public Health Surveillance System to respond to acute and long-term smoke exposure through interactive data reporting.
- F. Support use of state adopted map that identifies areas at risk of wildfire which will help prioritize funding and outreach efforts

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Key Elements of Strategy

Element 1: Zoning

Element 2: Defensible Space

Element 3: Building Codes

Element 4: Information Resources

**** Indicated placeholders for Problem Statements and Magnitude of Problem are currently being developed. In future versions of this report, these sections will be present.**

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Strategic Plan: Key Elements

Element 1: Zoning

Overview & Context

Zoning is a tool that cities and counties use to govern “uses” (e.g. residential, commercial, industrial, resource (farm and forest), and non-resource). Zoning also governs whether or not buildings are allowed, the size of buildings, and how buildings relate to their surroundings - including other buildings, open spaces, transportation access, and infrastructure like water and sewer. In the United States, zoning began as a tool to separate uses from one another, and in particular was used to separate more impactful uses (manufacturing) from more sensitive uses (residential). This type of zoning is largely known as Euclidean Zoning, named after the U.S. Supreme Court Case that legitimized the use of the tool.

Zoning is a local tool, usually presented in map form with a corresponding development code, which is included in the “comprehensive plan” for each Oregon city and county. Local zoning may also employ the use of overlay districts. Examples of an overlay district are an urban renewal area, a hazard area, a historical neighborhood, central business district, or a significant natural resource area – like a riparian zone or estuary.

In Oregon, zoning for the purposes of wildfire protection or abatement against risk of wildfire is approached inconsistently by local governments, if at all. However, we do have a working example of planning for a hazard area: the National Flood Insurance Program (NFIP). The NFIP is a Federal program, managed by the Federal Emergency Management Administration (FEMA). It has three components: to provide flood insurance, to improve floodplain management and to develop maps of flood hazard zones.

The NFIP requires participating communities to adopt Flood Inundation Risk Maps (FIRMs), keep them updated, and to establish management regulations in order to reduce future flood damages. The program allows property owners in participating communities (which includes every eligible community and some tribes in Oregon) to buy insurance to protect against flood losses. This insurance is intended to furnish as an insurance alternative to disaster assistance and reduces the rising costs of repairing damage to buildings and their contents caused by flood. In Oregon, homeowners who own a home within a mapped flood area are required to purchase flood insurance for a home carrying a mortgage. Homes that are owned outright, or purchased with cash are not required to have flood insurance, but may elect to. A homeowner is able to purchase excess flood insurance, but they must be covered by NFIP flood insurance first.

Problem Statement: Placeholder

(Data Need: fires started in WUI versus other forest and fire-prone areas, growth/trends of structures in WUI)

(Data Need: socio-economic breakout, any correlations between fire and income levels to determine degree to which income is limiting factor to home protection)

Recommendations to Council

- Presented as options rather than recommendations
- Key Assumption: All lands are protected and options should apply to all areas – private property, commercial, public, etc.

State Role		
STATUS QUO	LESS ACTIVE	MORE ACTIVE
<ul style="list-style-type: none"> • Oregon's WUI definition is related to areas within the purview of ODF protection. Local jurisdictions often have their own WUI definition. There are also federal and international WUI definitions. The resulting confusion over what constitutes a WUI makes it difficult to develop a uniform approach to guide planning and mitigate wildfire risk. • There is no state data source, reference or tool that designates a "WUI Zone." • No model development code for wildland fire hazard zoning in Oregon. • Local adoption of Natural Hazard Mitigation Plans (NHMP), and Community Wildfire Protection Plans (CWPP) is voluntary. 	<ul style="list-style-type: none"> • 2021-23 budget request for state agency (ODF and DLCD) staff to fund technical assistance for CWPPs and NHMPs, with associated, additional assistance to update local comprehensive plans and local development code. <i>[recommendation C from DLCD memo]</i> • Counties are the final decision-maker on the identification of wildlife risk and development of CWPPs and NHMPs. Counties must update local comprehensive plans to be consistent with CWPPs and NHMPs. Ensure that resources are available for local governments and DLCD to use new wildfire data to inform and update Goal 7 plans. • Requirements for adopting local NHMPs 	<ul style="list-style-type: none"> • The Oregon Legislature would provide policy direction, set standards, and establish appropriate "sidebars" on a rulemaking process to require local planning for wildfire risk. Associated 2021-23 budget request for multiple state agencies to fund rule development technical assistance for CWPPs and NHMPs, with associated, additional assistance to update local comprehensive plans and local development code. <i>[Option B from DLCD memo]</i> • Additional funding to implement mitigation plan actions in the comp plan. • <i>[Mitigate / limit] growth/development in areas currently</i>

<ul style="list-style-type: none"> When a local government meets the requirements of Statewide Land Use Planning Goal 7, it does not necessarily include zoning code amendments that guide development (with the exception of flood hazard areas). 	<p>into zoning and development code: Development under this options may continue to take place in areas currently identified and approved for development, provided there is adequate access emergency infrastructure in place (water, firefighting, road access), construction follows approved fire hardening codes, and defensible space standards are required.</p>	<p>zoned for Non-Resource and Resource Lands.</p> <ul style="list-style-type: none"> Legislative direction should require mitigation for existing dwellings. Legislative direction should require additional protections for areas surrounding watersheds and water sources for communities around the state.
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Mission Return on Investment:

STATUS QUO	LESS ACTIVE	MORE ACTIVE
Benefits (and co-benefits)		
<ul style="list-style-type: none"> Deference to local preference/ will/ decision-making 	<ul style="list-style-type: none"> Increases human safety by advancing the concept and practice of wildfire adapted communities. Allows local governments to determine critical infrastructure for protection. Increased number of fire-hardened structures and fire-adapted communities Helps create more vibrant, stable communities (when communities are willing.) Opportunity for better local decision making 	<ul style="list-style-type: none"> More certainty that development conforms to wildfire risk as defined by the State legislature. Fewer homes built in the WUI. Contains suppression costs. Increased number of fire-hardened structures and fire-adapted communities. Increases human safety by requiring up to date plans in communities with high wildfire risk that are integrated across multiple areas of state agency jurisdiction.

	<p>based on better data and financial support for updated local plans.</p> <ul style="list-style-type: none"> • Depending on plan outcomes, may provide protection for current businesses. • Updated plans create an opportunity for healthier, resilient ecosystems. 	<ul style="list-style-type: none"> • Allows local governments to determine critical infrastructure for protection. • Helps create more vibrant, stable communities. • Creates financially supported opportunity for better local decision making based on better data and financial support for updated local plans. • Depending on plan outcomes, may provide protection for current businesses. • Updated plans create an opportunity for healthier, resilient ecosystems.
Costs (and indirect costs)		
<ul style="list-style-type: none"> • Inconsistent coverage of development standards. 	<ul style="list-style-type: none"> • 2.5 FTE (one technical staff, one grants administrator and administrative support) • 2 M TA per biennium • Likely to be less opposition if the emphasis remains on voluntary participation and adoption of updated plans. 	<ul style="list-style-type: none"> • There is significant range of opinion about the role of state vis a vis local government. • 5 FTE (four technical staff in regions; one grants administrator and administrative support) • 4M dollars in Technical Assistance per biennium
Timing and Duration		
N/A.	<ul style="list-style-type: none"> • If funded, initiated in 2021-2023 	<ul style="list-style-type: none"> • Resource dependent on legislative action. Likelihood of timing delays grows due to anticipated opposition to adoption of these recommendations.

Element 2: Defensible Space

Overview & Context

The term defensible space in landscape ("firescape") use refers to the 100 feet (30m) zone surrounding a structure. Often the location is in, but not limited to, the [wildland-urban interface](#). This area need not be devoid of vegetation by using naturally fire resistive plants that are spaced, pruned and trimmed, to minimize the fuel mass available to ignite and also to hamper the spread of a fire.

