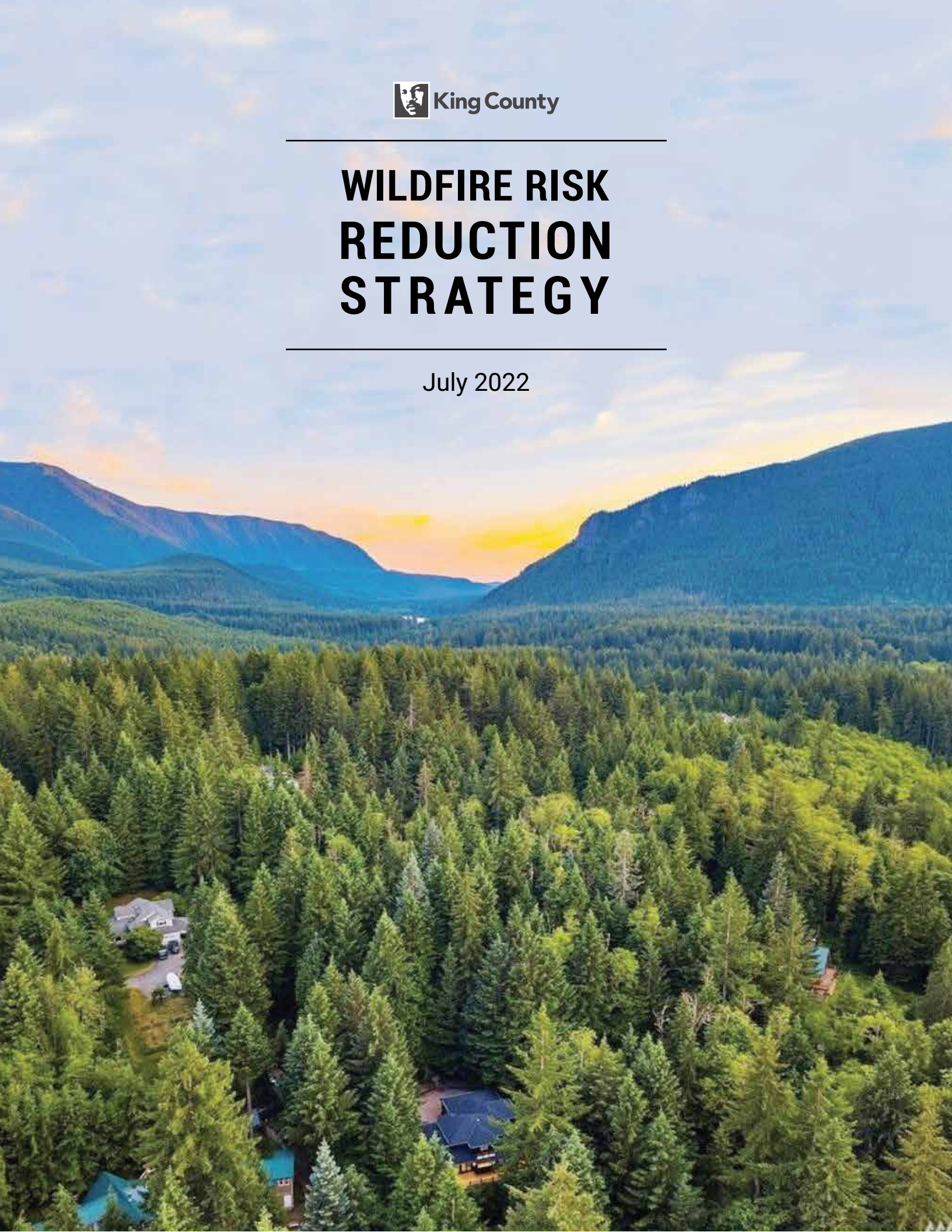
King County

WILDFIRE RISK REDUCTION STRATEGY

July 2022



KING COUNTY

WILDFIRE RISK REDUCTION STRATEGY

July 2022

King County
CLIMATE ACTION
Clean Future. Strong Communities.

King County
Emergency Management

King County
Department of
Natural Resources and Parks

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[SC] = Steering Committee

EXECUTIVE LETTER TO READERS

July 2022

King County is home to spectacular forest lands that provide important recreational, ecological, cultural, and economic benefits to King County residents. Under the right conditions, however, these same forests are also vulnerable to wildfire.

The increase in wildfires across the Pacific Northwest, including large wildfires near Portland and the smaller but impactful Graham fire in Pierce County in 2020, have heightened awareness that King County communities need to be better prepared for wildfire. Climate change makes this need even more urgent.

The King County Wildfire Risk Reduction Strategy is designed to improve coordination and provide a strategic approach to wildfire risk reduction. Co-developed with local, state, and Tribal organizations and jurisdictions, the strategy's three strategic pillars – increasing forest resilience, reducing wildfire risk in the wildland-urban interface, and strengthening emergency response – ensures that we are taking a comprehensive, integrated approach to wildfire preparedness.

No single agency is solely responsible for reducing wildfire risk in King County, so success will require strong coordination. Wildland-urban interface communities and residents, fire districts, conservation agencies, utilities, state, and federal agencies, private forestland owners, and others all have a role in implementing strategy actions that make our communities safer.

Our fire history shows that very large, fast-moving fires have occurred in western Washington. The potential for these types of fires, while still low in any given year, is expected to increase as we experience hotter, drier summers. While we cannot eliminate the risk of wildfire in King County, we can take the steps included in this strategy to reduce the potential for wildfire and to limit the impacts associated with these events when they occur.

Together, we can strengthen our region's ability to prepare for, respond to, and recover from wildfire hazards, better protecting the people, infrastructure, and forests of King County.

Dow Constantine
King County
Executive

Katherine Ross
Mayor,
City of Snoqualmie

Erik Hicks
President, King County
Fire Chiefs Association

CONTENTS

Snoqualmie Valley, *Source: King County.*

EXECUTIVE SUMMARY

Large wildfires[1] across the Pacific Northwest over the last decade, combined with increasing concern about the impacts of climate change on wildfire locally, have contributed to growing awareness that communities on both sides of the Washington Cascades need to be better prepared for wildfire. This is particularly true for communities in or adjacent to the wildland-urban interface (WUI) (Figure 1).

In 2021, King County convened representatives from public, private, and Tribal agencies and organizations to develop a strategic framework for cross-jurisdictional and cross-organizational work on wildfire risk reduction in King County. The effort sought to build from best practices being implemented locally and across the western United States while also accounting for important regional differences in wildfire potential, public awareness, and community readiness.

The King County Wildfire Risk Reduction Strategy includes 12 recommended actions that expand and accelerate wildfire risk reduction efforts in King County (Table 1). The strategy takes an integrated approach to wildfire preparedness, with a focus on increasing forest resilience to wildfire, reducing risks to communities and infrastructure in the WUI, and strengthening emergency response. Recommended actions include community-scale wildfire planning, increased public education and outreach, establishing baseline training and equipment standards for first responders, implementing a countywide "Ready-Set-Go" evacuation notification program, and supporting vegetation management practices appropriate to King County forests. Some of these actions are already underway to varying degrees in the County. In those cases, the strategy provides an opportunity to expand and enhance that work in ways that increase benefits to residents, communities, and ecosystems. In other cases, the actions are new areas of work that fill important gaps.

The goal of the King County Wildfire Risk Reduction Strategy is to prepare for and reduce wildfire risk in King County by:

1. Increasing the resilience of King County forests to wildfire,
2. Increasing wildfire preparedness, response, and recovery within the wildland-urban interface, and
3. Responding quickly, effectively, and safely when wildfire occurs.

[1] The term "wildfire" refers to an unplanned, unwanted fire burning in a natural area, including forests, grasslands, prairie, or brush. Wildfires can start from natural causes, such as lightning, but are most frequently caused by humans, either accidentally or intentionally. For the purposes of this strategy, "wildfire" includes smaller brush fires. *Adapted from Federal Emergency Management Agency*.

The strategy's approach and actions are intended to help address wildfire risk as it exists today and with climate change, particularly in those areas and communities where wildfire is most likely to pose a significant threat to human life or property. This includes a potential for large, fast-moving wildfires similar to those found in the historical fire record for western Washington. While large fires are rare, the consequences of this type of fire would be significant. An increase in smaller fires is also expected, particularly in or near areas with people. Suppression crews usually keep these fires small but those efforts can become more complicated when complex terrain and infrastructure create logistical challenges for firefighters.

Action implementation will require participation from a range of agencies and organizations, including King County government. Implementation will also require coordination with federal, state, and Tribal partners. A shared ownership approach is taken given that no single agency or program is responsible for the issue of wildfire preparedness in King County. In that sense, the strategy was written for King County as a community of communities rather than as a plan specifically for King County government.

The King County Wildfire Risk Reduction Strategy is considered a five-year plan (2022-2027) subject to review and update on five-year cycles as needed. Actions should be implemented by 2027, although some actions will be completed sooner and many actions will involve ongoing work and/or periodic updates after that date. King County will be the steward of the strategy, tracking implementation and working with stakeholders to evaluate the need for updates.

While no strategy can eliminate wildfire risk in the County, this strategy signals an ongoing commitment to collective action on this important issue. King County will work with partners to support and track progress on implementation of the strategy, ultimately helping to reduce overall risk and increase community and ecosystem resilience to wildfire.

PARTICIPATING ORGANIZATIONS

City of Duvall

City of Enumclaw

City of Issaquah

City of Sammamish

City of Skykomish

City of Snoqualmie

Eastside Fire and Rescue

Hancock Forest Management

King Conservation District

King County

King County Fire Dist. 20

Kirkland Fire

Master Builders Association of King/Snohomish County

Northwest Natural Resource Group

Puget Sound Energy

Puget Sound Regional Fire Authority

Seattle City Light

Seattle Public Utilities

Snohomish County

Snoqualmie Tribe

South King County Fire Training Consortium

Tulalip Tribes

University of Washington Climate Impacts Group

University of Washington School of Environmental and Forest Sciences

Valley Regional Fire

Vashon Fire and Rescue

Washington State Dept. of Natural Resources

Washington State University Extension

Also consulted: U.S. Forest Service

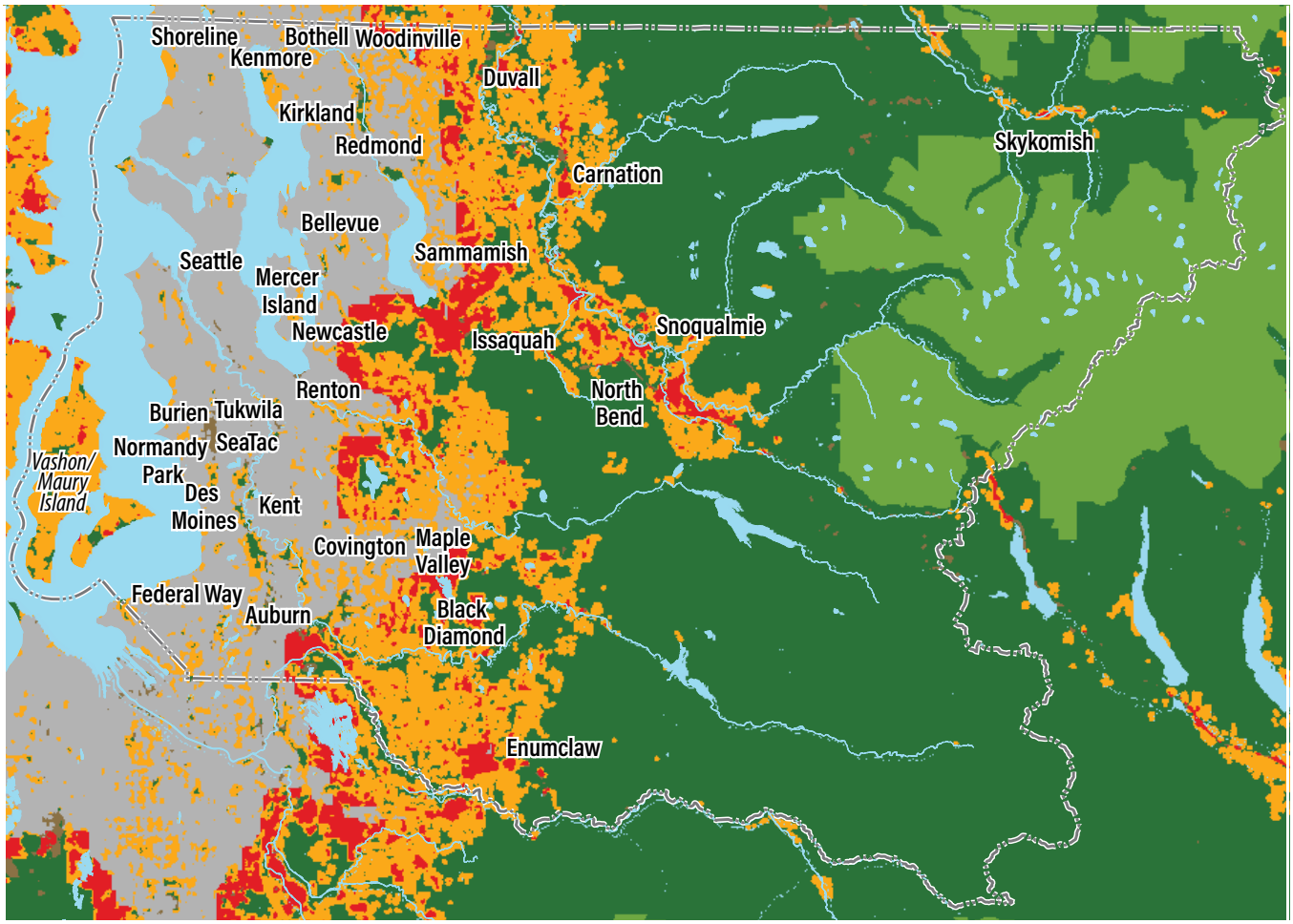

Figure 1. King County Wildland-Urban Interface (WUI), as mapped by Washington State Dept. of Natural Resources. The color-coded map categories are based on the proportion of vegetation cover to structures in an area. Interface areas are those in which development and structures are bordered by wildlands on at least one side. Intermix areas are defined as a development or structure that is surrounded on two or more sides by wildlands. Note that the Wildland-Urban Interface Map is not a map of wildfire risk. The WUI map classifications do not account for critical infrastructure, evacuation constraints, or other factors that determine if an area has a higher wildfire risk relative to other areas. *Data source: Washington State Dept. of Natural Resources.*

Table 1. Summary Table of Recommended Strategy Actions.

