GREENBELT ALLIANCE

Final Report
Greenbelt Alliance
Identifying Equitable Greenbelt Buffers in Sonoma County as Nature-based Wildfire Solutions
January 31st 2025

Acknowledgements

Greenbelt Allilance's project "Identifying Equitable Greenbelt Buffers in Sonoma County as Nature-based Wildfire Solutions" and this report were produced with funding from the California Resilience Challenge

Executive Summary

Identifying Equitable Greenbelt Buffers in Sonoma County as Nature-based Wildfire Solutions was managed by Greenbelt Alliance in partnership with the Sonoma County Agricultural and Open Space District (Ag + Open Space) as the lead government partner, with participation from various other critical stakeholders including science and fire experts, local advocacy organizations representing the community's large Latinx population, and landowners and vintners in the area. Through this effort the project team investigated opportunities for establishing greenbelt buffers as wildfire protection to nearby communities while pinpointing a strategic location for Ag + Open Space to consider in order to reach its conservation and stewardship goals.

To identify the best location for the pilot across all of Sonoma County, the project team used spatial data to find areas where high wildfire risk overlapped with development potential - areas where current development patterns were likely to lead to increased risk of catastrophic wildfire results - and indicators of high social vulnerability to wildfire - communities that are most at risk with the fewest resources available to mitigate that risk. With that analysis in hand, the team built relationships and engaged the community to gather feedback and understand community needs and priorities with a focus on under resourced residents most impacted by wildfire including farmworkers and Sonoma's Latinx population, as well as land owners. Through the mapping and community engagement, the team was able to select a 10.8 square mile area in the hillside area above the unincorporated community of Sonoma Springs. This area is a relatively dense residential development on the urban edge surrounded by a patchwork of lands owned by many small private landowners of multiple types - irrigated uses, wildlands with valuable natural habitat, and clusters of rural residential development. This mix of uses made the initial hypothesis of a landscape-scale greenbelt buffer conversion into a publicly-owned and managed greenbelt financially infeasible, leading to the need for the development of a new model.

In working closely with fire experts and local fire chiefs to examine hazard indicators, vegetation type, zoning and land use, parcel size, density, slope and access, fire break placement, key infrastructure, land ownership, and community conditions – an innovative, patchwork approach to designing a greenbelt buffer emerged. This approach leveraged existing opportunities like agricultural lands within the built and natural environment, and identified four distinct land typologies and the related policy recommendations, key stakeholders, and land use strategies needed to create a tailored approach to coordinated risk management through a patchwork greenbelt buffer.

The four land typologies included: The Community Zone, The Patchwork Greenbelt Priority Zone, The Rural Nature Zone, and The Agricultural Zone. The Community Zone consists of

higher density residential development with opportunity for community-scale protections and widespread homeowner participation. The Patchwork Greenbelt Priority Zone is characterized by community-adjacent wildlands and has opportunity for policy, partnership, and easement strategies to confer widespread risk reduction. The Agricultural Zone which is irrigated farmland and vineyards has potential for partnerships and recognizing current buffer benefits that may already be available. And the Rural Nature Zone is made up of grasslands, woodlands, and forests where there are opportunities for beneficial fire, ecologically-sensitive thinning, and conservation strategies.

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2. Problem Statement

With California suffering from increasingly hot and catastrophic wildfires, the impacts are felt on communities, economies, wildlife, and local governments across the state. In Sonoma County, in particular, the impacts of wildfire have been acutely felt in recent years. Patterns of land use and development have placed extensive residential infrastructure across Sonoma County into places that have been at severe risk in recent, large fires. Such fires have resulted in the loss of over 6,000 homes in the County.

We know that conservation strategies alone are ineffective in reducing wildfire risk, while our current siloed wildfire management tools make collaboration challenging. However, by harnessing nature-based approaches to land management, we can reduce fire risk to protect communities without losing our critical forest habitats and ecosystems. To tackle the challenge of managing risk at the urban edge, we need to utilize our natural lands as vegetated buffers from wildfire that slow down the spread of wildfire through physical breaks, provide designated areas for fire engine access to protect communities, and act as priority zones for fuel reduction and land management activities.