1. Firewise recommends that the first five feet adjacent to a structure be maintained as a 'home ignition zone,' clear of all vegetation and combustible materials.
2. The first 30 feet (9.1m) is the "Defensible Space Zone," of a defensible space around a structure. It is where [vegetation](#) is kept to a minimum combustible mass. A guideline used in this zone can be "low, lean and green."
3. The second distance of 30 to 100 feet (9.1 to 30.5m), is the "Reduced Fuel Zone" of a defensible space around a structure. In this area of the defensible space, fuels/vegetation are separated vertically and horizontally depending on the vegetation type. This is done by: thinning, pruning, and removal of selected vegetation; and climbing up trees from lower vegetation and the lateral separation of [tree canopies](#).

An important component is ongoing maintenance of the fire-resistant landscaping for reduced fuel loads and firefighting access. Fire resistive plants that are not maintained can [desiccate](#), die, or amass [deadwood debris](#), and become fire assistive. Irrigation systems and pruning can help maintain a plant's fire resistance. Maintaining access roads and driveways clear of side and low-hanging vegetation can allow large fire equipment to reach properties and structures. Some agencies recommend clearing combustible vegetation at minimum horizontal 10ft from roads and driveways a vertical of 13ft 6inches above them. Considering the plant material involved is important to not create unintended consequences to habitat integrity and unnecessary aesthetic issues. Street signs, and homes clearly identified with the numerical address, assist access also.

Defensible space reduces the risk that fire will spread from one area to another, or to a structure, and provides [firefighters](#) access and a safer area from which to defend a threatened area. Firefighters sometimes do not attempt to protect structures without adequate defensible space, as it is less safe and less likely to succeed.

Problem Statement: Placeholder

Recommendations to Council

- Presented as options rather than recommendations

State Role		
STATUS QUO	LESS ACTIVE	MORE ACTIVE
<ul style="list-style-type: none"> • Current defensible space statutes and standards exist but there is diversity between communities in regard to: local level adoption leading to implementation • There is no state level funding or staff to administer defensible space standards • Tracking progress and compliance with defensible space standards is not possible within current system structure. • While experts recognize the interrelationship between fire-hardening building codes and defensible space standards, regulatory oversight is separate • Local monitoring and enforcement of existing statutes and standards imposes a financial burden on local authorities. • Current enforcement system is complaint 	<ul style="list-style-type: none"> • Oregon creates and adopts minimum standards and defensible space definition for voluntary adoption at local level. Defensible space standards are updated on a to-be-determined-frequency (e.g., 3 – 5 years). Application of standard is based on risk expressed in Explorer or otherwise agreed-upon data set. • SB 360 remains as-is: applicable statewide, but voluntarily adopted, with State Forester option to implement) • Equitable approach to incentives is created that prioritizes benefits for populations that have greater vulnerability, including communities of 	<ul style="list-style-type: none"> • Oregon uses the latest data on western wildfire to define enhanced standards for defensible space and requires them on select landscapes (based on risk expressed in Explorer or otherwise agreed-upon data set). • Oregon provides permanent funding for administration and enforcement. • Identify low/medium/high risk for all private lands, create a statewide minimum standard. • (MOST ACTIVE) defensible space required on all landscapes • This could be defined in land use strategies defined in 1. Maintenance and monitoring need to be defined. • Equitable approach to funds made available that prioritizes support for populations with greater vulnerability, including communities of color, indigenous communities, limited English proficiency community members and low-income people • Defensible space review/implementation included within NEW

<p>driven, further exacerbating uneven adoption.</p> <ul style="list-style-type: none"> • There is better implementation where there is greater local fire district capacity, leading to equity and consistency issues. • As expressed in SB 360, homeowners can be held liable for fire suppression costs due to wildfire, creating disincentive for local adoption of higher standards. • Current system does not take an equitable approach, that priorities protection and benefits for most vulnerable populations, including communities of color, indigenous communities, limited English proficiency community members and low-income people. • Low-income homeowners or occupants cannot often afford to meet standards. 	<p>color, indigenous communities, limited English proficiency community members and low-income people. Target moderate-low income families to assist in adoption of standards).</p>	<p>building/site construction permitting process</p>
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Mission Return on Investment

STATUS QUO	LESS ACTIVE	MORE ACTIVE
Benefits (and co-benefits)		
	<ul style="list-style-type: none"> • Common understanding of defensible space. • Consistency, clarity for homeowners. • Lower suppression costs. • Fewer structures damaged/lots. 	<ul style="list-style-type: none"> • Creating a local support infrastructure to help accomplish these clearing standards can aid in success. • Potentially lower insurance costs • Lower suppression costs. • Fewer structures damaged/lots. • More certainty of application. • Cost shifting from society to individual. • Vulnerable populations are not singled out for their inability to meet standards
Costs (and indirect costs)		
<ul style="list-style-type: none"> • There are defensible space standards in place that are not currently enforced. • Lack of coordination between building codes and defensible space create implementation problems. 	<ul style="list-style-type: none"> • 2 FTE for ODF (standards only) • 2 FTE for OSFM (standards only) • WE NEED TO DEVELOP MORE DETAIL ON COSTS. • IF WE ARE ABLE TO COLLECT DATA ON CAUSE, ETC AS OUTLINED ABOVE, WE SHOULD ALSO BE ABLE TO ESTIMATE MAGNITUDE OF BENEFIT 	<ul style="list-style-type: none"> • 12 FTE for ODF (?? Local fire department/planning department cross responsibilities??) • 8 FTE for OSFM • XXX cost for technical assistance for code update. • Cost to local governments for enforcement will need to be covered by the state • Local opposition to mandated standards could be anticipated without state wide financial support. • WE NEED TO DEVELOP MORE DETAIL ON COST. • SAME HERE REGARDING MAGNITUDE
Timing and Duration		

	ODF and OSFM to specify. Possible faster adoption due to 'carrot' approach	ODF and OSFM to specify.
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Element 3: Building Codes

Overview & Context: Placeholder

Problem Statement: Placeholder

Recommendations to Council

- Presented as options rather than recommendations

State Role		
STATUS QUO	LESS ACTIVE	MORE ACTIVE
<ul style="list-style-type: none"> • Current amendment to Residential Specialty Code (R 327), for fire hardening, is newly available for local implementation. <i>(International Building Code)</i> • Wildfire risk is seen as specific to location, and approaches are not necessarily equity-centered, focusing on most vulnerable populations, including communities of color, indigenous communities, limited English proficiency community members and low-income people, or according to public health. There are no fire hardening standards to use for update of existing structures (no trigger for the updates). <i>Standards do exist, but it is difficult to universalize them into a consistent set of practices. (Some of these updates can be addressed when permit is filed for</i> 	<ul style="list-style-type: none"> • <i>(example)</i> R 327 remains voluntary for jurisdictions to adopt and applies to all structures. Official guidance on updating existing structures to fire hardened standards is developed and made available to interested property owners. • Financial incentives, designed with an equitable approach, for people to perform updates. • For residential remodel (especially roof), create affordable financing or grants for people who need assistance. • Ownership transition triggers compliance with most recent requirements • Work with insurance industry to create insurance incentives designed with an equitable approach. • R 327 is adopted in areas of high fire risk. 	<ul style="list-style-type: none"> • <i>(example)</i> R 327 or similar is mandatory to adopt based on assessment of risk. Coordination with insurers to create a program, designed with an equitable approach, of financial incentives related to mortgage insurance and home owner's insurance that is dependent upon structural fire hardening. • Engage insurance companies in programs, designed with an equitable approach, that encourage fire hardening standards related to home loans. • Building codes and defensible space are linked and coordinated in their efforts – setbacks, hardening, and access (water, firefighter, equipment). • This could be defined in land use strategies defined in 1.