ACTION	PRIMARY IMPLEMENTERS	RELATED STRATEGIC PRIORITY		
	As recommended in the action. Does not include other implementing partners.	Forest Resilience	WUI	Emergency Response
1. Promote species and structural diversity within King County forests to improve wildfire resilience.	Forest landowners and managers	X		
2. Develop post-fire response plans to support forest recovery and reduce near-term wildfire impacts on natural resources.	Public forest landowners and large private forest landowners[2]	X		
3. Increase technical and financial support for small forest landowners for wildfire risk reduction.	King County, King Conservation District, WSU Extension Forestry	X	X	
4. Develop community wildfire preparedness, response, and recovery plans.	WUI local governments, King County		X	
5. Advance wildfire risk reduction through effective policies, plans, and codes.	WUI local governments, King County		X	
6. Create King County-specific wildfire mitigation best management practices and expand household-level wildfire mitigation assistance.	King Conservation District, King County		X	
7. Increase monitoring and control of invasive species that increase wildfire risk in the wildland-urban interface.	Forest landowners and managers		X	
8. Implement the "Ready, Set, Go!" public education evacuation program in the wildland-urban interface.	King County		X	X
9. Implement countywide training standards for all levels of wildfire response.	Local fire departments			X
10. Establish partnerships and agreements to ensure timely and cost-effective access to wildfire firefighting resources.	Local fire departments, King County, Washington State Dept. of Natural Resources			
11. Implement a coordinated approach to public education and outreach on wildfire risk reduction in King County.	King County, King Conservation District	X	X	X
12. Enhance and expand opportunities for shared learning and coordination related to wildfire risk reduction.	King County, natural resource management agencies, conservation agencies	X	X	X

[2] Large is greater than 1,000 acres, as defined by the King County Rural Forest Commission (KCRFC 2022).

Hiking Cougar Mountain. *Photo Source: King County*

1. Introduction

Large wildfires[3] across the Pacific Northwest over the last decade, combined with increasing concern about the impacts of climate change on wildfire locally, have contributed to growing awareness that communities on both sides of the Washington Cascades need to be better prepared for wildfire.

In 2021, King County convened representatives from wildland-urban interface (WUI) communities; fire departments; local, state, and Tribal natural resource agencies; conservation agencies; utilities; and academic institutions to develop a strategy for coordinated work on wildfire risk reduction in King County. The effort sought to build from best practices being implemented locally and across the western United States. At the same time, the effort recognized the need for an approach to wildfire risk reduction in King County that accounts for important differences in wildfire potential, public awareness, and community readiness relative to other parts of the U.S. West.

The goal of the King County Wildfire Risk Reduction Strategy is to prepare for and reduce wildfire risk in King County by:

1. Increasing the resilience of King County forests to wildfire,
2. Increasing wildfire preparedness, response, and recovery within the wildland-urban interface, and
3. Responding quickly, effectively, and safely when wildfire occurs.

The King County Wildfire Risk Reduction Strategy provides a first-ever strategic framework for cross-jurisdictional and cross-organizational work on wildfire risk reduction in King County. The strategy's approach and 12 recommended actions are organized around three strategic priorities: increasing forest resilience,[4] reducing risks to communities and infrastructure in the WUI, and strengthening emergency response. This approach recognizes that coordinated work across these areas is necessary to reduce overall risk and increase community and ecosystem resilience to wildfire.

[3] The term "wildfire" refers to an unplanned, unwanted fire burning in a natural area, including forests, grasslands, prairie, or brush. Wildfires can start from natural causes, such as lightning, but are most frequently caused by humans, either accidentally or intentionally. For the purposes of this strategy, "wildfire" includes smaller brush fires. *Adapted from Federal Emergency Management Agency.*

[4] Forest resilience is defined as the ability of the forest to absorb and recover from disturbance in a way that retains "essentially the same function, structure, identity and processes" (Walker et al. 2004, as referenced in the King County 30-Year Forest Plan).

Forest Restoration on Henry's Ridge, King County. *Photo Source: King County*

Successful implementation of the strategy's recommended actions will involve numerous organizations in leading or supporting roles. This reflects the fact that no single agency or program is responsible for wildfire preparedness in King County. For that reason, the strategy was not written specifically for King County government; it is a strategy written for King County as a community of governments, organizations, and other public and private sector partners that have a role in shaping wildfire resilience.

The King County Wildfire Risk Reduction Strategy is considered a five-year plan (2022-2027) subject to review and update as needed thereafter. The goal is for all actions to be implemented and/or in an ongoing status by 2027. Some actions can be completed well before 2027 while other actions will likely be phased in as part of ongoing forest management practices or policy update cycles, for example.

Planning for wildfire is a shared priority in King County's 2020-2025 Hazard Mitigation Plan, 2020 Strategic Climate Action Plan, and 30-Year Forest Plan. King County will be the steward of the strategy, tracking implementation and working with stakeholders to evaluate the need for updates. Actions from this strategy and any future updates should be integrated into county and local hazard mitigation plans, comprehensive plans, and other strategic planning documents like the County's Strategic Climate Action Plan as appropriate. Integration can ensure that strategy goals are met and help drive fiscal and staff resources to the work.

While wildfire smoke is a concern, the strategy does not include actions related to wildfire smoke. Planning for wildfire smoke involves a notably different set of questions, issues, and stakeholders relative to planning for wildfire. Public Health-Seattle & King County will be developing a wildfire smoke response plan focused on managing the impacts of wildfire smoke on health and community wellbeing as part of the King County 2020 Strategic Climate Action Plan.

1.1. Strategy Development

Initial input on wildfire preparedness concerns, gaps, and strategy outcomes was collected in early 2021 via interviews with more than 60 staff working inemergency management, emergency response, planning and zonin, natural resource management, outreach and education, and public utility service delivery. The interviews revealed a common set of wildfire preparedness concerns in King County, including:

- A lack of public awareness about wildfire potential in Western Washington;
- A lack of understanding of viable wildfire prevention measures for western Washington forests;
- A lack of community-scale wildfire planning and risk mitigation, including limited planning and capacity for community-scale evacuation;
- The need for more Firewise USA®[5] support and other types of landowner assistance for implementing actions that reduce wildfire risk;
- The need for improvements in development codes and standards for the WUI;
- The need for additional wildland fire response training; and
- The need for more cross-collaboration between organizations and shared resources for planning (e.g., shared risk maps, best practices)

Following the interviews, three workgroups comprised of representatives from public, private, and Tribal agencies and organizations were convened to develop strategy goals and actions. The workgroups were organized around the effort's three strategic priorities: forest resilience, the WUI, and wildfire response (Figure 2).

PARTICIPATING ORGANIZATIONS

City of Duvall

City of Enumclaw

City of Issaquah

City of Sammamish

City of Skykomish

City of Snoqualmie

Eastside Fire and Rescue

Hancock Forest Management

King Conservation District

King County

King County Fire Dist. 20

Kirkland Fire

Master Builders Association of King/Snohomish County

Northwest Natural Resource Group

Puget Sound Energy

Puget Sound Regional Fire Authority

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Snoqualmie Tribe

South King County Fire Training Consortium

Tulalip Tribes

University of Washington Climate Impacts Group

University of Washington School of Environmental and Forest Sciences

Valley Regional Fire

Vashon Fire and Rescue

Washington State Dept. of Natural Resources

Washington State University Extension

Also consulted: U.S. Forest Service

Also consulted: U.S. Forest Service

[5] Firewise USA® is a nationally-recognized voluntary wildfire planning program administered by the National Fire Protection Association and co-sponsored by the USDA Forest Service and the National Association of State Foresters. Firewise USA® provides information and planning resources designed to help individual homeowners and neighborhoods reduce wildfire risks on their property.

Workgroups met over a series of meetings between July 2021 and May 2022. Workgroup members were selected based on subject matter expertise and/or affiliation with key partner organizations. Many workgroup members were also part of the initial interview process. The U.S. Forest Service was also consulted in this process.

Potential actions for the King County Wildfire Risk Reduction Strategy were identified through facilitated discussions with workgroup members, literature reviews (e.g., scientific papers, community wildfire plans), and review of locally relevant strategic planning documents, including the King County 30-Year Forest Plan and the Rural Forest Commission's Strategic Priorities for 2022 (KCRFC 2022). An initial collection of more than 60 actions was developed through this process. The Forest Resilience workgroup was also tasked with developing a set of science-informed consensus statements related to wildfire potential in western Washington to help ensure that workgroups were viewing wildfire potential and risk in a consistent manner.

Workgroup members participated in two rounds of action prioritization. The prioritization process was motivated by the desire to focus the strategy on a limited number of actions that meaningfully contribute to the strategy's overarching goal and represent the best next steps for wildfire preparedness given what we currently know about wildfire risk and preparedness needs in King County. The project team used the prioritization results for each workgroup to develop an initial set of draft actions that were later refined based on reviews by the Steering Committee and workgroup members.

Strategic leadership and input on the strategy's development and overall scope was provided by a Steering Committee consisting of representatives from each of the strategy's three workgroups. Steering Committee members helped identify workgroup members, advised on action development and prioritization, and provided guidance on the overall structure of the strategy, among other responsibilities.

Forest Resilience Workgroup: wildfire science (past, present, and future); vegetation/forest management approaches for wildfire risk reduction

WUI Workgroup: residential and community-scale planning; infrastructure and utility protection; development codes; hazard mitigation; urban forest management

Emergency Response Workgroup: wildfire response, training and equipment, interagency coordination, evacuation, emergency communications

Figure 2. Strategic Priorities and Workgroups. Workgroups for each of the strategy's three strategic priorities were convened to develop strategy actions. The general topics covered by each workgroup are also shown.

Snoqualmie Valley. *Source: King County.*

1.2. What is the Wildland-Urban Interface?

The King County Wildfire Risk Reduction Strategy is focused on reducing wildfire risk in the WUI and forests in King County. The WUI is the zone of transition between structures and other development and undeveloped land or vegetative fuels (U.S. Fire Administration 2021).[6] In 2021, the Washington State Department of Natural Resources (WADNR) updated maps of the WUI throughout Washington State. The new maps significantly expanded the WUI in King County relative to previous mapping and includes two primary wildfire zones: interface and intermix (Figure 3). This strategy does not distinguish between the interface and intermix zones given that WUI codes do not treat them as separate and wildfire risk exists in both areas.

With the exception of the city of Clyde Hill, all incorporated cities and towns and all unincorporated Community Service Areas (CSAs) in King County have interface or intermix areas within their jurisdiction. Some WUI areas are relatively small and/or isolated, however, suggesting a limited wildfire risk. Cities, towns, and CSAs with more contiguous or larger WUI are primarily located located in east King County and Vashon-Maury Island (Table 1). While the focus of the strategy is on WUI communities and the forests in proximity to these areas, all communities with WUI areas are encouraged to take part in risk reduction activities where appropriate.

For the purposes of this strategy, "WUI communities" are defined as communities within or adjacent to intermix or interface areas as mapped by WADNR and where wildfire could pose a significant threat to human life or property.

The WADNR WUI map is a valuable tool for understanding *where* there is higher potential for damage to people and infrastructure in the event of a fire. The WUI map does not answer *who* and *what* is in the WUI, however. Understanding these details are important to understanding King County's risk from wildfire.

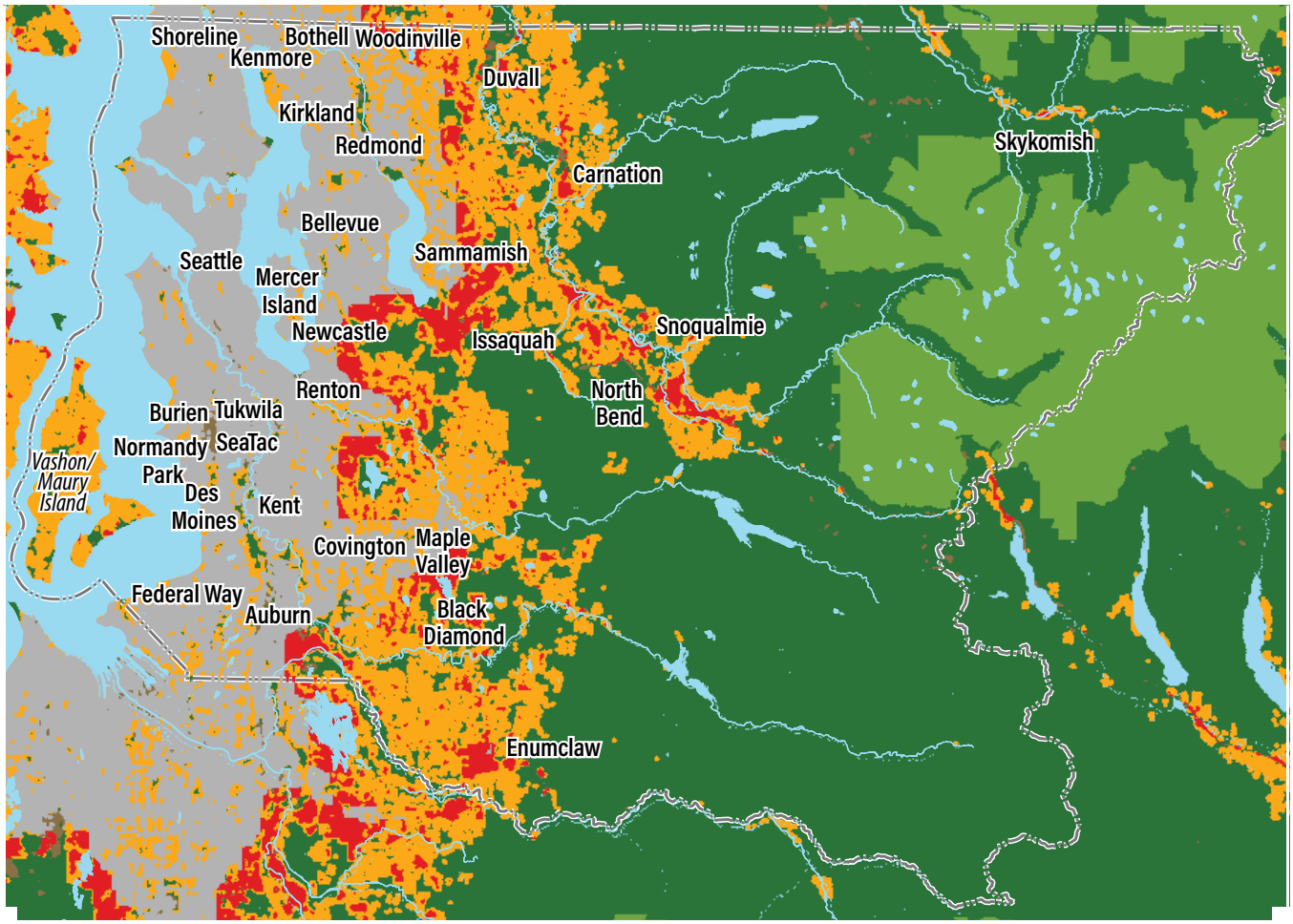
To start to answer these questions, an initial GIS analysis of the WUI was conducted using King County's Equity in Planning and Response Tool (EPRT). The tool supports users in analyzing the intersections of hazards, people, and infrastructure. The EPRT assists in building healthy and resilient communities across King County before a disaster occurs. The results of the initial EPRT analysis are summarized in Figure 4. A more detailed analysis of the WUI and associated risk factors at the county scale and within WUI communities is recommended as part of this strategy (see Action 4).

[6] https://www.usfa.fema.gov/wui/what-is-the-wui.html

Homes in the Wildland-Urban Interface. *Figure Source: King County*

Table 2. King County Wildland-Urban Interface Communities, as Defined by the Strategy. This list does not include communities with small and/or relatively isolated WUI areas. *Source: King County Office of Emergency Management*

Auburn	Duvall	Maple Valley	Sammamish
Bellevue	Enumclaw	Newcastle	Skykomish
Black Diamond	Issaquah	North Bend	Snoqualmie
Carnation	Kirkland	Renton	Woodinville
CSA- Bear Creek/ Sammamish	CSA-Snoqualmie Valley/ NE King County	CSA- Four Creeks/ Tiger Mountain	CSA- Greater Maple Valley/Cedar River
CSA- SE King County	CSA-Vashon/ Maury Island		



King County Wildland-Urban Interface (WUI)

- Long-term Non-Buildable Areas
- WUI - Interface
- WUI - Intermix
- Non-Vegetated Inhabited
- Non-Vegetated Uninhabited
- Vegetated Uninhabited

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Miles

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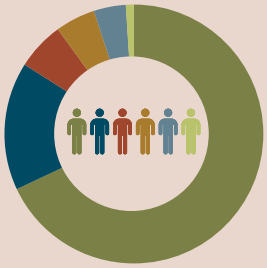
K:\arcmap\ForGraphics\WildlandUrbanInterface\WildfireRisk_To_Megann.mxd
Department of Natural Resources (DNR), Wildfire Division, Forest Health Division

Figure 3. King County Wildland-Urban Interface/Intermix Areas. The color-coded map categories are based on the proportion of vegetation cover to structures in an area. Interface areas are those in which development and structures are bordered by wildlands on at least one side. Intermix areas are defined as a development or structure that is surrounded on two or more sides by wildlands. Note that the Wildland-Urban Interface Map is not a map of wildfire risk. The WUI map classifications do not account for critical infrastructure, evacuation constraints, or other factors that determine if an area has a higher wildfire risk relative to other areas. *Data source: Washington State Dept. of Natural Resources.*

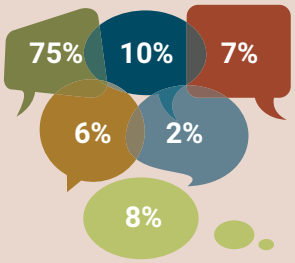
WHO LIVES IN THE WUI[7]

351,791 residents live in the WUI[8]



- **68%** White
- **16%** Asian
- **6%** Two or more races
- **5%** Black
- **4%** Other
- **1%** American Indian and Alaska Native

54 languages spoken in the WUI



- English only
- Asian and Pacific Islander languages (Mandarin, Tagalog, Vietnamese, etc.)
- Other Indo-European languages
- Spanish
- Other
- Speaks English less than well[9]

5.7% of families and people have income in the past 12 months that was below the poverty level

16.5% of residents have a cognitive or physical disability or have difficulty living alone

$122,312 is the median household income

WHAT'S IN THE WUI

12 incorporated cities and towns and **7** community service areas

21 King County neighborhoods have Firewise USA® Plans

49 fire stations, **32** medical centers, **8** police stations, and **2** call and dispatch centers for 911

111,546 single family homes, **5,178** mobile homes, **4,800** multi-family homes

76% homes are owner occupied, **24%** are renter occupied

2,322 commercial and industrial buildings, **103** educational buildings, **21** assisted living facilities

Figure 4. Who and What is in the WUI?

[7] 2020 ACS Data – US Census Bureau - census tract, inclusion into the analysis was determined if ~33 percent of total land cover was identified as interface, intermix, or forested.

[8] Critical Infrastructure – KC GIS, Parcel Use – KC GIS

[9] 2020 Public Use Microdata Areas (PUMAs) from U.S. census data was used, King County (Northeast), King County (Central), and King County (Southeast)

2. Understanding the Challenge: Wildfire Potential in Western Washington

King County's extensive forest lands are some of the most productive in the world and provide a wide range of economic and ecological benefits. Since time immemorial, these forests have supported Indigenous communities living in the Pacific Northwest, providing cultural resources and supporting habitat for salmon and other wildlife populations. Wildfire has also been used by Indigenous communities in western Washington to support culturally important species such as huckleberry.

King County forests regulate water quantity and quality, improve air quality, cool urban heat islands, improve mental health, support recreational opportunities, and provide renewable timber resources. King County forests also have the capacity to sequester and store carbon, an ecosystem service critical to reducing climate change. A 2010 assessment of ecosystem services in the Snoqualmie Basin estimated the economic benefit of natural systems in the basin at $265 million to $2.5 billion per year (Earth Economics 2010).

More than 60 percent (over 800,000 acres) of King County is forested (Figure 5). Forest types and canopy cover vary widely. Overall, 74 percent of King County's forested land is evergreen forest, 6 percent is deciduous forest, and 20 percent is mixed forest (dominated by both evergreen and deciduous tree species). Forest cover density increases as you move from urban/suburban areas into the foothills of the Cascade Mountains. Vashon and Maury Island also include extensive forest cover.

MANAGED FIRE FOR CULTURAL PRACTICES

Written by Andrew Gobin, The Tulalip Tribes

Well adapted to fire, huckleberry is one of the first plants to sprout after surface burns. Taking refuge in shallow and deep soils, rhizomes and root crowns can survive low intensity to moderately severe burns, depending on the level of understory coverage. For millennia Tribes used low intensity burns to manage huckleberry areas and maintain or create clearings to expand the opportunity for huckleberry habitat. These repeated low intensity burns clear out competing shrubs and trees leaving only the huckleberry, as the dense leaves are not very flammable and protect the bush. The remaining huckleberry and new sprouts then store the nutrients released from burned over soils.

Controlled Burn for Huckleberry (*Image Source: The Tulalip Tribes)*

Huckleberry (*Image Source: US Forest Service*)

Huckleberry teaches us an important lesson in balance and the need for fire on the land. Expansion of the plant relies on rhizomes and root crowns to produce vegetative clones. Under natural circumstance, it is extraordinarily rare for new huckleberry plants to sprout from seed. The absence of fire on the land has led to an imbalance. Clearings have become overgrown and shaded out huckleberry stop producing fruit. Built up fuel loads have created conditions for high intensity, severe burns that kill huckleberry rhizomes and root crowns, which destroys the plant population. Natural recovery of huckleberry habitat after severe burns can take as long as 20 to 30 years, with fruit production returning one to five years after habitat recovery.

Fire is necessary for the health of huckleberry habitat. It is necessary for maintaining the meadows, for removing competing shrubs and trees, and for reducing the fuel load in order to minimize threat of severe intensity burns.

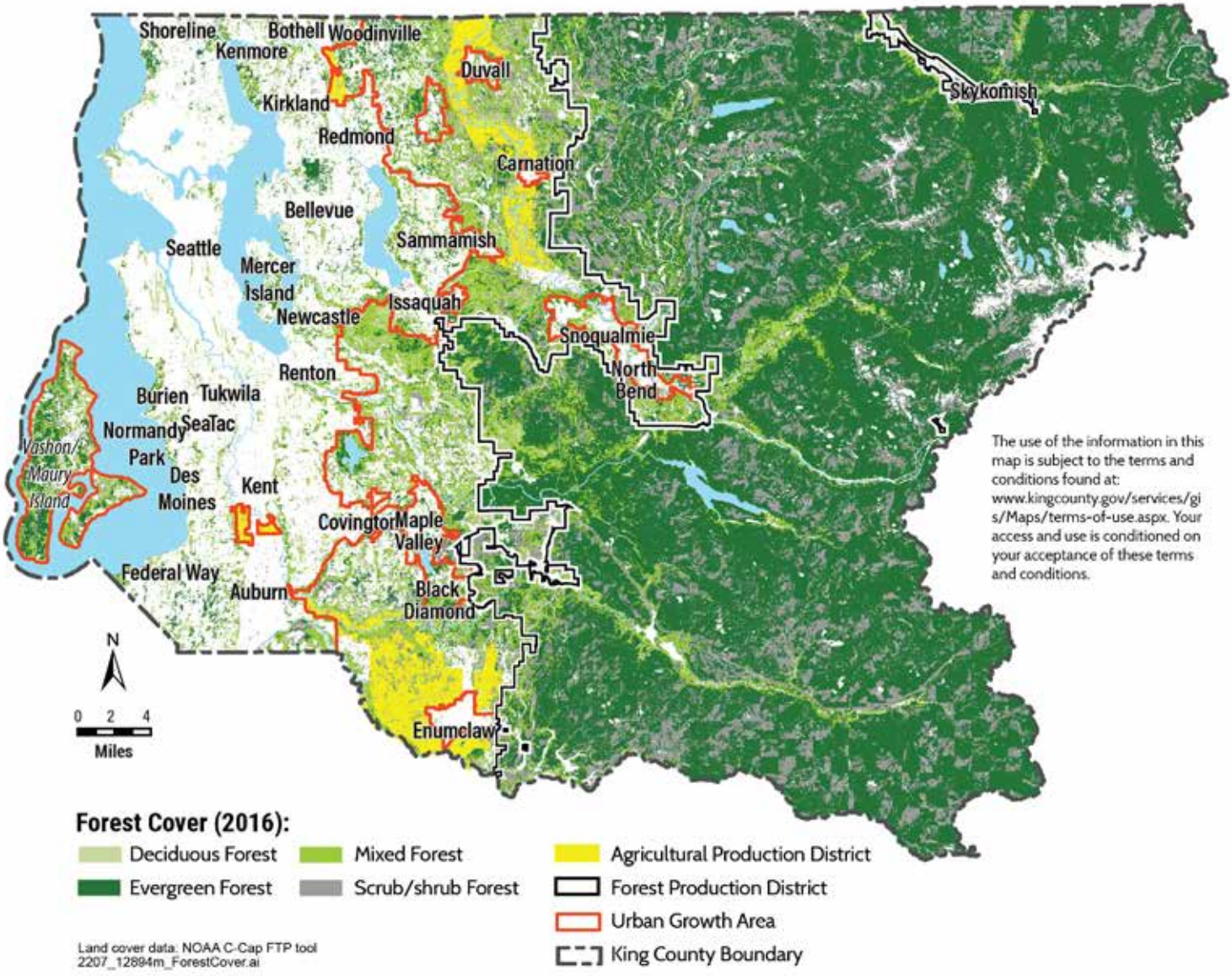


Figure 5. Forest Cover in King County as of 2016. *Figure source: King County 30-Year Forest Plan*

Forested lands in King County are managed for variety of purposes by a mix of public, private, and Tribal landowners and managers (Table 3; Figure 6). For example, the Cedar River Watershed is managed by Seattle Public Utilities as a municipal water source, Tomanamus Forest is managed by the Muckleshoot Federal Corporation for timber and cultural uses, and multiple forested parcels are managed by large industrial forestry companies for timber production. Analysis by the King County Rural Forest Commission estimates that timber production in King County generates approximately $630 million in gross business income annually (KCRFC 2022).

Small and medium forest landowners are a relatively small but important fraction of forest landownership in King County. There are more than 20,000 small and medium forest landowners in King County. The majority of these owners (16,777) own less than five acres. Collectively, small and medium forest landowners account for almost half (46 percent) of privately held forest cover in King County and 13 percent of total forest cover in the County. These smaller parcels are a significant component of the WUI (Figure 7).

Table 3. Distribution of King County Forest Land Ownership. *Source: King County Rural Forest Commission 2022 Strategic Priorities.*

Category	Number of Owners	Forest Cover Acres (2016)*	% Total Forest Cover Acres	Total Forestland Acres***
Public Forestland		517,000	64%	566,000
Federal (USFS)		272,000	34%	301,000
State (DNR, Parks)		107,000	13%	127,000
City and County		135,000	17%	138,000
Private Forestland	20,931	262,000	32%	275,000
Large Tract (> 1,000 acres of forest)	13	126,000**	16%	163,000
Medium Tract (5–1,000 acres of forest)	4,131	68,000**	8%	75,000
Small Tract (< 5 acres of forest)	16,777	40,000**	5%	40,000
Tribal Forestland	3	32,000	4%	45,000
Total		**811,000**	**100%**	**889,000**

* Forest cover calculated from the National Land Cover Database 2016 (NLCD 2016) data. This represents acreage of young to mature forest that supported readily detectable trees at the time of data collection.