<p><i>remodel/update or the local building official to determine best method of compliance.</i></p> <ul style="list-style-type: none"> • No insurance incentive exists for structures that employ fire hardening techniques. • No uniform incentive programs that exist that help/incent property owners to perform updates. • When considering implementation, efforts are mostly affecting new construction, growth and new development is slow enough that many homes will not be compliant and communities will be at risk due to out-of-date homes. • No comprehensive way to incent or require existing homes/properties to harden. • New commercial building codes will be adopted in 2019, and new OSFM standards will likewise be adopted in 2019 (International fire code) • Residential codes updated in 2017, and likely will undergo updating by 2023-4. • Oregon building codes are unique in that they are statewide. 		<ul style="list-style-type: none"> • For residential remodel (especially roof), updates shall be required to comply with R 327 standards. • Existing structures remodels prioritize first: <ol style="list-style-type: none"> 1 Def Space 2. Fire resistant roof materials 3. Spark resistant vents 4. Others. (limit cost to top 2-3 items that will substantially shift community fire risk)
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Mission Return on Investment

STATUS QUO	LESS ACTIVE	MORE ACTIVE
Benefits (and co-benefits)		
		<ul style="list-style-type: none"> • May be able to use current weatherization programs to assist at-risk communities in an equitable way. FEMA grants may also be available to assist low-income families to mitigate. • Community-wide approach results in faster movement to 'fire-hardened communities' • Market-driven incentives and response to wildfire risk.
Costs (and indirect costs)		
<ul style="list-style-type: none"> • The state cannot afford to defend and protect existing structures in wildland areas. 	<ul style="list-style-type: none"> • Local communities are resistant and unlikely to appreciate state determination of risk areas. • Concerns from building codes about trying to apply a statewide building code to an area mapped by a frequently changing set of data. Builders and owners rely on the consistency and predictability of the code to make building decisions, rapidly changing mapping may cause challenges with predictable planning. 	<ul style="list-style-type: none"> • If we require new construction to include fire hardened standards and increase the cost of home purchase, we create a financial burden and potential barrier for buyers. Include analysis re: lowered costs of insurance + heating/cooling, etc. • Affordable housing may be an overall cost to increasing cost as related to fire hardening • Cost to implement is high – is there any way to put a number to this cost? Even a justifiable estimate (Number of

	<ul style="list-style-type: none"> WE NEED TO BE MORE SPECIFIC AS TO COSTS TO STATE 	low-income families living in WUIs x average cost to update structures = estimate for total cost?)
Timing and Duration		
	<ul style="list-style-type: none"> DCBS and OSFM to define. 	DCBS and OSFM to define.

Element 4: Information Resources

Overview & Context: Placeholder

Problem Statement: Placeholder

Recommendations to Council

- Presented as options rather than recommendations

State Role		
STATUS QUO	LESS ACTIVE	MORE ACTIVE
<ul style="list-style-type: none"> Oregon Wildfire Risk Explorer (OWRE) exists and provides access to the QRA and other supporting dataset. Voluntary uses include the development of CWPPs, NHMPs and other local/property owner decision making. QRA dataset does not have a comprehensive dataset on structures. DOGAMI has building structures data set. DOGAMI also has funding to update regularly, but QRA does 	<ul style="list-style-type: none"> Create a new interagency steering committee for OWRE; suggest ODF lead. Establish a permanent steward for a more robust data set (WUI, structures, vulnerable communities, infrastructure, etc.) to support state and local decision making. Data also available for use by homeowners to help them understand and quantify their risk, and to record their self-certification. 	<ul style="list-style-type: none"> New steering committee for OWRE established. Mandate communities to use data for local decision land use decisions. Mandate communities to adopt CWPP, NHMPs. Provide technical assistant to communities as needed to realize these mandates. Using the information included in the map as a statewide regulatory

<p>not now have access to these data.</p> <ul style="list-style-type: none"> Given numerous definitions of the Wildland Urban Interface, data may not adequately capture all areas at risk to wildfire as a result of structural/residential development. Wildfire Risk Explorer is sponsored by ODF and USFS; the long term future of their sponsorship is uncertain. DLCD does not have general fund resources to implement Goal 7 including assistance to local governments (natural hazards and regional representative staff). Relies currently on federal funded grants for local NHMPs. 	<p>DOGAMI dataset should be enhanced to inform the next statewide wildfire risk assessment update.</p> <ul style="list-style-type: none"> Establish system to assist counties to validate and update data used to create and update CWPP across all 36 counties in Oregon and ensure that Comp Plans are consistent with CWPPs. Create assistance program for local governments to update their CWPPs and ensure consistency with Comp Plan. (Or similar to the process used by DLCD for update of NHMPs.) 	<p>tool. (state v local determination on where development should occur)</p>
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Mission Return on Investment:

STATUS QUO	LESS ACTIVE	MORE ACTIVE
Benefits (and co-benefits)	<ul style="list-style-type: none"> More accurate assessment of risk across communities in Oregon. Support for better decision-making at local level. Minimize additional fire suppression. Minimize the marginal cost of protecting the next structure. Greater likelihood of fire-adapted communities 	<ul style="list-style-type: none"> More certainty that local governments and property owners will implement these cost-saving strategies. Greater likelihood of fire-adapted communities

Costs (and indirect costs)		
	<ul style="list-style-type: none"> • Explorer maintenance annual funding (\$75-100k/year) to maintain and provide tools to support wildfire risk reduction efforts • CWPP effort needs funding for local counties to validate/update/ensure consistency (\$5-20,000) • ODF, USFS need to estimate the cost to update data. 	<ul style="list-style-type: none"> • Additional costs for regulatory system, coupled with general fund technical assistance resources. • Anticipate strong opposition from local decision makers. • Balance "carrot and stick" strategies to accelerate implementation, keeping strong community philosophical differences throughout the State
Timing and Duration		
	Steering committee should make determination of how frequently data is updated (e.g., 5 years as w/ CWPP, NHMPs). No end date. Current planning timelines are for 20 year supply of housing within UGBs.	Opposition likely to delay implementation of these mandates. Steering committee should make determination of how frequently data is updated (e.g., 5 years as w/ CWPP, NHMPs). No end date.

Overview and Context

Oregon must face the new wildfire reality. A combination of climate change and hazardous fuel accumulation has driven the wildfire crisis across the West. Wildfires are growing in size and complexity as populations continue to expand into the urban interface, increasing the threat to Oregonians, our communities, and our natural resources. Lands requiring fire protection in our state have expanded to include additional rangeland and farmland.

The current capacity is insufficient to meet the demand. The surge in wildfire incidence is beyond the current capabilities of the Oregon Department of Forestry and the Oregon Office of State Fire Marshal, the state agencies primarily responsible for wildfire response in Oregon. Inadequate capacity places human lives at extreme risk, increases costs, and stretches statewide suppression resources beyond the breaking point.

Oregon's Complete and Coordinated System, including ODF's "militia system" where all employees prioritize wildfire in their responsibilities, demonstrates a long track record of success. Playing a critical role in wildfire response, the OSFM has jurisdiction in much of the state. Local mutual aid agreements with state and federal agencies often have structural agencies performing initial attack outside of their jurisdiction. Though Oregon's firefighting foundation remains strong, adding capacity and modernizing resources are crucial to ensuring the current system remains effective.

Effective fire suppression saves the lives of fire fighters and our most vulnerable populations; limits harmful smoke exposure and threats to water quality; safeguards critical public infrastructure; maintains healthy forests and rangeland ecosystems, including critical habitat; and protects structures and other personal and economic assets.

To ensure Oregon maintains and builds upon its effective coordinated wildfire suppression system, the Governor's Wildfire Response Council has adopted 10 objectives for its cohesive wildfire strategy. These objectives span critical social, ecological and economic values. Wildfires are a significant and complex problem affecting the safety, health, water, economic security, environment and well-being of all Oregonians. Addressing this problem requires all Oregonians to work together toward a solution.

The focus of these recommendations is to improve and strengthen firefighting effectiveness and efficiencies *on lands identified for wildfire suppression where the state of Oregon is directly responsible*, while recognizing different objectives exist amongst response agencies. In addition, these recommendations seek to improve coordination on those land ownerships outside the state's direct responsibility – with the shared goal of meeting the state's social, environmental and economic objectives while ensuring public and firefighter safety.

Key Elements of Strategy

Element 1: All-Lands Approach: Commitment to All of Oregon

- a. Ensure Protection for All Lands: Key elements include baseline standards, staffing, resources and funding
- b. Ensure interagency collaboration, education, communication occurs
- c. Support RFPAs to ensure protection of All-Lands in Oregon.
- d. Continue ODF/BLM Land Protection Agreement on O&C Lands

Element 2: Private Partnership: Organizational Sustainability - Expand Overall Capacity to meet the new wildfire reality

- a. Expand State-Level Capacity via personnel & equipment resources
- b. Expand Federal-Level Capacity via supplemental preparedness funding

Element 3: Public-Private Partnership: Financial Sustainability

- a. Creation of Oregon Wildfire Response Fund
- b. Ensure Stable and Equitable Funding Allocation between public and private partners
- c. Provide alternative emergency funding on interim basis until the Oregon Wildfire Response Fund is created and funded
- d. Continue Liability Insurance for Catastrophic Fire

Element 4: Hazardous Fuel Reduction

- a. Incorporate Suppression Considerations to treat hazardous fuels
 - i. Fuels management
 - ii. Mitigation opportunities
- b. Implement Managed Wildfire on Federal Lands Only During Low-Risk Wildfire Conditions
- c. Limit Transfer of Wildfire Risk to neighboring landowners

Continued work

- a. System Analysis: Oregon Fire Service Mutual Aid System
Conduct state capacity analysis to review the Oregon fire service mutual aid system
- b. Prescribed fire and liability: Future work needs to be completed on this topic
- c. Future collaboration, coordination, and communication with federal agencies and tribes on fire policy and responsibilities needs to occur

Strategic Plan: Key Elements

Element 1: All-Lands Approach: Commitment to All of Oregon

a. Ensure Protection for All Lands: Key elements include baseline standards, staffing, resources and funding



Problem Statement:

Oregon's land consists of a patchwork of ownership and authorities. Jurisdiction for wildfire suppression may be held by; the local fire service, a privately contracted fire agency, a federal agency, ODF, a combination of entities, or none at all. Oregon's response model is a collection of successful partnerships, but there are currently not enough resources or personnel capacity to provide all Oregon lands with adequate wildfire suppression capability.

In recent years, fires on under and unprotected lands have increased in frequency and size. ODF and OSFM respond with wildland and structural fire resources, but these state agencies are not currently funded or staffed to meet increased demands. Due to topography and other factors, aviation resources are often the most effective means to fight fires on under and unprotected lands; unfortunately, aviation resources are limited and not always accessible by the state agencies with initial attack responsibility until the fire has grown to the point that state intervention is necessary.

Inadequate local initial attack capacity or disorganized response to wildfires on under and unprotected lands can lead to small wildfires growing and ultimately requiring state intervention. A state response can remove already limited resources from the statewide system needed elsewhere, often put crews and personnel into unfamiliar terrain and potentially unsafe conditions. Due to the patchwork of jurisdictions, geography, and responsibilities, this is a complex issue. The definition of an adequate suppression system may not be the same for all areas of the state.

Increased wildfire severity and complexity on under and unprotected lands negatively impact Oregonians through evacuations, smoke impacts, loss of crops, major infrastructure impacts, loss of homes, and loss of life. There are elevated risks to firefighter and public safety during suppression activities on under and unprotected lands.

Definitions:

- Initial attack refers to the actions taken by the first resources upon arrival at a fire to protect lives and property and prevent further expansion of the fire.
- Unprotected land is land with **no** fire agency or organized fire suppression jurisdiction for structures or wildland. Of Oregon's 98,380 square miles, approximately 1,604 (over 1 million acres) are currently unprotected.
- Under-protected land is land protected by agencies with **insufficient** capacity to provide adequate protection for lands within their area of responsibility.

Policy Statement:

For the benefit of all Oregonians and increased safety of firefighting personnel, all lands in Oregon should be required to have wildfire suppression capability for initial attack wildfire response.

Committee recommendation to the Council:

Recommend the Governor and legislative assembly to mandate the adoption of systems or formalized organizations at the county level to provide wildfire protection for all lands in Oregon within two years.

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Action Items:

- A. **Expanded Protection.** Change current legislation in the Rangeland Statutes to include croplands or similar unprotected lands to form wildfire response organizations. Provide funding for the creation of these new programs to be implemented within two years. A model similar to Rangeland Fire Protection Associations could be applied to croplands and would bolster wildfire suppression capacity for unprotected lands.
- B. **Adequate Protection Levels.** Form a committee comprised of OSFM, ODF, and stakeholders to assist counties in defining an adequate level of wildfire protection to include a baseline of initial attack. Considerations for the committee should include, but are not limited to:
 - Community Wildfire Protection Plans
 - Mutual aid agreements
 - Currently unprotected lands
 - Initial Attack wildfire suppression
- C. **State Support: Personnel.** Provide funding for two full-time positions (one each for OSFM and ODF), to aid in the expansion and creation of additional mutual aid agreements and memorandums of understanding among local and state fire suppression agencies. These personnel would help local authorities meet minimum protection requirements, provide additional wildfire suppression capacity, and aid in training and education.
- D. **State Support: Equipment.** Funding for additional severity aviation resources, including increased air tanker base capacity, two single engine air tankers, and a private contract fixed-wing aircraft and staff. These additional resources are needed to allow expansion of coverage to all Oregon lands protected by ODF and OSFM without the loss of current effectiveness. Utilization of these severity resources will assist locals in keeping fires small, possibly eliminating need for invoking the conflagration act. During a conflagration, these resources can be used at the state level to assist with suppression efforts.

b. Ensure Interagency collaboration, education, communication occurs



Problem Statement:

State and federal agencies often engage in suppression activities in Unified Command, meaning decision-making authority is shared jointly. There are differences among agencies with regard to policies, authorities, and missions.

Coordination, education, and collaboration are especially critical when Unified Command is established. Miscommunication during fire response has the potential to impact operations on the ground, increasing firefighter and public safety risks, and harming interagency relationships. While OSFM and ODF have a shared understanding of each agency's mission and authorities, this is not always true for interagency teams. In Oregon, OSFM and ODF have existing law and statutes giving them clear suppression responsibilities on private, state, and some federal lands, as well as within communities.

Policy Statement:

All agencies and incident management teams providing fire suppression response on state protected lands in Oregon need a shared understanding of the Oregon fire response model, with clarity around the structure of OSFM and ODF suppression responsibilities.

Committee Recommendation to Council:

Recommend OSFM and ODF partner to create a policy framework outlining Oregon's suppression responsibilities in a simple, standardized format.

Action Items:

- A. Direct OSFM and ODF to create an expectation document outlining Oregon's response system and policy framework to include authorities, priorities, and expectations for resources responding to wildfire within Oregon. Provide the document to all Incident Management Teams operating in Oregon upon arrival/check-in.
- B. OSFM and ODF should continue to explore opportunities with state and federal partners to communicate agency missions, authorities, and priorities. Ensure OSFM and ODF are represented in forums such as the Pacific Northwest Coordinating Group, Agency Administrator meetings and trainings, and national and area Incident Commander Councils.
- C. Provide direction and written reviews of Incident Management Teams' performance, focused on ODF and OSFM missions and statutory responsibility. Develop an annual report for state and federal decision-makers focused on team performance.

c. Support Rangeland Fire Protection Associations (RFPAs) to ensure protection of All-Lands in Oregon.



Problem Statement:

The Rangeland Fire Protection Associations (RFPAs) operate as independent associations of landowners that provide their own local wildfire protection. ODF supports the associations through administrative guidance, some administrative cost reimbursement, fire suppression training, and facilitating access to federal grants and surplus firefighting equipment. RFA fire prevention and suppression efforts help in conserving sage grouse habitat, safeguarding livestock forage crucial to the local economy, and protecting homes and communities.

Committee Recommendation to the Council:

RFPAs have demonstrated enormous success combating and suppressing wildfires across Oregon's rangelands. The state should continue to support these associations. Validate the current RFA program and consider the use of this or similar models for other lands in Oregon where appropriate.

Action Items:

Continue current funding levels for all existing Rangeland Fire Protection Associations (RFA). Provide additional ODF capacity and funding to strengthen RFA program and ensure inclusion of All Lands in Oregon.

d. Continue ODF/BLM Land Protection Agreement on O&C Lands



Problem Statement:

Oregon's forests are a compilation of land ownerships resulting from historical patterns of settlements and congressional actions. The Bureau of Land Management (BLM) and Oregon Department of Forestry (ODF) have worked together for decades to protect a patchwork of lands in western Oregon known as the Oregon and California Railroad Lands, or O&C lands. The BLM is proposing cost containment measures that would remove some lands from the current agreement, historically protected by ODF. Removing O&C lands from the protection system would create thousands of miles of additional suppression jurisdictional boundaries, increasing exposure and costs, and adding overall wildfire protection complexity.