**Acreage for size classes of private forestland was produced from 2017 King County forest cover data, a higher resolution data source than the NLCD 2016. This resulted in some discrepancies in acreage totals.

*** Total forestland acres include recently harvested, replanted, and regenerating forests, as well as young to mature forest cover. To estimate this expanded acreage of forestland, scrub/shrub and grassland within the FPD were re-classified as forestland. Outside of the FPD, a visual assessment of NLCD 2016 data located recent harvested and regenerating forests, which were reclassified as forestland.

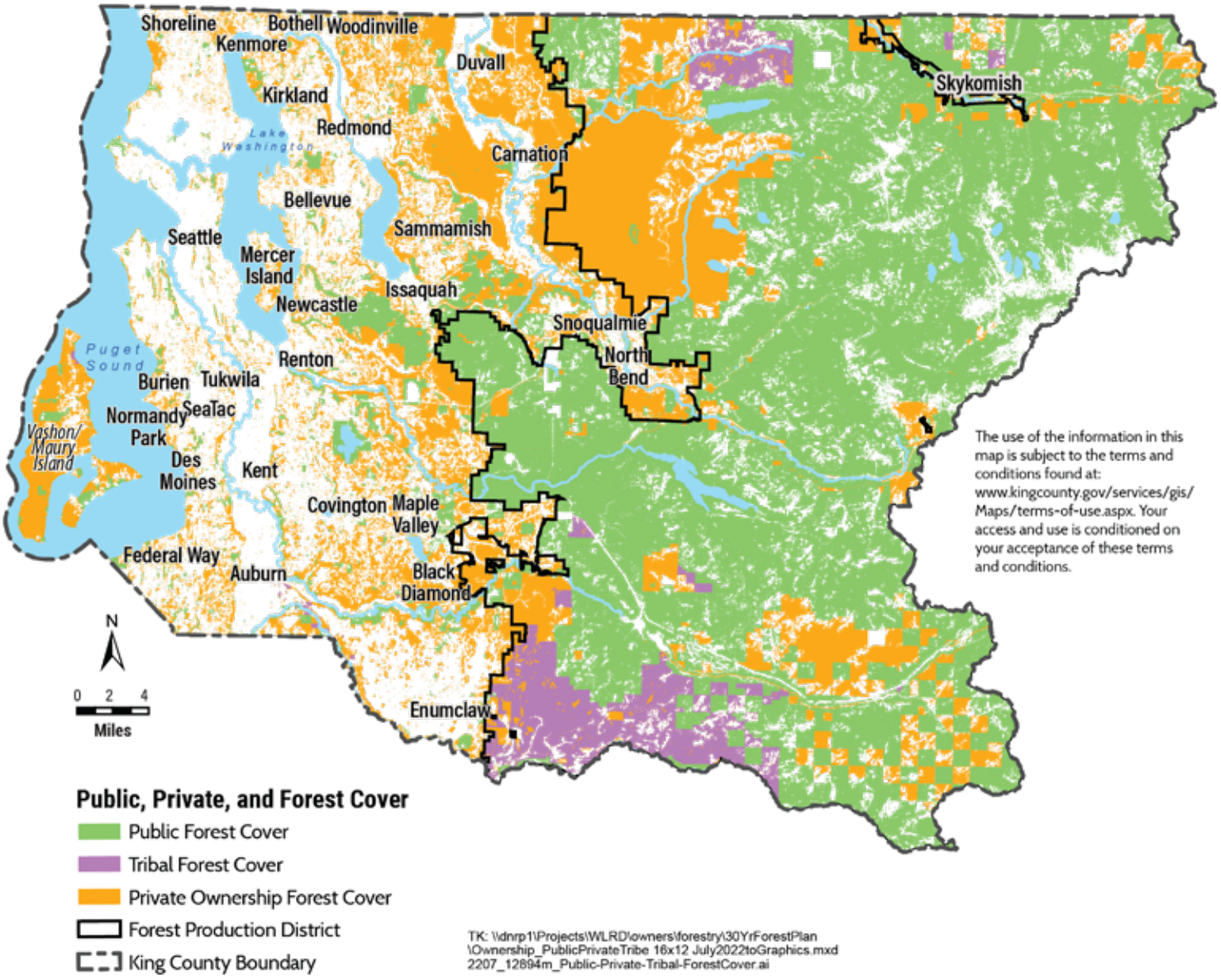


Figure 6. Public, Private, and Tribal Forest Cover in King County, as of March 2022. *Figure source: King County GIS*

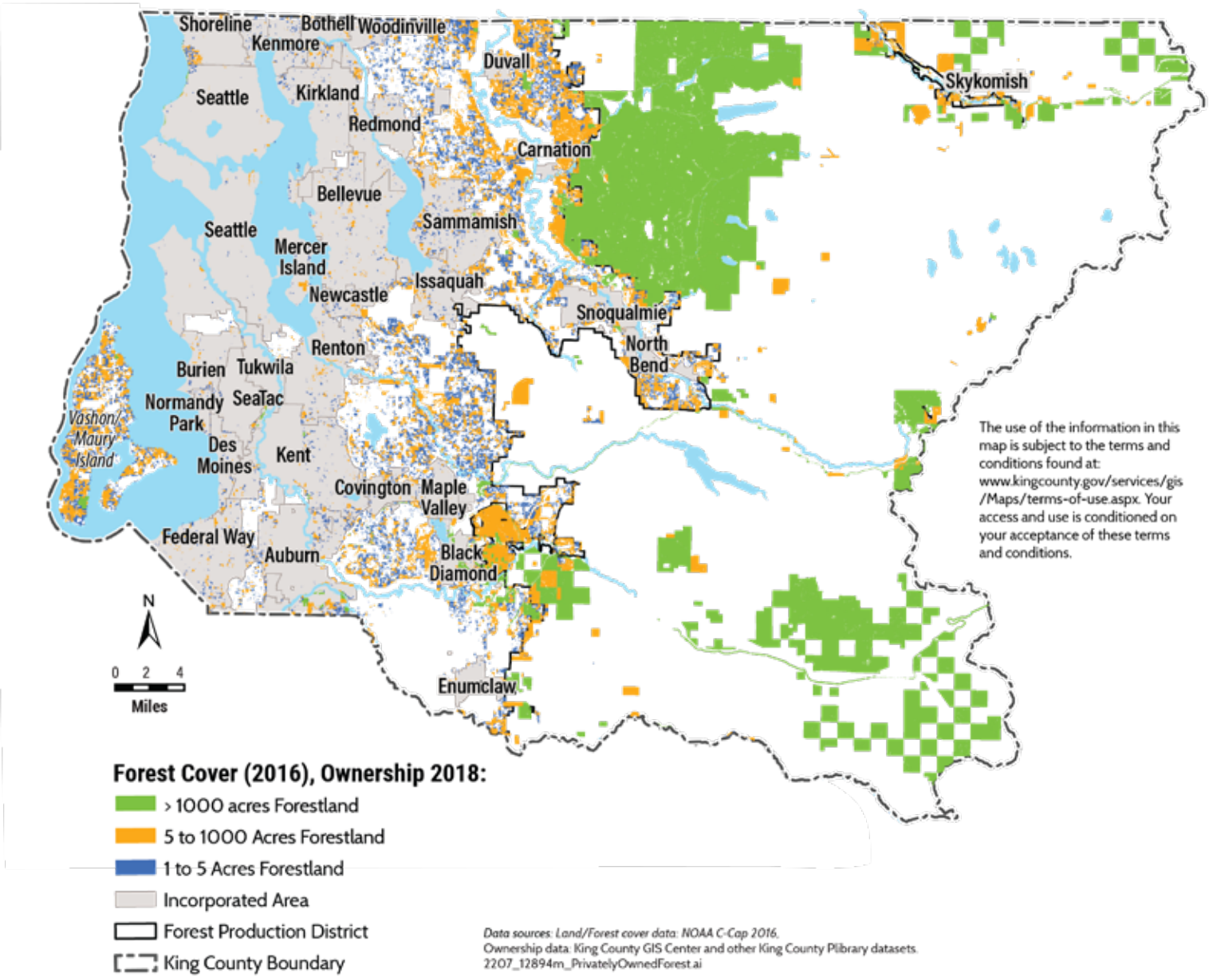


Figure 7. Privately-Owned Forest Cover in King County (Forest Cover 2016, Ownership 2018). Small and medium-sized private forest landowners are an important component of the wildland-urban interface. *Figure source: King County Rural Forest Commission, 2022 Strategic Priorities*

2.1. Wildfire Potential: Past, Present, and Future

Historical Wildfire Patterns

Wildfire activity in Washington State has strong regional differences due to differences in climate and the influence of development, forest management, and fire suppression on historical fire patterns.

Wildfire in western Washington historically occurred infrequently due to the region's cool, wet climate. Fire history shows that the average time between fires (i.e., the fire return interval) in western Washington is commonly greater than 150 years (Reilly et al. 2021), although some areas in the Puget Sound lowlands[10] experienced more frequent, low severity fires.[11] These long, fire-free periods allowed for the development of older forests with complex, multi-layered canopies and dense understory vegetation. Under the right weather conditions, most notably dry conditions combined with strong east winds from eastern Washington, this natural abundance of fuels contributed to the development of large, high severity fires and to the development of large, high severity fires, like the 1902 Yacolt Fire in Washington and northwestern Oregon, exceeded one million acres.

WHAT ARE FUELS?

During a wildfire, all types of living and dead plant material can act as fuel, including grasses, shrubs, trees, leaves, and pine needles. In the right conditions, an abundance of fuels allows fires to burn hotter, larger, longer, and faster, making them more difficult and dangerous to manage. Homes and other buildings within the WUI can also act as a fuel for wildfire.[12]

A very different historical wildfire pattern is found in the warm and dry forests of eastern Washington. Prior to Euro-American colonial settlement, wildfires in eastern Washington forests typically occurred every five to 75 years, depending on elevation and forest type. Wildfires tended to be moderate in size (often less than 7,000 acres) and rarely killed larger diameter trees as fires quickly burned through the understory (Source name Year). The frequent fire activity maintained low density forests with large canopy openings and limited the accumulation of fuels in forest understories.

The adoption of active fire suppression practices in the early 20th century has significantly reshaped historical wildfire patterns in fire-prone regions like eastern Washington, greatly increasing wildfire risk. More than a century of excluding, preventing, and quickly extinguishing fires in forests that would have otherwise experienced frequent, low intensity fires has led to an accumulation of excess fuels in those forests. The net result is forests with a much higher density of trees and fuels relative to what is considered natural and sustainable for those forests. In contrast, western Washington wildfire patterns and forest density have been largely unaffected by active fire suppression given the relative infrequency of large fires. Western Washington forests are highly productive and naturally dense with fuels. The net result is western Washington forests that still have similar potential for intense fires as they have historically (Figure 8).

[10] These include Garry oak savannas in the Puget Sound lowlands and some forests in the rain-shadow of the Olympic Mountains.

[11] Fire severity refers to the effects of a wildfire on vegetation and soils. A low severity fire is a wildfire that results in less than 25 percent tree mortality and limited impact on forest soils. In contrast, a high severity fire is a wildfire that kills more than 75percent of the trees and causes extensive mineral soil exposure. For more information on fire severity classifications and contributing factors, see Fire FAQs–What is fire severity? | OSU Extension Catalog | Oregon State University

[12] Adapted from https://www.doi.gov/wildlandfire/fuels

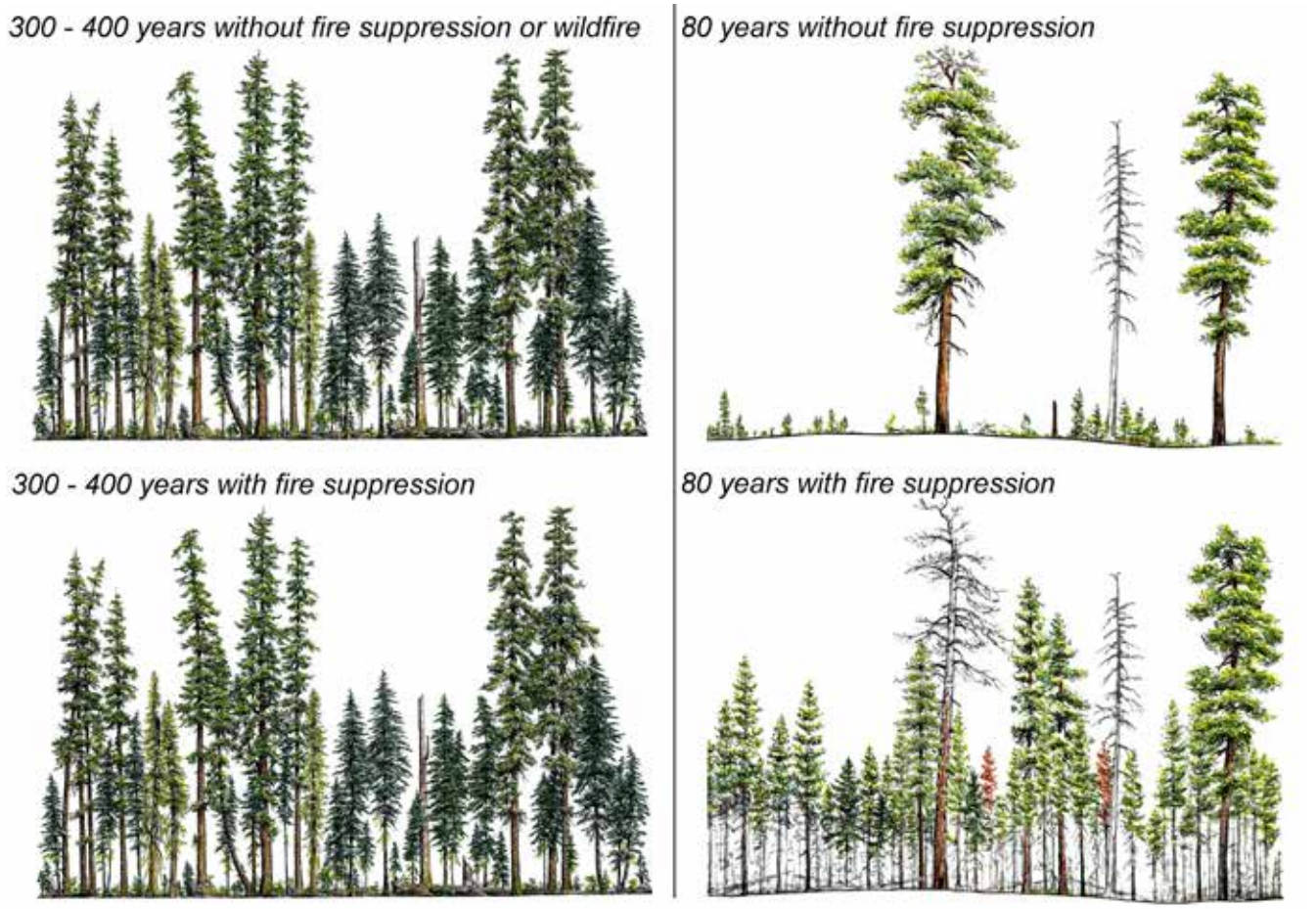


Figure 8. A Comparison of the Impacts of Fire Suppression on Major Washington Forest Types. In forests with long fire return intervals (left column), fire suppression has not affected forest density. In contrast, fire suppression has had a large impact on eastern Washington forests with shorter fire return intervals (right column). Figures not drawn to scale. *Figure source: Halofsky et al. 2018, as adapted from Van Pelt 2007, 2008, Franklin et al. 2008. Used with author permission.*

Current and Projected Wildfire Potential

Planning for wildfire in western Washington requires planning for two very different fire scenarios. The most common scenario in any given year in most ecosystem types is frequent, smaller fires, particularly in or near areas with people. These fires, which are most often caused by human activities, can occur throughout the fire season and in a variety of weather conditions. Suppression crews usually respond quickly and keep these fires small, although complex terrain and infrastructure can create logistical challenges for firefighters that complicate suppression. Widespread establishment of flammable invasive plants, such as Scotch broom, may also promote fire spread under these conditions.

The other planning scenario is the low but consequential probability for large, fast-moving wildfires similar to those found in the historical fire record for western Washington and northwestern Oregon. Two factors set the stage for the development of large, fast-moving wildfires in western Washington: 1) dry conditions, and 2) strong east wind events bringing warm, dry air from east of the Cascades. Very large fires in western Washington are currently most likely to occur from mid-August through September when fuels are typically driest. Recent examples of large wildfires driven by dry fuel and east wind events include the 2020 Labor Day Fires in Oregon and Washington and the 2017 Norse Peak fire near Mount Rainier National Park.

RECENT WILDFIRES IN WESTERN WASHINGTON AND OREGON

2017 Norse Peak Fire (Yakima and Pierce County, Washington)

On August 11, 2017, a lightning strike northeast of Mount Rainier National Park ignited a wildfire in the Norse Peak Wilderness area that burned almost 56,000 acres of forest, including ~25,000 acres (an area half the size of the city of Seattle) on the west side of the Cascades near Crystal Mountain. The fire's spread into western Washington was aided by strong east winds. While the area burned on the west side was relatively small in comparison to historical fires for the region, the fire's location, size, and behavior was an early catalyst for discussions about planning for future wildfire risk in the central Puget Sound region. The fire has also created an opportunity to study how westside forests respond ecologically post-fire.[13]

Norse Peak Fire, Sept 2017. *Source: Marlon Batin, InciWeb*

2020 Labor Day Fires (western Oregon/Washington)

Over the 2020 Labor Day weekend, hot, dry conditions paired with strong east winds and a series of lightning and human ignitions resulted in more than 530,000 acres of forest burned in several fires across the western Cascades in southern Washington and northwestern Oregon. These fires (including the Big Hollow, Riverside, Beachie Creek, and Lionshead fires) burned more area of the Oregon Cascades than the previous 36 years combined. The Labor Day fires led to several fatalities, placed over ten percent of Oregon residents under evacuation advisory, damaged thousands of structures, and contributed to hazardous air quality across the Northwest, showcasing the lasting human, ecological, and economic impacts westside fires can produce. (Reilly et al. 2022, Abatzoglou et al. 2021)

Sumner Grade Fire (Pierce County, Washington)

In September 2020, the Sumner Grade fire burned over 800 acres and damaged seven homes in Pierce County. While the fire was small relative to wildfires in other parts of Washington, the fire took four days to extinguish due to complex terrain and overextended resources.

[13] For more on the Norse Peak Fire, watch "Wildfires west of the Cascade mountains: Rare, but large and severe" (YouTube)

Planning for wildfire also needs to account for the impacts of climate change on wildfire potential in western Washington. Higher seasonal temperatures, lower mountain snowpack, and drier summers are projected for western Washington with climate change (Mauger et al. 2015). These changes increase the dryness of fuels and lengthen the fire season, creating conditions more favorable for fire over a longer period of time (Figures 9 and 10). This includes an expanded window of time when conditions are more suitable for large fires. Changes in strong east wind events due to climate change are not fully understood at this time, but drier fuel conditions in summer could lead to more frequent fires even without changes in east wind events (Halofsky et al. 2018).

While best available science shows an increase in wildfire potential in western Washington due to climate change, quantifying the projected increase in terms of changes in frequency or total area burned is difficult relative to drier regions. For Washington State overall, total annual area burned is projected to double or triple by the 2080s compared to the last century (1916-2006) (Littell et al 2010). Rogers et al. (2011) found that area burned by wildfire in western Washington could increase by +150 to +1,000 percent by the 2080s (relative to 1971-2000) under a high greenhouse gas emissions scenario. The region's infrequent fire history and the unique climatic conditions required for large fires are notable challenges to reducing the range in projected changes.

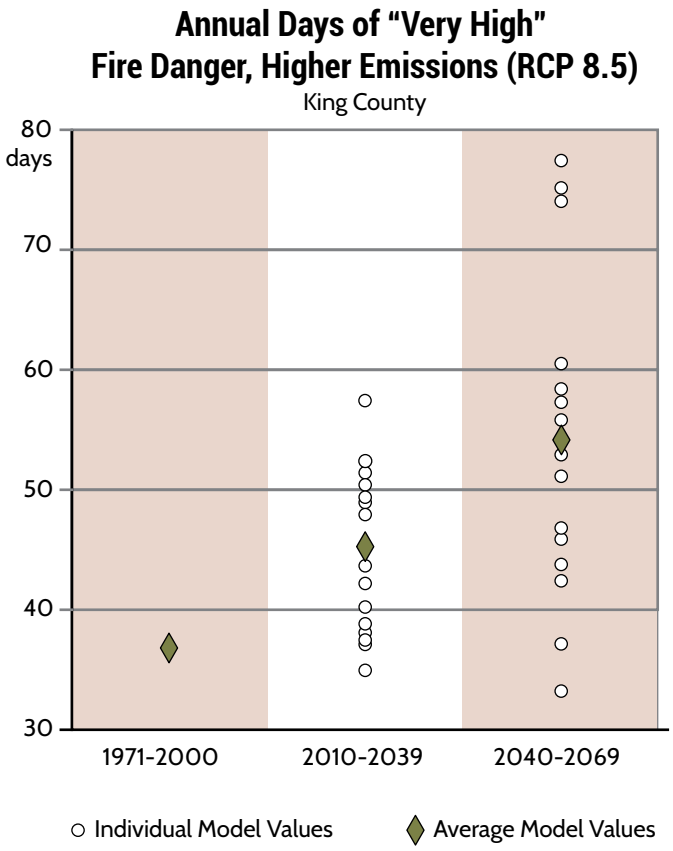


Figure 9. Projected Increases in "Very High" Fire Danger Days in King County. King County is projected to have 54 "very high" fire danger days, on average, by 2040-2069 under a high greenhouse gas emission scenario. This is an increase of 18 days (range: +32 to +78 days) relative to the average for 1971-2000. "Very high" fire danger days are defined as days when fires can spread rapidly and quickly increase in intensity. Small fires can quickly become large fires and exhibit extreme fire intensity during "very high" fire danger days. Averages and ranges are based on the results of 20 climate change models. *Figure source: Krosby et al. 2018.*

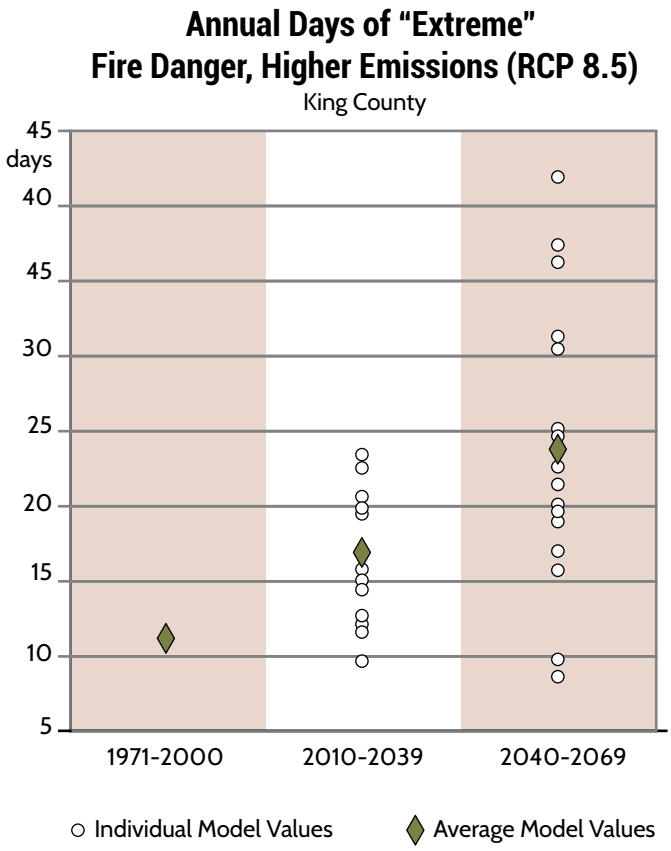


Figure 10. Projected Increases in "Extreme" Fire Danger Days in King County. King County is projected to have 24 "extreme" fire danger days, on average, by 2040-2069 under a high greenhouse gas emission scenario. This is an increase of 13 days (range: +9 to +42 days) relative to the average for 1971-2000. "Extreme" fire danger days are defined as days when all fires are potentially serious. Small fires can become big fires much faster than at the "very high" level. Averages and ranges are based on the results of 20 climate change models. *Figure source: Krosby et al. 2018.*

Lake Alice Community Chipper Day 2019. *Source: King Conservation District*

Population growth and development in the WUI are also important factors affecting current and projected wildfire potential in western Washington. According to the Washington State Dept. of Natural Resources, about 85% of wildfires in Washington State are started by people.[14] The central Puget Sound region is projected to grow by as much as 1.8 million people by 2050 (PSRC 2020), increasing the likelihood of more ignitions. Fire suppression efforts may also become more complicated with increased development in the WUI.

As conditions become more favorable for fire in western Washington, the likelihood of small fires escaping containment increases, particularly during strong east wind events and dry conditions. Staying connected to western Washington wildfire research will be important for ensuring that county wildfire risk reduction actions and policies stay current with best available science.

2.2. Considerations for Managing Wildfire Risk in Western Washington

Options for managing wildfire risk in western Washington forests include many of the same approaches used in more fire-prone parts of the western United States. However, some options commonly used in more fire-prone forests may not be as effective or have unintended ecological consequences if implemented at a large scale in western Washington. Understanding these limits and taking steps to apply the appropriate tools in the appropriate places will help ensure meaningful reductions in wildfire risk.

Forest thinning, prescribed burns, and mechanically removing fuels are some of the most commonly used tactics across the western United States for reducing forest density and fuel amounts. Use of these practices over large areas or in undeveloped areas is not feasible or appropriate in western Washington, however. Forest thinning treatments and/or prescribed burning at broad scales (i.e., across large parts of western Washington forests) would fundamentally alter the dense and complex structure of westside forests and affect important ecological functions. The high growth rates of vegetation in westside forests would also lead to rapid fuel recovery, making the potential efficacy of such approaches short-lived.

While large-scale fuels reduction treatments are not practical, selective thinning and other forms of active fuels management at finer scales can be an effective way to protect high-value resources. Selective thinning to reduce fuels around critical infrastructure and homes can reduce the potential for damage, especially from small wildfire events, and aid fire suppression operations. Selective thinning can also be used to promote species diversity and restore forest health in degraded locations, helping to increase wildfire resilience while also creating desirable conditions for habitat and carbon sequestration (Figure 10). Finally, efforts to remove or control the spread of invasive plant species, some of which are particularly flammable (e.g., Scotch broom), can reduce wildfire potential and promote overall forest health.

[14] See Investigations | WA - DNR. See also Wildfire At-a-Glance: A quick Look at DNR's Wildfire Program

Figure 11. Ravensdale Retreat Natural Area Before (Left) and After (Right) Selective Thinning for Forest Restoration. Thinning for ecological restoration can also benefit wildfire risk reduction by helping forests absorb and recover from disturbance more quickly. *Photo source: King County DNRP*

Unfortunately, no amount of property or vegetation management can completely eliminate wildfire risk, particularly in the case of large wind-driven wildfire events. Stopping fires, where possible, with safe and effective wildfire suppression will remain a vital part of managing wildfire risk but response capabilities may be limited in the case of a large, wind-driven fire due to scarcity of wildland suppression resources or extreme fire behavior. For example, the 1902 Yacolt Burn traveled 36 miles in 30 hours, burning more than 200,000 acres in the process. The 2017 Eagle Creek wildfire managed to jump the Columbia River from Oregon to Washington via embers carried by winds and convective heat generated by the wildfire. In King County, embers from fire events have been carried a mile or more by winds.