Policy Statement:

Governor Kate Brown's May 2019 letter to the U.S. Department of the Interior references the value BLM's western Oregon O&C lands hold as part of Oregon's complete and coordinated wildfire protection system. It is important the BLM

maintain the agreement with ODF for fire prevention and suppression on all O&C lands. Keeping these lands within the current system ensures a more efficient and effective suppression response while lowering exposure and costs to Oregonians.

Committee Recommendation to the Council:

Support the Governor's letter to include the BLM's western Oregon lands under ODF protection in future agreements with no reduction in acres. ODF protection of O&C lands is essential to maintaining the effectiveness and efficiency of Oregon's complete and coordinated fire suppression system. Should the BLM remove acres from the current agreement, the state of Oregon will need assurances an adequate level of protection is maintained. Any acres removed from the current agreement should have accompanying plans addressing the transfer of risk in these new joint response checkerboard areas.

Action Items:

Recommend the Wildfire Response Council submit a letter to the Oregon federal delegation seeking funding through a budget line item for the existing and future agreement between ODF and BLM. This funding would cover BLM's share of fire readiness costs, maintaining an adequate level of protection, reducing exposure and costs to firefighters and Oregonians.

Element 2: Public-Private Partnership: Organizational Sustainability - Expand Overall Capacity to meet the new wildfire reality.



a. Expand State-Level Capacity via personnel & equipment resources

Problem Statement:

The increased severity and complexity of Oregon's wildfire seasons continues to challenge ODF's and OSFM's abilities to respond on a statewide level.

ODF's militia approach relies heavily upon each employee prioritizing wildfire response in their responsibilities. Protecting Oregonians, forests, rangelands (all lands) and communities from wildfire has created significant strain across the agency, challenging ODF's ability to accomplish and maintain core business functions in its State Forest, Fire Protection, Private Forest, and Administration divisions.

Past challenging wildfire seasons have also challenged OSFM's ability to accomplish core business functions related to education, regulation, and administration. Response to large wildfires is also taxing the structural fire service as a whole, with local fire agencies mobilized by OSFM to support efforts statewide.

The demands and complexity of responses for Incident Management Teams (IMTs) continues to increase, outpacing the agencies' capacity and ability to staff and train members, thereby reducing the ability to respond to large complex incidents. Protecting all Oregonians, our lands and resources, and communities while managing and protecting forests, lands, and resources at existing levels is not aligned with current funding structures and staffing levels. With this increased workload comes additional risk to firefighter and community health and safety.

Policy Statement:

The agencies responsible for suppressing wildfires in Oregon must have adequate resources and capacity locally, statewide and within Oregon's Incident Management Teams to respond to the ever-increasing demands of wildfire seasons. Both ODF and OSFM's overall FTE level has remained flat for over two decades, meaning staffing levels today resemble those from the late 1990s, all while workload has exponentially increased.

Under ODF's militia system, all employees prioritize wildfire in their responsibilities. This effective cornerstone of the state's complete and coordinated system should continue. OSFM personnel also operate within a similar approach.

Updating resources and capacity for both agencies to reflect the new reality is necessary for the current system to remain effective. Oregon must adequately staff its current system to increase capacity for new responsibilities as workload and geographic scope increase.

Committee Recommendation to Council:

ODF-specific recommendations anchor to the ODF Fire Program Review⁸, recent 2018 Agency Initiative, and the 2016 Secretary of State audit.⁹

While the wildfire suppression workload has increased, staffing has not kept pace. ODF is fighting more severe fires with about the same full-time equivalent employees it had nearly 20 years ago. (SOS audit, Aug 2016 pp1)

These reviews are a comprehensive assessment of ODF's entire fire protection program, including large fire funding, sustainability of the organization, and policy work.

OSFM-specific recommendations are a direct result of a 2019 Listening & Understanding Tour¹⁰, during which staff visited communities in Oregon most at-risk from the impacts of wildland-urban interface fire as determined by a study

⁸ Fire Program review Committee. <https://www.oregon.gov/ODF/Board/Pages/FireProgramReview.aspx>

⁹ Secretary of State Audit Report. (2018). <https://sos.oregon.gov/audits/documents/2016-18.pdf>

¹⁰ Oregon State Fire Marshal. (2019).

[https://www.oregon.gov/osp/Docs/OSFM_Listening_Understanding_Tour_Report_\(August_2019\).pdf](https://www.oregon.gov/osp/Docs/OSFM_Listening_Understanding_Tour_Report_(August_2019).pdf)

conducted at the behest of the USFS.¹¹ Staff met with leaders of the structural fire service and stakeholders to discuss their current and desired activities surrounding wildland fire prevention and suppression. It was clear that the most critical need around the state was capacity in personnel, resources, and funding. The structural fire service needs additional support in order to keep the communities they serve safe from wildfire.

This additional capacity will strengthen and improve existing wildfire response systems. Improving fire response effectiveness and efficiency statewide benefits and protects all Oregonians. These recommendations meet current needs and do not account for additional recommendations that may come from related committee work under the Governor's Council on Wildfire Response.

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¹¹ Scott, Joe H.; Gilbertson-Day, Julie; Stratton, Richard D. 2018. Exposure of human communities to wildfire in the Pacific Northwest. Briefing paper. 10 p. Available at: http://pyrologix.com/ftp/Public/Reports/RiskToCommunities_OR-WA_BriefingPaper.pdf

Biennial funding needed — ODF and OSFM

61 FTE for ODF:

- 22 FTE Fire Protection - Financials, Prevention, Training, Aviation, Operations
- 12 FTE Private Forests - Urban Interface & Recovery
- 9 FTE Agency Administration – Fire Finance and Support Functions
- *10 FTE State Forests - Response and Good Neighbor Authority

In addition to the base budget above, implementing Oregon's All Lands approach will require:

- **8 FTE – Rangeland and cropland support/liaison

7 FTE for OSFM:

- 1 FTE Mobilization Coordinator – Support and Coordinate
- **1 FTE Mobilization Specialist – Develop Fire and Mutual Aid Plans
- 4 FTE Community Risk Reduction Specialists – Mitigation and Suppression
- 1 FTE Supervisor – Support and Coordinate

Additional severity capacity:

- Contracting funds for fire suppression private contracts
- One contract type 3 helicopter and staff (8 seasonal FTE)
- 4 single engine air tankers
- Two next generation air tankers and lead plane
- Funding for wildfire response training
- Funding for wildfire prevention and co-ops
- Funding for type 2 private contract 20-person initial attack crews
- Funding for pre-positioning of structural resources

**Potential connection to Mitigation Committee capacity*

***Suppression Committee: All-Lands Recommendation*

Action Items:

- A. Recommend fully funding both ODF and OSFM's base fire protection budgets, providing capacity, severity, and large fire support needs.
- B. Direct the agencies to develop necessary policy option packages for inclusion in the 2021 Governor's Budget. Recommend necessary position authorization be placed in the base budget for each agency.
- C. Recommend allocating additional state funding to the Special Purpose Appropriation for aviation and ground based resources including; next generation air tankers, helitack personnel, lead plane single engine air tankers for 2021, structural taskforces, training, and funding for private contract resources.

Approximately \$40 million biennially represents the needed funding investment to assure Oregon is ready to respond to the increased and elevated risk both at local levels and to manage large, complex incidents. This critical funding is reoccurring and will need to be built into base budgets and Special Purpose Appropriations.

b. Expand Federal-Level Capacity via supplemental preparedness funding

Problem Statement:

The national fire suppression system is designed to move existing resources around the country to areas with the greatest need. Increased fire season severity and complexity across the western states results in reduced resource availability in Oregon. Heavy air tankers, helicopters, smoke jumpers, and crews are in the highest demand and therefore the most limited. Without adequate funding for additional resources, demand will continue to outpace supply putting at risk Oregon communities, firefighters and natural resources.

Committee Recommendation to the Council:

To suppress fires in Oregon, the USFS and BLM should increase severity/preposition funding for aviation and crew capacity. Increased federal severity/preposition funding could leverage existing state funds, providing for additional resources in Oregon during peak periods of fire activity. Leveraging existing state and new additional federal severity/preparedness dollars will lead to increased capacity to suppress wildfires that threaten Oregon's communities.

Action Items:

Request a resolution from the Legislature to the Undersecretary, the Chief of the USFS, and the Secretary of the Interior and Director of the BLM seeking additional severity/preparedness funding for strategically placed resources in high-risk areas throughout Oregon to remain available locally.

Element 3: Public-Private Partnership: Financial Sustainability



a. Creation of Oregon Wildfire Response Fund

Problem Statement:

The current funding structure does not meet or address the reality of wildfire risk, costs, and impacts in Oregon. Wildfires are a significant and complex problem affecting the safety, health, water, security, economic security, environment and well-being of all Oregonians. Addressing this problem requires all Oregonians, not only individual sectors and stakeholders, be responsible for contributing to and funding the solution.

For Oregon to be successful in protecting Oregonians, our communities, and natural resources from wildfire, the state must look to a new funding model to fully fund the programs and state agencies responsible for this work.

Oregon must prepare for increasingly complex and severe fire seasons by planning, budgeting, and allocating additional financial resources. Aside from landowner contributions via the Oregon Forestland Protection Fund (OFLPF), no large-scale dedicated funding currently exists to cover these projected costs. With no dedicated fund, agency budgets are forced to cover the entire gross costs of wildfire response on an emergency and annual basis.

Before accessing the General Fund, fire response agencies must take out lines of credit and loans to cover large fire costs above their operating budgets. These loans accrue interest and are often required to be re-paid before reimbursements are received. Additionally, reimbursement of large fire costs from FEMA and other federal agencies takes years, requiring state agencies to carry fire-cost debts until reimbursed.

Currently, between ODF and OSFM, only \$10.25 million is dedicated and budgeted annually for large fire costs (\$10 million from OFLPF and \$0.25 million from the Fire Insurance Premium Tax). ***In recent years, this dedicated budget has only covered about 10 percent of large fire costs.*** This model is not sustainable.

Policy Statement:

Recommend a dedicated fund be established for the benefit of all Oregonians to accommodate the increasing cost of wildfire response by ODF and OSFM. A broad base of support to build the Oregon Wildfire Response Fund is necessary to ensure a viable long-term solution.

Oregon's wildfire funding sources must be adequate to provide for all state agencies responsible for wildfire prevention, suppression, and recovery. Dedicated funding must be in addition to current base and severity level funding, and should be shouldered by all Oregonians equitably.

Funding should be dedicated and sustainable over the long-term. This is not a one-time investment.

Committee Recommendation to Council:

The Governor, legislature, and stakeholders should create a proposal, funding concept, and strategy for the 2021 Legislative Assembly. In addition to what currently exists, determine sustainable, equitable, long-term, and dedicated funding sources to create and replenish the Oregon Wildfire Response Fund. Funding amounts should be based on both current and projected future needs.

Funds should be available to all agencies responsible for wildfire response in Oregon.

Action Items:

- A. Request the Governor work with legislative leadership to craft a bill for the 2021 legislative session establishing the Oregon Wildfire Response Fund to support Oregon's wildfire response needs.
- B. Identify and dedicate public funding sources to the Oregon Wildfire Response Fund, above and beyond the existing funding structure.
- C. Funds should be available to all agencies responsible for wildfire suppression in Oregon.
- D. Evaluate distribution of OSFM's standard funding mechanism, Fire Insurance Premium Tax, to ensure distribution prioritizes fire suppression and fire related programs.
- E. Direct OSFM to create legislative concept requiring the agency report out their large fire costs annually to ensure those costs are accurate and encompass Oregon fire response as a whole.

b. Ensure Stable and Equitable Funding Allocation between public and private partners

Problem Statement:

Landowners in Oregon pay for wildfire protection preparedness, suppression, severity resources, and large-fire costs. Over time, costs have increased to cover the increasing needs for wildfire response, straining the ability to maintain working forests in Oregon. While this structure was historically appropriate, fire season severity, risks and impact to all Oregonians have increased with time.

Over the century-long partnership, all landowners have provided resources to help during fire season and large fire events including trained personnel, dozers, engines

and equipment (generally referred to as “in-kind” contributions) Historically, this contribution equates to millions of dollars, supplementing resources ODF does not have to own or budget for. As importantly, landowner knowledge of the property, road systems, water sources, etc. can prove to be invaluable support during initial attack. Landowners often help incident management teams to successfully and safely navigate new landscapes, in an often dynamic and chaotic environment. Recent legislation highlights this important component: A significant part of the Wildfire Protection Act (HB2050, 2013) emphasized the cost of fire protection is outpacing the ability to generate the revenue from forest and rangelands on the eastside of the state. Due to the costs of fire protection on these lower-productivity lands with high-fire risk, the state codified a policy to pay for a portion of the base level of protection. Additionally, with more than two thirds of fires started by the public, the burden of paying for suppression should be appropriately shared with the public.

Keeping potentially catastrophic fires small benefits the public in a multitude of ways, from clean air and safe communities to green trees and clean water. Recreation, wildlife populations and more are all directly impacted when large, uncontrolled wildfires get underway.

All Oregonians who own forest and grazing lands need certainty with funding solutions in order to justify investments and owning land. Keeping working forests reduces forest fragmentation and is the best way to support and fortify the Complete and Coordinated Fire Suppression System in Oregon.

Policy Statement:

The costs all Landowners pay for fire protection should be considered within a complete framework, including values provided by working forests and grazing lands. Increases to the wildfire protection costs that meet the current and future challenges benefits and should be distributed equitably among all Oregonians. This work should recognize wildfire suppression across Oregon is beyond the scope of a century-long partnership between landowners and the public. Additionally, due to the vast amount of human and lightning caused fires sparked annually, all Oregonians should appropriately help fund the wildfire issue facing the state. Because of increased workload demands, the state of Oregon needs to appropriately respond to this financial challenge.

Committee Recommendation to Council:

An overall economic assessment of all wildfire protection costs and funding structure should be commissioned by a credible and objective third party to ensure equity among all paying contributors.

Action Items:

- A. Recommend to the Governor to commission a study with a credible and objective third party to provide a complete breakdown of all costs paid by landowners and others, including; wildfire protection costs, taxes, and funding streams to ODF.
- B. Recommend to the Governor that all paying landowners and stakeholders convene a work group with the legislature to set an objective course forward to ensure appropriate funding equity.

c. Provide alternative emergency funding on interim basis until the Oregon Wildfire Response Fund is created and funded.

Problem Statement:

There is currently no large-scale dedicated funding to cover projected large fire costs. With no dedicated fund, ODF and OSFM budgets are forced to cover these costs on an emergency basis until after fire season and total costs are determined. The current structure is reactive, costly, and challenges ODF and OSFM's ability to plan, budget, manage cash flow, and make timely payments to vendors.

In 2018 alone, gross large fire costs totaled well over \$100 million. To pay these bills and continue normal operations, ODF has borrowed, via loans and lines of credit, from the Oregon State Treasury. These temporary borrowings help address cash flow deficits. However, they also accrue interest costs and often require repayment before sustainable reimbursement funding is received—adding pressure to an already strained system. Reimbursement of the large fire costs from FEMA and other federal agencies takes years. OSFM large fire costs are covered by OSP's budget until reimbursements are received. This causes funding authorization limitations for both agencies.

Policy Statement:

Until a long-term solution is developed, agencies must be able to access practical and viable interim funding alternatives to cover gross costs outside of standard operational budgets.

Committee Recommendation to Council:

The Department of Forestry and Office of State Fire Marshal should work with the Governor's office, the Chief Financial Office, the Legislative Fiscal Office, the Oregon State Treasury, and stakeholders to prepare a concept for the 2020 Legislative Assembly allowing agencies to access emergency interim funding in anticipation of challenging fire seasons.