The potential for large fires to overwhelm fuels management in western Washington forests underscores the importance of looking for ways to reduce wildfire risk to communities and infrastructure. In recent years, the number of organizations engaged in this work has grown in King County. Many of the actions in this strategy build from and complement existing wildfire risk reduction work by those organizations, including those listed here. Continued coordination and partnership with these efforts, as well as wildfire risk reduction efforts by organizations not listed here (e.g. local governments, tribal governments, and other fire departments), is an important aspect of the work called for in this strategy.

King Conservation District (KCD). KCD provides a range of services to help homeowners and communities prepare for wildfire. KCD provides on-site wildfire risk assessments for individual homes, supports development of community wildfire plans, and offers technical assistance for wildfire mitigation projects such as home hardening, wildfire resilient landscaping, and ladder fuels management. KCD also helps small forest landowners and communities actively manage forest stands to promote forest health, enhance wildlife habitat, and reduce storm water runoff.

Eastside Fire & Rescue Red Card Training In Eastern Washington. *Source: Eastside Fire & Rescue*

Eastside Fire and Rescue (EF&R). Beyond urban and wildland fire suppression, EF&R has expanded its Emergency Management division to include a fulltime employee who will work with EF&R's partners to create community wildfire protection plans, conduct wildfire risk assessments, and lead a whole-community outreach campaign aimed to educate E&FR's service area residents on wildfire mitigation and prevention tactics. During wildfire season, EF&R participates in a weekly wildland regional planning and coordination calls; establishes weekly staffing assignments for state, regional, and inner agency extended operational incidents; and is prepared to preposition resources and increase staffing during red flag fire weather.

King County Department of Natural Resources Forestry Program. The King County Forestry Program works with forest landowners to enhance forest health on King County-owned and private, non-industrial forestland; enhance economic opportunities from forest management; and reduce risk from wildfire. Much of this work is conducted in partnership with King Conservation District and Washington State University Extension Forestry. Wildfire-related services include free technical assistance and neighborhood-based workshops focused on identifying and acting on wildfire risks, community wildfire planning support, and working with forest landowners to develop and implement forest stewardship plans that account for climate change and wildfire risk. In 2021, the Forestry Program released the King County 30-Year Forest Plan. Wildfire-related actions from the 30-Year Forest Plan have been incorporated into this strategy to help to help ensure strategic alignment.

Chester Morse Lake Reservoir, June 2022. *Source: Seattle Public Utilities (Kevin Johnson).*

King County Office of Emergency Management (KCOEM). KCOEM provides disaster preparedness and response information, training, and services for King County residents and communities. KCOEM's hazard mitigation program works with local jurisdictions to reduce wildfire impacts and connect communities to Federal grant opportunities for hazard mitigation. KCOEM also manages Alert King County, an emergency notification tool used if evacuation is needed due to a fire. During a large wildfire event, KCOEM would activate the Emergency Operation Center to coordinate responding agencies. Additionally, KCOEM would launch public alerts such as Reverse 9-1-1 and a Wireless Emergency Alert. After a wildfire, KCOEM supports recovery by providing damage assessments to receive federal aid.

King County Rural Forest Commission (KCRFC). The KCRFC is a 13-member advisory board consisting of diverse rural forestry interests that advises King County on policies and programs affecting rural forests and forest landowners in King County. In 2022, the KCRFC provided a comprehensive set of strategic recommendations and actions to the King County Executive and Council focused on ensuring healthy and resilient forests. This included several actions related to wildfire risk reduction, which were incorporated into this strategy to help ensure strategic alignment.

Seattle City Light (SCL). SCL provides electricity for the City of Seattle and several surrounding municipalities via seven hydroelectric projects throughout Washington State, including the Cedar Falls and Tolt projects in east King County. SCL seeks to be a leader in utility fire preparedness/mitigation and is presently developing a comprehensive Wildfire Risk Reduction Strategy that will be completed in 2022. The strategy will focus on stakeholder collaboration, a fire risk/readiness assessment and event response protocols, and will incorporate and complement existing wildfire risk mitigation efforts ranging from vegetation management, public education through the Washington Fire Adapted Communities Learning Network[15], and training crews in fire-suppression/prevention and response.

Seattle Public Utilities (SPU). SPU owns and manages 100,000 acres of forestland between the Cedar and South Fork Tolt watersheds, some of which abut residential areas and most of which are surrounded by forests open to recreation. SPU prevents human-caused fires in the municipal watersheds by controlling access and activities within watershed boundaries. SPU also maintains initial attack capabilities to suppress fires that occur in the watersheds with the City's wildland fire team and has active agreements with WADNR to support fire-fighting efforts when needed. SPU is developing a Wildfire Risk Assessment to analyze and prepare for the risk of wildfire in the watersheds. The assessment, scheduled for completion by 2025, will address maintaining defensible space around critical assets and increasing preparedness for post-fire response. The assessment will also help SPU understand and prepare for the risk of a large wildfire to the municipal water supply and other high-value assets.

[15] The Washington Fires Adapted Communities Learning Network works with individuals and organizations to connect, learn, and prepare communities for wildfire.

Fuels Reduction Work in Trilogy at Redmond Ridge. *Source: King Conservation District*

Washington State Department of Natural Resources (WADNR). WADNR manages more than 2 million acres of forested state trust lands for a range of beneficial uses, including 99,000 acres in King County.[16] WADNR also plays a major role in wildfire prevention and response, and supports forest stewardship planning by small forest landowners via the agency's Small Forest Landowner Assistance program. WADNR manages the State Wildland Fire Protection 10-Year Strategic Plan; works collaboratively to help implement the National Fire Plan through Community Wildfire Protection Plans and community assistance grants; and convenes the Wildland Fire Advisory Committee, which guides how the state can most effectively respond to future wildfires. WADNR's Fire Prevention and Fuel Management Mapping System provides data for community wildfire protection, wildland urban interface, and Fire Communities planning.

Washington State University (WSU) Extension. WSU Extension provides research-based public education classes, publications, and online resources for forest landowners and the general public that support a variety of objectives, including forest health, timber production, and wildfire risk reduction. Specialized services include non-commercial thinning/forest restoration, webinars on wildfire mitigation and planning, and on-demand, self-paced training modules on forest health and wildfire risk reduction.

U.S. Forest Service (USFS). The Mount Baker-Snoqualmie National Forest lies on the west slope of the Cascade Mountains and extends from Mount Rainier National Park to the Canadian Border, including 365,826 acres within King County. The USFS hosts up to six wildland fire engines and two 20-person hand crews. During fire season, the USFS manages initial attack response capabilities and fire prevention efforts based on conditions, forecasts, and resource availability. Forest fire managers regularly coordinate local response capabilities and prevention efforts with cooperating neighbor agencies. Because of the extreme risk to firefighters in responding to fires in remote or hazardous terrain, a strategic risk-based response is considered for each fire, appropriate to specific hazards, threats, and opportunities. The USFS also supports development and implementation of Community Wildfire Prevention Plans.

[16] As reported in the King County Rural Forest Commission's 2022 Strategic Priorities.

North Bend. *Source City of North Bend*

3. Meeting the Challenge: Wildfire Strategy Actions

How This Section is Organized

The Wildfire Risk Reduction Strategy includes 12 recommended actions that will help King County prepare for and reduce wildfire risk by: increasing the resilience of King County forests to wildfire; increasing wildfire preparedness, response, and recovery within the wildland-urban interface; and responding quickly, effectively, and safely when wildfire occurs (Table 4).

Actions are grouped in the following pages by each of the strategic priorities listed above. Two of the 12 actions are considered cross-cutting actions that benefit wildfire risk reduction more broadly. Each action includes the following information:

- *Action description:* Briefly describes why the recommended action is needed, what the action involves, who the action is primarily directed to, and what action will accomplish.
- *Implementation partners:* Identifies organizations or groups that are considered important to implementing the work and achieving the intended outcomes. Implementation partners may include other organizations not listed in this field. Identification as an implementation partner does not commit an agency to the listed action.
- *Implementation feasibility:* A relative scale (easy, moderate, hard) indicating how quickly the action can be implemented. Factors that can influence feasibility include the cost of implementation, the degree to which organizations are already engaged in the work or similar activities, and the absence or presence of political, legal, technical, or organizational barriers.
- *Implementation target*: Identifies the goal, in terms of timing, for completing the action. Timeframes will vary with each action. The goal for all actions to be implemented and/or in an ongoing status is 2027.
- *Success indicators*: Identifies potential indicators of success that could be used for monitoring implementation progress and effectiveness over time. Additional or alternate measures may also be appropriate.

Table 4. Wildfire Strategy Actions, Primary Implementers, and Related Strategic Priorities.

ACTION	PRIMARY IMPLEMENTERS	RELATED STRATEGIC PRIORITY		
	As recommended in the action. Does not include other implementing partners.	Forest Resilience	WUI	Emergency Response
1. Promote species and structural diversity within King County forests to improve wildfire resilience.	Forest landowners and managers	X		
2. Develop post-fire response plans to support forest recovery and reduce near-term wildfire impacts on natural resources.	Public forest landowners and large private forest landowners[17]	X		
3. Increase technical and financial support for small forest landowners for wildfire risk reduction.	King County, King Conservation District, WSU Extension Forestry	X	X	
4. Develop community wildfire preparedness, response, and recovery plans.	WUI local governments, King County		X	
5. Advance wildfire risk reduction through effective policies, plans, and codes.	WUI local governments, King County		X	
6. Create King County-specific wildfire mitigation best management practices and expand household-level wildfire mitigation assistance.	King Conservation District, King County		X	
7. Increase monitoring and control of invasive species that increase wildfire risk in the wildland-urban interface.	Forest landowners and managers		X	
8. Implement the "Ready, Set, Go!" public education evacuation program in the wildland-urban interface.	King County		X	X
9. Implement countywide training standards for all levels of wildfire response.	Local fire departments			X
10. Establish partnerships and agreements to ensure timely and cost-effective access to wildfire firefighting resources.	Local fire departments, King County, Washington State Dept. of Natural Resources			
11. Implement a coordinated approach to public education and outreach on wildfire risk reduction in King County.	King County, King Conservation District	X	X	X
12. Enhance and expand opportunities for shared learning and coordination related to wildfire risk reduction.	King County, natural resource management agencies, conservation agencies	X	X	X

[17] Large is greater than 1,000 acres, as defined by the King County Rural Forest Commission (KCRFC 2022).

FOREST RESILIENCE ACTIONS

Strategic Priority: Increase the resilience of King County forests to wildfire

1. Promote species and structural diversity within King County forests to improve wildfire resilience.

ACTION DESCRIPTION: Forests with a diversity of tree species (conifer, deciduous, mixed-species) and development stages (young, mid-age, mature/old-growth) are more resilient to disturbances such as wildfire and have greater capacity to maintain and recover ecological functions following disturbance. Much of King County's forested landscape currently lacks structural diversity, however. King County has an overabundance of second-growth forests that are uniform in tree height, tree diameter, and species composition. Conversely, younger forests (pre-canopy closure) and older forests (greater than 120 years old) are underrepresented due to a legacy of past and current management.

This action calls for King County forest landowners and managers to promote species and structural diversity within forest stands and across landscapes where not in conflict with other management objectives. Species and structural diversity may help limit the spread of wildfire, insects, and disease, and promote a diversity of responses following wildfire. Promoting species and structural diversity also provides important ecological benefits such as habitat, water and nutrient cycling, and carbon sequestration. This diversity and the associated benefits will become increasingly important as warmer and drier conditions associated with climate change increase stress on forests.

Recommended management practices related to this action include:

- Managing forests to include a broad range of native tree species, with a variety of ecological adaptations, including adaptation to wildfire and drought.
- Promoting or maintaining deciduous tree species within stands and as patches across landscapes, which can reduce flammability and often respond by sprouting after fire.
- Promoting or adding tree species that are resistant to low intensity fire, such as Douglas-fir and western white pine, where appropriate.
- Planting trees using local seed sources and seed sourced from zones with climates similar to future climate at the planting site[18] Movement of tree species and seed sources within or beyond their current ranges should be monitored and based on available management trials.
- Managing for a diversity of tree species and stand development stages across the forested landscape.
- Retaining larger trees that are more fire resistant, provide important habitat, and provide locally-adapted seed sources for post-fire regeneration (if they survive the wildfire event). Larger trees can be retained by protecting them to allow continued growth or, in some cases, by reducing the density of surrounding trees to encourage more growth.

IMPLEMENTATION PARTNERS: Public forest landowners and managers, including King County Dept. of Natural Resources, Seattle Public Utilities, Washington State Dept. of Natural Resources, U.S. Forest Service; private forest landowners; Tribes; conservation agency partners (King Conservation District, Washington State University Extension Forestry)

[18] Climate-informed seed source selection can be guided by tools such as the Seedlot Selection Tool (https://seedlotselectiontool.org/sst/) and focus on regionally native tree species. See also St. Clair et al. 2022

IMPLEMENTATION FEASIBILITY: *Hard.* Effective implementation of this action will require working with a range of public, private, and Tribal forest landowners and managers, adding complexity to this work. Additionally, while it will be possible to accelerate this work in some areas via forest thinning for restoration, the time-horizon for changes is long and many inaccessible areas simply need time to grow into more disturbance-resilient and complex forests. Finally, forest managers have limited experience with adapting forests to a changing climate.

IMPLEMENTATION TARGET: Ongoing, via integration into current forest management practices.

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- The diversity of native tree species in forests with important ecological and cultural functions have been maintained or increased.
- Forests have multiple co-dominant tree species in the overstory and understory; include deciduous species with a range of drought tolerances; and have early- and late-seral species across the forested landscape.
- Forests are maintaining the high productivity characteristics of west-side forests. This productivity supports regulation of water and nutrient cycles, carbon storage, and habitat, and is important for resilience.
- A variety of forest types are well-distributed across the landscape, including a reduction in stands/forests that are uniform in age, tree diameter, and species composition (either through thinning or time).

2. Develop post-fire response plans to support forest recovery and reduce near-term wildfire impacts on natural resources.

ACTION DESCRIPTION: While there are many ecological benefits to wildfire in the long-term, wildfire can also create near-term post-fire challenges on the landscape that may need to be managed depending on the location, extent, and severity of the fire. Challenges can include an increased potential for landslides, flash floods, and debris flows; increased erosion and sediment loading in rivers, lakes, and streams; and spread of invasive species into areas disturbed by wildfire. These impacts can affect natural resources and physical infrastructure within the immediate area of the fire as well as areas further downstream.

This action calls for public and large private forest landowners[19] to develop post-fire response strategies to facilitate forest recovery, including promotion of species and structural diversity as described in Action 1, and reduce near-term wildfire impacts on natural resources, assets, and communities. Post-fire response plans should include actions that:

- Minimize impacts on public safety, assets, and property;
- Minimize erosion of soils and sedimentation into streams;
- Minimize invasion of sites with non-native invasive species;
- Support site assessment, planning, and follow-up monitoring;
- Restore native vegetation and soil where appropriate;
- Adapt species composition to meet long-term objectives;
- Facilitate natural processes such as succession, soil development, and ecosystem productivity;

[19] Large is greater than 1,000 acres, as defined by the King County Rural Forest Commission (KCRFC 2022).

- Plan for seed availability for revegetation and erosion control material prior to fire impacts;
- Accelerate forest development if desired, or promote early succession conditions for habitat and cultural reasons, if desired;
- Implement Firewise USA® or related wildfire mitigation principles where appropriate; and
- Develop or strengthen collaborative relationships and staff expertise for post-fire recovery.

Once developed, post-fire response plans should be updated periodically to account for changes that may affect plan details. Planning by smaller private forest landowners should be supported where feasible and/or considered as part of future updates.

IMPLEMENTATION PARTNERS: Public forest landowners and managers, including King County Dept. of Natural Resources and Parks, Seattle Public Utilities, Washington State Dept. of Natural Resources, U.S. Forest Service; Tribes; large private forest landowners

IMPLEMENTATION FEASIBILITY: *Hard*. Supporting resources, access to technical support, and time required to complete plans are uncertain. Action would benefit from planning guidance and/or templates to support plan development. Given that fires may affect multiple landowners, this action may require working with public and private landowners to develop plans. Different landowners may select to implement fewer than the suggestion actions.

IMPLEMENTATION TARGET(S): Plans completed or in development by 2027; plans updated periodically after initial plan developed.

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- Post-fire response plans have been developed by relevant forest landowners.
- Collaborative relationships are developed before a wildfire incident.
- Plans for procurement of erosion control material and seeds for revegetation are in place prior to a wildfire incident.
- Post-fire response includes a coordinated process for burned area assessment and identifying appropriate mitigation actions. Response actions account for site-specific, long-term management objectives, including forest resilience and climate adaptation.
- Minimal impacts on public safety, assets, and natural resources occur after a fire.
- Site-appropriate vegetation that mitigates wildfire impacts and meets long-term management objectives is re-established.

3. Increase technical and financial support for small forest landowners for wildfire risk reduction.

ACTION DESCRIPTION: Over 30 percent of the 890,000 acres of forestland in King County is in private ownership. Of that total, approximately 60 percent of the privately-owned forestland is held by 13 relatively large (greater than 1,000 acres) forest landowners and the remaining 40 percent is held by nearly 21,000 different owners. These smaller-acreage forest landowners may lack the technical and financial support needed to develop and implement recommended strategies to enhance forest health and reduce wildfire risk.

To help address that need, King County, King Conservation District, and Washington State University (WSU) Extension Forestry regularly collaborate on group and individual education activities for private forest landowners and WUI communities. This includes training to develop forest stewardship plans that directly

address forest resilience under a changing climate and how to enhance resilience to wildfire. All three collaborators are experiencing a growing gap between resources for education and training and the increasing demand for those services, however. Additionally, there is significant need for enhanced access to cost-share programs that enable landowners to implement actions identified in forest stewardship plans.

King County will work with King Conservation District and WSU Extension Forestry to expand the suite of workshops and field training available to small forest landowners and ensure that climate- and wildfire-related topics are thoroughly covered in those activities. Partners will encourage landowners to carefully consider all aspects of wildfire response, including preparedness (e.g., management for forest health and resilience), response (e.g., evacuation routes) and recovery (e.g., tree salvage and replanting) in the development of forest stewardship plans.

King County will also work with partners to secure additional staffing and financial resources to support forest landowner implementation of forest stewardship plans. The goal is to increase total acres treated for forest health and wildfire resilience by ensuring that all forest landowners have relatively easy and timely access to education, training, and funding opportunities to develop and implement effective forest stewardship plans.

IMPLEMENTATION PARTNERS: King County Dept. of Natural Resources, King Conservation District, WSU Extension Forestry, Washington State Dept. of Natural Resources, small forest landowners, forestry consultants, forest management contractors, USDA Natural Resources Conservation Service

IMPLEMENTATION FEASIBILITY: *Moderate.* Programming and framework for technical services delivery are already in place but unable to keep pace with increasing demand. Additional staff and financial resources are needed by partner agencies (King County, WSU, King Conservation District) to fully meet current and projected demand, including demand for implementation resources and technical support.

IMPLEMENTATION TARGET: 2027, with ongoing sustained support after that date

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- All small forest landowners are aware of wildfire/forest health Best Management Practices (BMPs).
- At least a doubling in available forest health/wildfire preparedness funding for implementing wildfire BMP projects.
- At least a doubling in number of wildfire mitigation projects implemented by small forest landowners.
- At least a doubling in acres treated for forest health and wildfire resilience.

WILDLAND-URBAN INTERFACE ACTIONS

Strategic Priority: Increase wildfire preparedness, response, and recovery in the WUI

4. Develop community wildfire preparedness, response, and recovery plans.

ACTION DESCRIPTION: Many existing and newly identified WUI communities are unprepared for the potential impacts of wildfire. Planning at the individual household level is important but community-scale wildfire risk assessment and planning is needed for coordination of complex issues like evacuation and mitigation activities that extend beyond individual parcels.

This action calls for WUI local governments and King County, as the local government for unincorporated King County, to conduct a wildfire risk assessment and develop a community wildfire protection plan focused on wildfire preparedness, response, and recovery for their community.

Wildfire risk assessments. Community-scale wildfire risk assessments provide critical information that can be used by planning officials, hazard mitigation managers, land managers, and response agencies to support risk-based planning and decision making. More specifically, the assessments will help identify:

- Where the community exposure to wildfire hazard is greatest;
- Who and what is most vulnerable to wildfire, and why;
- How wildfire may impact the community; and
- Where and what type of wildfire risk interventions may be most appropriate for reducing identified risks.

Wildfire risk assessments should include evaluation of community data on race/ethnicity, languages spoken, income, and related socioeconomic factors to understand equity implications as they relate to wildfire risk. The assessment should also account for factors that may limit safe evacuation and/or response to wildfire, such as neighborhood ingress/egress, access to water sources, and inaccessible or steep terrain.

Wildfire plans. Wildfire preparedness, response, and recovery plans should identify approaches that communities will take to support:

1. ***Household and community-scale risk reduction and preparedness.*** This may include updating codes and policies that reduce wildfire risk and improve public safety (see Action 5), expanding household technical assistance (see Action 6), and expanding outreach activities related to wildfire awareness and risk reduction (see Action 11), for example.

2. ***Effective response to wildfire when it occurs.*** This may include evacuation planning, establishment of "safety zones", and identification of water supplies and staging areas, for example.

3. ***Post-fire recovery.*** This may include debris staging and removal; small business assistance; financial support for impacted households; and coordination with local, state, and federal partners to accelerate forest recovery and mitigate post-fire risks (e.g., landslides, flooding) (see Action 2), for example.

Wildfire risk assessments and associated planning activities should account for current and projected changes in wildfire potential due to climate change. Once completed, community wildfire risk assessments and plans should be updated periodically to reflect changes in development patterns and other factors that can influence wildfire risk at a community scale.

IMPLEMENTATION PARTNERS: WUI communities, King County Office of Emergency Management (KCOEM), King Conservation District, local fire districts, local police departments, transportation agencies, natural resource management agencies, public/private critical asset owners, Tribes

IMPLEMENTATION FEASIBILITY: *Moderate.* Capacity to complete the risk assessment and develop community plans may be a challenge for some jurisdictions. To help facilitate this work, KCOEM will develop or adapt existing planning templates and guidance to support risk assessment and planning efforts. If a community chooses to initiate the planning process in their own jurisdiction, KCOEM can provide training on how to lead the planning process. Once the planning process has been initiated, KCOEM can support the planning team with technical support, information, public education materials, and mapping.

IMPLEMENTATION TARGET: Plans completed or in development by 2027; risk assessments and plans updated periodically after initial development.

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- WUI communities/King County have identified, prioritized, and mapped wildfire risks within their communities.
- WUI communities have robust plans in place to prepare them for wildfire.
- Plans and risk assessments are updated regularly at a frequency determined by the community.
- Plans are well socialized with stakeholders and residents.

5. Advance wildfire risk reduction through effective policies, plans, and codes.

ACTION DESCRIPTION: Policies, plans, and codes may help advance–or conversely hinder or conflict with–wildfire risk reduction objectives. For example, permitting practices may complicate and add costs to tree maintenance and tree removal within designated distances from a home even though such activities could reduce potential wildfire travel pathways. Development codes may also need to be updated to ensure sufficient emergency access and evacuation routes for new subarea developments.

Implementation of recently adopted statewide WUI codes[20] may create additional challenges and opportunities at the local level. The codes, which will be a new experience for many jurisdictions and builders, include new baseline WUI construction requirements for roofs, exterior walls, appendages and projections, and driveway access.

This action calls on WUI local governments and King County, as the local government for unincorporated King County, to advance wildfire risk reduction through the adoption and implementation of effective policies, plans, and codes. More specifically, this action calls for:

[20] Revised Code of Washington (RCW) 19.37.560 was initially adopted in 2018, with implementation tied to completion of WUI maps updates by the Washington Dept. of Natural Resources. Although the State Building Code Council (SBCC) later rescinded WUI amendments due to conflicts with the Washington Administrative Code, it is anticipated that the SBCC will adopt the 2021 WUI code (WUIC) for Washington with an anticipated statewide effective date of July 1, 2023.

- effective implementation of new statewide WUI codes, and
- updating plans, policies, and development codes to promote or otherwise remove or reduce conflicts with best practices that reduce wildfire risk and improve public safety in the event of a wildfire.

Existing or potential policies, plans, and codes relevant to this action include comprehensive plans, community wildfire plans (see Action 4), climate preparedness plans, land use maps and overlay zones, development standards (including standards for structure density and location, building materials and construction, vegetation management, emergency vehicle access, water supply, and fire protection), and site plan review procedures.

Some local policy and code changes may require coordination with King County and/or other organizations to achieve effective action. Policy and code changes may also be possible statewide. Engagement with stakeholders, including residents, Master Builders, local real estate and insurance agents, community leaders, engineering firms, and developers, will be important to developing new policies and codes.

Implementation partners: WUI communities, King County Dept. of Local Services (DLS), King County Dept. of Natural Resources and Parks, King Conservation District

IMPLEMENTATION FEASIBILITY: *Moderate.* Coordination with municipalities throughout the WUI on implementation of development codes meeting a set standard could be complex. To help build consistency across King County jurisdictions, King County will develop educational information that provides guidance on how the new WUI codes apply to structural construction products. The resources needed to create and distribute code-related educational materials may require increased budget expenditures beyond the current capacity of King County DLS.

IMPLEMENTATION TARGET: ongoing, in accordance with timing of policy and code schedules

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- Consistent educational materials supporting WUI code implementation are available on jurisdiction websites across King County.
- Development codes, policies and plans are reviewed to remove conflicts with, and promote integration of, best practices. This review occurs at both the State level and at King County. Individual jurisdictions with extensive WUI areas are supported with technical knowledge and financial resources to conduct this code and policy review.
- Stakeholders understand and support the need for updated WUI goals, policies, land use regulations and building codes.

6. Create King County-specific wildfire mitigation best management practices and expand household-level wildfire mitigation assistance.

ACTION DESCRIPTION: Concern about wildfires is increasing among King County residents, leading to greater demand for information and services focused on protecting homes and property from wildfire. This includes increased homeowner interest in programs like the National Fire Protection Association's (NFPA) Firewise USA® program.

The Firewise USA® program has been widely used in fire-prone areas across the United States to provide recommendations for protecting buildings and breaking up of the continuity of fuels on properties in wildfire-prone environments to increase the chances of homes and communities surviving a wildfire event. Programs such as these also provide a collaborative framework to help neighbors in a geographic area get organized,

find direction, and take action at the neighborhood or community scale.

King Conservation District (KCD) will work with partners to adapt recommended practices and informational material for local climate and ecology. A key objective is implementing wildfire protection measures around homes and structures while maintaining forested areas for biodiversity, ecosystem services, and resiliency. KCD and partners will share these updated measures with homeowners through public presentations, web resources, informational video production, and other approaches.

KCD will also work with partners to address growing capacity constraints for meeting homeowner and community demand for private property wildfire mitigation assistance by offering on-site assessments for property owners, connecting property owners to additional resources, such as funding, and increasing the adoption of recommended practices.

IMPLEMENTATION PARTNERS: KCD, King County Dept. of Natural Resources and Parks, WSU Extension Forestry, University of Washington, WUI communities, Washington State Dept. of Natural Resources, Eastside Fire & Rescue

IMPLEMENTATION FEASIBILITY: *Moderate.* Firewise USA® and related best practice resources have been created by other agencies and can be adapted for use in King County, decreasing the work needed to produce customized information for King County. Additional funding and coordination between partners are needed to address capacity limits for site visits and technical support.