Action Items:

Recommend that the Department of Forestry and the State Fire Marshal offices work with the Governor's office, the Chief Financial Office, the Legislative Fiscal Office, the Oregon State Treasury, and stakeholders to prepare a concept for the 2020 session allowing both ODF and OSFM to access emergency interim funding covering gross costs, outside of agency biennial budgets.

d. Continue Liability Insurance for Catastrophic Fire**Problem Statement:**

For well over 40 years, ODF and landowners, in coordination with the State of Oregon, have chosen to purchase insurance through underwriters at Lloyds of London to help offset suppression costs related to large fires. This insurance covers costs borne by all ODF jurisdictional fires during severe wildfire years. Over the decades, the insurance premiums and deductible coverage point have increased significantly.

Policy Statement:

Recommend ODF and the Emergency Fire Cost Committee regularly perform due diligence on the value, retention, and policy limits of the existing fire insurance policy. Upon completion of this annual review, continued purchase of the catastrophic fire insurance policy is recommended.

The current policy is \$25 million in excess of \$50 million in costs at a current price point (premium) of \$3.5 million. Following the 2018 fire season, the current market conditions suggest Oregon is well positioned with the current policy and needs fewer severe fire seasons and subsequent claims to be better positioned for either lowering premiums or expanding coverage at minimal cost.

Committee Recommendation to Council:

Direct the State Forester to continue to perform due diligence prior to the annual repurchase of the policy. If prudent, investigate potential beneficial alternatives in collaboration with Department of Administrative Services Risk Management and other professionals, comparing alternatives and options. Findings should be presented to the Board of Forestry.

Action Items:

Recommend ODF continue with third-party catastrophic fire insurance policy from Lloyds of London. Monitor and evaluate global markets annually.

Element 4: Hazardous Fuel Reduction



a. Incorporate Suppression Considerations to treat hazardous fuels

i. Fuels management

Problem Statement:

Excess fuels on the landscape can lead to increased wildfire intensity, challenging fire suppression and response. Without additional fuels reduction work, and ongoing maintenance of existing treatments on all lands -- especially those in the Wildland Urban Interface -- safety risks will continue to increase to communities and firefighters, with negative health impacts to Oregonians and increased costs.

Policy Statement:

To reduce the impacts and risks of wildfires on Oregonians, adequate funding, planning, and implementation for fuels reduction is needed. While the suppression committee recognizes this is the work of the mitigation committee, the challenges hazardous fuels have from a suppression perspective and the potential impacts directly connect to key suppression objectives.

Committee Considerations for the Council and Fellow Committees:

- Increasing treatments of hazardous fuels will have a positive impact on lowering the complexity, risk, and costs in suppression.
- As part of the 20-year management plan specified in the Shared Stewardship Agreement (SSA) between the State of Oregon and the United States Department of Agriculture, significantly expand hazardous fuel reduction across the state. In keeping with the SSA, identify outcomes to include reduced unwanted wildfire incidence, and improved firefighter safety and reduced structural loss. Identify key performance metrics linked to these outcomes.

For example, acres slash piled and burned for fuel reduction purposes, miles of treated roadsides to provide for safe anchor points, potential firebreaks for suppression response, and acres harvested and treated for fuel reduction purposes.

ii. Mitigation opportunities

Problem Statement:

Excess and continuous fuels on the landscape without control points can increase risk to firefighters and reduce opportunities for suppression effectiveness to protect key values, infrastructure, and communities.

Untreated and closed roads without control points are significant operational barriers from a suppression perspective, decreasing access, limiting effectiveness, and increasing firefighter risk.

Treating and opening roads as future fuel breaks, creating potential control points, removing snags along roads and fuel breaks, and maintaining established treatments on the landscape will reduce risk.

To reduce the unwanted and negative impacts of wildfires in Oregon, investments in fuels reduction treatments on fire-prone lands, especially in the Wildland Urban Interface, should increase. Opportunities should be explored to accomplish necessary fuel treatments during post-suppression and rehabilitation efforts on all lands in Oregon.

Committee Recommendation to the Council:

To reduce future risks, explore opportunities to work with landowners on treatments during and post-wildfire on non-federal lands. Work with the federal delegation to explore funding opportunities to accomplish critical fuel treatment reductions post-fire, where approved projects have been identified. This expansion could increase treatments, mitigating the severity and impacts of future wildfires.

Action Items:

Recommend the Governor and Legislature, in coordination with the Oregon federal delegation, endorse a resolution to explore funding opportunities for additional hazardous fuels reduction.

b. Implement Managed Wildfire on Federal Lands Only During Low-Risk Wildfire Conditions



Problem Statement:

A wildfire is an unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects,

and all other wildland fires where the objective is to put the fire out. The risk of wildfire growth is significantly increased when dry fuels and severe weather create extreme conditions across the landscape. In addition, personnel and equipment resources are often limited during peak fire season. Significant suppression challenges are created when both limited resources and extreme conditions exist, limiting suppression effectiveness and increasing exposure to firefighters and costs for Oregonians.

Committee Recommendation to Council:

When conditions are conducive for large wildfires and resources are limited due to elevated Preparedness Levels (PL)¹², all agencies should attempt to stop wildfires at initial attack. The suppression committee recognizes different land management and suppression objectives exist among response agencies. While wildfire can be used as a tool to accomplish ecological, mitigation, and hazardous fuels treatments, when conditions are conducive for large fires and the necessary suppression resources are not available, suppression should be the strategy. Avoiding the transfer of risk to other jurisdictions, agencies, landowners, and Oregonians increases effectiveness and lowers risk, exposure, and costs.

Action Items:

Council to recommend the Governor and legislature endorse a joint resolution to inform all jurisdictions that initial attack and full suppression be the expected response strategy when conditions occur that are conducive of large wildfires and when PL levels reach 3 and above. This strategy should be codified in the annual operating plans and master agreement.

c. Limit Transfer of Risk to neighboring landowners



Problem Statement

Oregon's patchwork of public and private land ownership patterns, land use priorities, and values at risk all contribute to the complexity of Oregon's wildfire response system. Wildfire does not stop at ownership boundaries, and how agencies respond to wildland fire within their jurisdiction can potentially transfer risk to neighboring lands. This shifted risk often negatively impacts neighboring jurisdictions,

¹² National Interagency Fire Center. https://www.nifc.gov/fireInfo/fireinfo_prepLevels.html

creates additional exposure for firefighters and safety concerns and can transfer financial exposure, losses, and costs to others.

Committee Recommendation to Council:

Whenever possible, all wildfire management decisions and suppression strategies in Oregon should prioritize reducing transfer of risk to other jurisdictions. Decisions around when and how to manage wildfires must consider the likelihood and negative impacts of transferring risk. Because of Oregon's unique ownership patterns, a key principal must include reducing undesired and unintended outcomes of fires transferred from one jurisdiction to another. As large fire frequency increases, so does the potential of transferring risk to other jurisdictional boundaries and ownerships.

Action Items:

Recommend the Council endorse a resolution that whenever possible, all wildfire management decisions and suppression strategies in Oregon consider reducing transfer of risk to other jurisdictions. Decision making processes should consider the likelihood of transferring risk and mitigate potential impacts. Early communication with potentially impacted landowners and protection jurisdictions must occur and be documented.

Continued work

In developing its recommendations, and in alignment with the Governor's Executive Order No. 19-01, the Suppression Committee identified necessary work beyond the scope and timeline of this report.

a. System Analysis: Oregon Fire Service Mutual Aid System

Conduct state capacity analysis to review the Oregon fire service mutual aid system.



Problem Statement:

While the previous recommendations of this Committee have had the benefit of work and studies done prior to the establishment of the Council, Oregon's fire service has not had an extensive analysis. As stated in Executive Order No. 19-01, the Office of State Fire Marshal has a key role in wildfire response and protection of communities, and, "we must proactively review our systems to determine whether our current models are sustainable, require enhancement, or require a different

approach to minimize fire impacts." Without evaluating systems as the risks change, the Oregon fire service will continue to be challenged to provide wildfire protection in all communities and areas of the state.

Oregon's fire service includes 310 structural fire agencies and 13,000 firefighters, of which 80% are volunteers. All stakeholders must be engaged in the process in order to fully evaluate the Oregon fire service mutual aid system's (OFSMAS) capacity, capability, and long-term sustainability.