IMPLEMENTATION TARGET: 2027, ongoing thereafter (capacity building/expanding application in King County)

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- King County-specific wildfire mitigation best practices and associated materials have been developed and are being distributed in a variety of formats and fora.
- Implementation partners have dedicated resources and defined roles for delivery of wildfire mitigation assistance in King County.
- Capacity to meet requests for Firewise USA® and similar types of private property wildfire mitigation assistance has been increased.
- More King County residents and communities are adopting and maintaining recommended practices.

7. Increase monitoring and control of invasive species that increase wildfire risk in the wildland-urban interface.

ACTION DESCRIPTION: Invasive plants can increase the risk of forest fire by acting as an accelerant for fire (when extremely flammable) and/or by acting as ladder fuels that carry a fire from ground level to the crown of trees. Scotch broom (*Cytisus scoparius*) is a flammable invasive species that is widespread in disturbed areas such as roadsides and utility corridors. Clematis (*C. vitalb*a), English ivy (*Hedera spp.*), and field bindweed (*Convolvulus arvensis*) are locally abundant invasive species that can be considered ladder fuels due to their tree climbing habits, potentially causing a more destructive and difficult to control crown fire. English holly (*Ilex aquifolium*), a flammable thicket-forming understory shrub, can also function as a ladder fuel.

This action calls for landowners and managers to increase monitoring and control of invasive species that increase wildfire risk, particularly in priority areas like roadsides and utility corridors within the WUI. This work may include:

- Assessing and mapping the distribution and abundance of flammable invasive species in priority areas of the WUI, including roadsides and utility corridors;
- Developing control plans.
- Using an integrated pest management strategy, coupled with existing best management practices such as initial herbicide treatments and mechanical mowing, to remove invasive species;
- Promoting planting of fire-resistant native species;
- Monitoring for regrowth from the seed bank; and
- Developing a long-term adaptative management strategy based on the effectiveness of initial treatments.

Once the flammable invasive species have been controlled, treated areas can be restored with native forbs, shrubs, and trees to encourage pollinators, provide forage for native birds and mammals, and improve healthy ecosystem functioning. Participation by all levels of landowners, from residential to large public and private landowners, is encouraged given the potential for invasive species to reinfest controlled areas from adjoining uncontrolled areas. Technical assistance and scaled approaches for residents and small landowners is available from many of the implementation partners listed for this action.

IMPLEMENTATION PARTNERS: King County Dept. of Natural Resources and Parks, Washington Invasive Species Council, Washington State Dept. of Transportation, Washington State Dept. of Natural Resources, Washington State Parks and Recreation Commission, U.S. Forest Service, WUI communities, King Conservation District, Mountains to Sound Greenway Trust, Forterra, Bonneville Power Administration, Puget Sound Energy, Seattle Public Utilities.

IMPLEMENTATION FEASIBILITY: *Hard.* This action requires sustained participation and funding from a diverse set of stakeholders to be successful. Sources for filling funding gaps are currently unknown.

IMPLEMENTATION TARGET(S): 2027, ongoing thereafter (via integration into ongoing control efforts)

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- Landowners are educated about highly flammable invasive species.
- Control plans have been developed for priority areas within the WUI.
- The relative abundance of flammable invasive plant species is being reduced, particularly near publicly maintained roads in the WUI.
- The abundance and diversity of native forbs, shrubs, and trees is increasing in treated areas.
- The biodiversity of native invertebrate fauna (pollinators), birds (especially breeding Neotropical migratory birds), and small and large mammals in increasing in treated areas.

8. Implement the "Ready, Set, Go!" public education evacuation program in the wildland-urban interface.

ACTION DESCRIPTION: Most natural hazards in King County require community members to "shelter-in-place". Wildfire is one of the few hazards, however, where individuals may need to evacuate their home, necessitating the need for a way to help residents know how, and when, to be ready to act on evacuation orders.

This action calls for the King County Office of Emergency Management (KCOEM) to work with WUI communities to develop and implement the "Ready, Set, Go!" public education program to better prepare residents for evacuation and ease emergency communication challenges for response agencies when a wildfire event occurs. The program, which has been implemented by communities in other parts of the western United States, details what residents can do to be prepared to evacuate before a wildfire, when a wildfire is threatening their community, and, finally, when an evacuation must occur.

Program materials will be developed in a variety of languages and accessible formats to ensure equitable access to program information and alerts. Using already established in-roads with communities, KCOEM and partners will socialize the curriculum through public presentations, web resources, informational video production, and other formats. King County will utilize the "Public Input" platform to track engagements and metrics for engagement.

IMPLEMENTATION PARTNERS: King County Office of Emergency Management, WUI communities, law enforcement agencies, local fire departments

IMPLEMENTATION FEASIBILITY: *Moderate.* Multiple jurisdictions across the western U.S., including communities in eastern Washington, have implemented Ready, Set, Go! in their communities. Best practices can be learned from jurisdictions who have implemented the program and who have experienced impactful wildfires. A variety of readily available public education products can also be utilized, significantly decreasing the work in product development. Funding pools may already be accessible. While development of materials may be easy, ensuring that the information reaches the whole community is always a challenge.

IMPLEMENTATION TARGET: 2023

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- Robust public education materials, developed in a variety of languages and formats, are available and have been shared with WUI communities.
- WUI residents are familiar with the "Ready, Set, Go!" steps and know how to receive and get information in the event of a wildfire.

RESPONSE ACTIONS

Strategic Priority: Support quick, effective, and safe responses when wildfire occurs

9. Implement countywide training standards for all levels of wildfire response.

ACTION DESCRIPTION: Operational effectiveness and firefighter safety are paramount when responding to a wildfire. Implementation of common training expectations and county-wide use of wildland appropriate personal protective equipment (PPE) are important to achieving this goal. Furthermore, wildland-specific training enables departments to satisfy Washington State Labor and Industries requirements for wildland and urban interface suppression operations.

This action calls for all King County fire departments to train response personnel to consistent minimum standards for wildfire response and maintain annual refresher training as required by the National Wildfire Coordination Group, Washington State Dept. of Natural Resources, or the Washington Administrative Code. Recommended training includes the following:

- National Wildfire Coordination Group S-190: Introduction to Wildland Fire Behavior
- National Wildfire Coordination Group S-130: Firefighter Training.
- International Association of Fire Fighters: Responding to the Interface (RTI) basic firefighter safety training

Concurrent to baseline training standards, this action also calls for King County fire departments to pursue appropriate levels of wildland/interface PPE. Fire suppression personnel cannot work for more than 60 minutes at a wildland/interface incident in structural PPE. Firefighters trained in wildland suppression strategies and tactics should also be equipped with wildland/interface PPE. Appropriate PPE will align with recommended training and allow for extended operational periods.

IMPLEMENTATION PARTNERS: King County Fire Chiefs Association, local fire departments and law enforcement agencies, South Puget Sound Fire Defense Board, King County Office of Emergency Management

IMPLEMENTATION FEASIBILITY: *Moderate.* The recommended training and PPE requirements are time consuming and may have finical impacts for some agencies. Endorsement by the King County Fire Chiefs will be a necessary first step in adopting the recommendation for all King County Fire agencies.

IMPLEMENTATION TARGET: Training complete or in progress by 2023

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- All King County firefighters trained to S130, S190 and RTI standards.
- King County training divisions are providing annual refresher training and maintaining appropriate training records for all King County.
- King County firefighters have the appropriate levels of wildland/interface personnel protective equipment and associated training for safe use of that equipment.

10. Establish partnerships and agreements to ensure timely and cost-effective access to wildfire firefighting resources.

ACTION DESCRIPTION: Rapid initial suppression activities, aided by early access to specialized resources such as helicopters, fixed-wing aircraft, bulldozers, and certified response personnel, are the most meaningful action that fire departments can take to safely protect life and property in the WUI. However, most King County fire agencies do not have the financial resources needed to pay for these resources, even for a moderate scale incident. Concerns about cost reimbursement have also left King County fire departments hesitant to request specialized resources. Finally, the process for requesting hazard-specific resources must meet specific requirements and takes time. Collectively, these factors can slow response capabilities and hinder operational effectiveness.

This action calls on local King County fire departments, the King County Office of Emergency Management (KCOEM), and the Washington State Dept. of Natural Resources (WADNR) to work collectively to facilitate easier and more cost-effective access to wildfire response resources. More specifically:

- King County fire departments and KCOEM should work collectively to establish partnerships and operational agreements (e.g., interlocal agreements, automatic aid agreements, and Memorandums of Agreements) with local contractors for timely access to wildland/interface equipment and supplies. These local agreements can provide stop-gap resources until state or federal resources can be secured.
- The King County Fire Chiefs Association, KCOEM, and the WADNR should work together to facilitate earlier access to helicopters for initial attack. Additionally, KCOEM and King County Fire Chiefs should work with WADNR to develop a cost-share model that supports easier access to resources. Agreements should be created in recognition of the increased risk and need for rapid initial attack in populated areas.

By facilitating easier access to response resources and taking the financial concern out of the wildfire response equation, first responders will be able to make more effective response decisions in mitigating the emergency.

IMPLEMENTATION PARTNERS: King County Fire Chiefs Association, King County Office of Emergency Management, local fire departments, Washington State Dept. of Natural Resources, private contractors, U.S. Forest Service

IMPLEMENTATION FEASIBILITY: *Moderate.* Recommendation will require multiple fire agencies to enter into agreements with private and public partners.

IMPLEMENTATION TARGET: 2027

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- Fire departments have the necessary agreements in place to facilitate access to as-needed specialized fire response resources.
- Costs and cost-reimbursement concerns are no longer seen by fire departments as a barrier to calling in specialized resources.
- Fire departments are quickly accessing the right equipment at the right time, facilitating more effective and safer responses to a wildfire.

CROSS-CUTTING ACTIONS

Strategic Priority: Support wildfire risk reduction more broadly

11. Implement a coordinated approach to public education and outreach on wildfire risk reduction in King County.

ACTION DESCRIPTION: Many King County residents are unaware of wildfire risk locally, how climate change affects wildfire potential in our region, and actions that can be taken to reduce wildfire risk.

This action calls for the King County Office of Emergency Management (KCOEM), King County Dept. of Natural Resources and Parks (KCDNRP), and King Conservation District (KCD) to work with WUI local governments and subject matter experts to develop and implement a coordinated approach to public education and outreach related to wildfire risk reduction and preparedness in King County. A coordinated approach will help break down silos and avoid inconsistent messaging across jurisdictions and partners. This is particularly important in western Washington given the complexity of western Washington wildfires and forest ecology. Coordination will also allow participating jurisdictions to leverage existing partnerships, share resources, and develop best practices.

To help inform this work, KCOEM will host a roundtable with key partners to develop a cross-discipline outreach and communications plan. The plan will identify priority topics for engagement, key messages, and approaches to engaging with a range of audiences. The plan will be socialized with additional partners once the communication plan has been developed. The plan will be revisited at a schedule determined necessary by the planning team.

IMPLEMENTATION PARTNERS: King County Office of Emergency Management, King County Dept. of Natural Resources and Parks, King Conservation District, WUI communities, Tribes, King County fire departments, natural resource managers, Public Health–Seattle & King County, University of Washington (School of Environmental and Forest Sciences, Climate Impacts Group)

IMPLEMENTATION FEASIBILITY: *Moderate.* While development of the communications outreach plan will not be difficult, implementation and adherence is a consistent challenge with joint messaging and public education.

IMPLEMENTATION TARGET(S): 2023 (outreach plan); ongoing (for outreach and engagement activities)

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- King County has a robust wildfire communications plan that captures the unique nature of western Washington wildfire and provides the tools needed to effectively communicate to the community.
- A variety of outreach materials and engagement approaches are being used in King County to inform residents about current and projected wildfire risk in King County and standardized actions and recommendations they can take to reduce wildfire risk.
- King County residents have a better understanding of current and projected wildfire risk in King County and implement actions they can take to reduce wildfire risk.
- Residents are aware when fire danger is especially high and adjust behavior accordingly.

12. Enhance and expand opportunities for shared learning and coordination related to wildfire risk reduction.

ACTION DESCRIPTION: Wildfire risk reduction benefits from ongoing opportunities for shared learning and information exchange between organizations and subject matter experts involved in the work, including local planners, first responders, natural resource managers, emergency management officials, and researchers.

This action calls for King County), natural resource management agencies, conservation agencies, and other partners to enhance and expand opportunities for shared learning, coordination, and partnership that supports effective implementation of strategy actions. Opportunities may include meetings, workshops, webinars, listservs, online forums, and shared resource hubs that help participants stay current on:

- Western Washington wildfire science and climate change impacts,
- Community/organizational wildfire planning activities and needs,
- Changes in wildfire response capabilities and procedures,
- Best management practices for wildfire risk reduction,
- Outreach and engagement resources and opportunities
- Opportunities for collaboration, partnership, and funding.

Where possible, existing opportunities should be leveraged. New opportunities such as periodic convenings should also be considered.

IMPLEMENTATION PARTNERS: King County Office of Emergency Management, King County Dept. of Natural Resources and Parks, extension agencies (King Conservation District, WSU Extension Forestry), local fire departments, WUI communities, Tribes, natural resource management agencies, University of Washington (School of Environmental and Forest Sciences, Climate Impacts Group)

IMPLEMENTATION FEASIBILITY: *Easy.*.This action can leverage existing meetings to help meet the goals of this action. Periodic meetings, workshops, and webinars specifically focused on this work can also be held.

IMPLEMENTATION TARGET(S): 2027 (via integration into ongoing control efforts)

WHAT DOES SUCCESS FOR THIS ACTION LOOK LIKE?

- Existing meetings and other fora for ongoing engagement on wildfire preparedness have been identified. Those meetings are being used to support continued learning and action implementation as appropriate.
- New opportunities for continued learning and cross-disciplinary information exchange (workshops, meetings, and webinars) are being created.
- Organizations and communities involved in implementing strategy actions are utilizing these opportunities to stay connected and informed.

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