Policy Statement:

A strong and effective fire service in Oregon is paramount to the health and well-being of all Oregonians. A systematic review is needed to fully evaluate the Oregon mutual aid system and its response to wildfire.

Committee Recommendation to Council:

Direct OSFM to conduct a statewide analysis of the Oregon fire service mutual aid system. During the process, input should be sought from agency stakeholders and partners, including Oregon's structural fire service.

Potential Actionable Items:

- A. Direct OSFM to conduct a statewide analysis to evaluate the OFSMAS. Considerations include, but are not limited to:
 - Capacity, (resources and personnel)
 - Organizational structure
 - Regional differences and influences
 - Mutual aid
- B. Provide funding for one limited duration employee* to conduct the review of the OFSMAS in full, from initial research to a final report and recommendations.
- C. Report and recommendations should be provided to the Governor, Legislature, State Forester, State Fire Marshal, and Oregon Fire Chiefs Association, and other stakeholder groups and fire associations.

*This position is not included in the Organizational Capacity recommendation, as it is limited duration.

Definitions

All-lands	A conservation approach that brings landowners and stakeholders together across boundaries to decide on common goals for the landscapes they share
Environmental Justice Community	minority and low-income communities, tribal communities, and other communities traditionally underrepresented in public processes
Initial attack	The actions taken by the first resources upon arrival at a fire to protect lives and property and prevent further expansion of the fire
National Environmental Policy Act	A United States environmental law that promotes the enhancement of the environment, requiring all executive Federal agencies prepare environmental assessments and impacts statements for infrastructure projects.
Preparedness Level	Dictated throughout the year by burning condition fire activity, and resource availability, these levels help assure the wildlife firefighting resources are ready to respond to new incidents
Probability	
Risk	
Unprotected land	Land with no fire agency or organized fire suppression jurisdiction for structures or wildland. Of Oregon's 98,380 square miles, approximately 1,604 (over 1 million acres) are currently unprotected.
Under-protected land	Land protected by agencies with insufficient capacity to provide adequate protection for lands within their area of responsibility.

Acronyms

BLM	Bureau of Land Management
BO	Business Oregon
CCO	Community Care Organizations
COOP	Continuity of Operations Planning
CWPP	Community Wildfire Protection Plan
DLCD	Department of Land Conservation and Development
DHS	Department of Human Services
EIDL	Emergency Injury Disaster Loan
EPA	Environmental Protection Agency
EPIC	Emergency Public Information Collaborative
FEMA	Federal Emergency Management Agency
FMAG	Fire Management Assistance Grant
HAN	Health Alert Network
KOG	Keep Oregon Green
LEOF	Local Economic Opportunity Fund
NHMP	Natural Hazard Mitigation Plan
O & C Lands	Oregon and California railroad lands
ODF	Oregon Department of Forestry
ODRP	Oregon Disaster Recovery Plan
OEM	Office of Emergency Management
OFFP	Oregon Forestland Protection Fund
OFSMAS	Oregon Fire Service Mutual Aid System
OSFM	Oregon State Fire Marshal
PL	Preparedness Level
QRA	Quantitative Risk Assessment
RFPA	Rangeland Fire Protection Associations
SBA	Small Business Administration
SBDC	Small Business Development Center
SPA	Special Purpose Appropriation
USFS	United States Forest Service
WUI	Wildland-Urban Interface

Appendix A: Council Roster

Full Council	
Name	Affiliation
Matt Donegan, Chair	
Mark Labhart	Former Tillamook Co Commissioner, former ODF employee
Stefan Bird	President & CEO of Pacific Power
Charles Wilhoite	Nature Conservancy, Meyer Memorial Trust
Sally Russell	Mayor, Bend
Tricia Connolly	President, IAFF Local 227, Bend Fire Department
Eric Cutler	Sr VP, Operations, Sublimity Insurance Company
Les Hallman	Assistant Chief, Tualatin Valley Fire & Rescue
Caroline (Park) Lipps	Thunder Island Brewing
Allyn Ford	Timber Industry, large
Eric Hunter	Care Oregon
Chris Chambers	City of Ashland
Mark Bennett	Baker County Commissioner
Russ Hoeflich	1000 Friends
Ismael Perez	West Coast Roofing & Building
Karla Chambers	Agricultural
Carol Whipple	Timber Industry, small
Curtis Robinhold	Transportation
Katrina Holland	Community Alliance of Tenants
Robert "Bobby" Brunoe	Warm Springs Tribe
Mitigation Committee	

Joe Furia, Chair	Sustainable Forestry NGO
Nils Christoffersen	Sustainable Forestry NGO; Collaboratives
Karla Chambers	Agriculture
Chris Chambers	Fire community; Local gov't; collaboratives
Glenn Casamassa	Federal Agency
Susan Jane Brown	Conservation
Mark Stern	Conservation
Sybil Ackerman-Munson	Conservation
Kaola Swanson	Conservation
Travis Joseph	Timber Industry
Bruce Daucsavage	Timber Industry
Lindsay Warness	Timber Industry
Matt Krumenauer	Sustainable Forestry NGO
Dylan Kruse	Sustainable Forestry NGO
Marko Bey	Forest restoration contracting
Susan Roberts	Local Government Counties
Tim Freeman	Local Government Counties
Bobby Brunoe	Tribal Government
David Lucas	Utilities
Michael Hussey	Fire Community
John Bailey	Academia
Chris Dunn	Academia

Daniel Leavell	Academia
Chad Davis	State Agency
Brett Brownscombe	Process /project mgmt.
Andrew Spaeth	Project Support
Adaptation and Recovery Committee	
Sally Russell	Co-Chair, Mayor of Bend
Duncan Campbell	Co-Chair
Economic Recovery Sub-Committee	
Caroline Lipps	Chair, Thunder Island Brewing
Kevin Jefferies	Insurance/Commissioner's Office
Melisa Brugge	Business Oregon
Amanda Hoey	Mid-Columbia Economic Devel. District
Melissa Leoni	Legislative Policy and Research Office
Josh Bruce	University of Oregon, Natural Hazards Planning
Sandra Slattery	Ashland Chamber of Commerce
Mark Gregory	SBDC Network
Katy Clair/Harry Dalagaard	Travel Oregon
Public Health Sub-Committee	
Kirsten Aird	Chair, OHA Public Health Division
Rebecca Tiel	Oregon Hospital Health Systems
Dr. David Bangsberg	OHSU Public Health
Katrina Holland	Community Alliance of Tenants

Rep. Pam Marsh	State Representative
Mike Harryman	Governor's Office/Seismic Response
Eric Hunter	Care Oregon
Mark Long	Building Codes
Land Use Sub-Committee	
Russ Hoeflich	Chair, 1000 Friends
Holly Kerns	Baker County Planning
Meriel Darzen	1000 Friends/Land Use
Catherine Morrow	Former Deschutes Planner
Hil Fuglister	MMT healthy environment
Mike Myers	Former PDX Emergency Planner
Janine Salwasser	Institute for Natural Resources/OSU
John Stromberg	Ashland Mayor
Katie Lighthall	National Cohesive Wildland Fire Management Strategy
Ellen Miller	Home Builders
Kristina McNitt	Oregon Forest and Industries Council
Suppression Committee	
Ken Cummings	EFCC Chair (Committee Chair)
Kyle Williams	OFIC
Tim Moor	Sunriver Fire Chief
Lily Morgan	Josephine County Commissioner
Court Boice	Curry County Commissioner

Mike Barsotti	OWSA landowner retired ODF
Blake Rowe	Wheat Growers
Bob Skinner	RFPA
Mike Wheelock	Gray Back Forestry (private contractor)
Craig Harper	Medford Watershed Commission
Ian Yocum	Structural Fire- IC OSFM IMT
Kaola Swanson	Pacific Forest Trust
Travis Medema	ODF
Mariana Ruiz-Temple	OSFM
Adam Meyer	ODF Policy
Jaci Ladewig	ODF Communication
Mariah Rawlins	OSFM Policy
Rudolf Owens	OSMF Communications