Greenbelt Alliance led a Pilot Project in Sonoma County to further investigate opportunities for establishing greenbelt buffers as wildfire protection to nearby communities while pinpointing a strategic location for Ag + Open Space to consider for reaching its conservation and stewardship goals.

3. Project Description

Methods

- Engage technical advisors: Convene a series of meetings with technical partners aimed to identify community vulnerabilities and recommendations of mapping considerations and filters.
- Community outreach: Build community buy-in via feedback and learning sessions with key environmental justice communities and individual land owners. Capture community priorities, needs, and vision.
- Site identification and implementation analysis:
    - Analyze County wide data and understand landscape characteristics including existing land uses, property ownership, vegetation type, slope, and fuels and wildfire risk.
    - Identify greenbelt buffer and accompanying zones and evaluate property specific opportunities.

Desired Outcomes

1. Engage a Sonoma County community in wildfire risk awareness and build the case for nature-based solutions as an equitable land use strategy to effectively reduce risk.
2. Identify priority areas for strategic conservation and land acquisition opportunities in Sonoma County for Ag + Open Space to implement that will simultaneously yield wildfire risk reduction.
3. Demonstrate a replicable model for public-private stakeholder collaboration and co-creation of nature-based solutions for communities facing similar wildfire challenges.

4. Project Results

Actual outcomes

Sonoma County is an ideal location to demonstrate this greenbelt buffer wildfire risk reduction strategy due to its high wildfire risk profile, wealth of local knowledge and wildfire resilience action already underway. Our Pilot Project sought to build upon Ag + Open Space's initial countywide assessment of conservation opportunities within greenbelt areas with high wildfire risk, using mapping based on the Vital Lands Initiative Priority Greenbelt Areas (1/2 mile from Urban Service Areas and exurban areas), Sonoma County's recently updated Wildfire Hazard Index, and subdivision potential based on zoning density.

To get started, the team assembled the best available data that could indicate locations around Sonoma County where there was the greatest opportunity to reduce wildfire risk for climate-vulnerable communities through conservation and land stewardship. We then collaborated with the County's existing vegetation management Technical Advisory Team (TAC) to review the data, methodology, and intended outcomes and provide input informed by local ongoing projects, agency priorities, and partner programs. The project team applied two different methodologies to identify a specific pilot project location within Sonoma County, the Wildfire Resilience Planner Tool and a GIS Analysis of social vulnerability overlaid with wildfire hazard. Our analyses showed two areas within Sonoma County as prime candidates for the Pilot Project, Guerneville and Sonoma Springs. Both of these areas were then overlaid with Ag + Open Space's Priority Greenbelt Areas from their Vital Lands Initiative to understand where there was alignment between Ag + Open Space's goals for developing a policy and plan that guides how to reduce fire risk while also protecting and enhancing natural resources. This led to further narrowing in on the hillside area above the unincorporated community of Sonoma Springs given its landscape characteristics, social vulnerability factors, land use types, and opportunities for wildfire solutions. This pilot location is in many ways typical of the challenges facing WUI communities across the country–dense development on the urban edge surrounded by a patchwork of many small private landowners interspersed with irrigated uses, beautiful and vibrant natural lands, and clusters of rural residential development.

Sonoma Spring (often referred to as The Springs by locals) is an unincorporated area north of the city of Sonoma and includes the historic neighborhoods and towns of Boyes Hot Springs, Agua Caliente, Fetters Hot Springs, and sometimes including El Verano. The Springs is a small community of 6,200 people. Almost half (47%) of the town's residents are Latino, almost that many (44%) speak a language--mostly Spanish--other than English at home. One in five residents (16%) has limited English proficiency. A similar number (17%) of seniors here live alone and 43% of residents are renters. Taken together, these factors indicate higher vulnerability

to the impacts of wildfire. The Springs was identified as the ideal location for the Pilot Project due to the following factors:

- **Lack of Planned Projects and Resources:** In identifying a final pilot Focus Area, the team considered where current wildfire risk reduction and vegetation management projects and programs were currently being implemented in the county, and prioritized selection of an area where there was an apparent gap in projects and resources. We found that there are currently very few wildfire risk reduction projects planned for Sonoma Springs, offering a high opportunity for making a significant impact on the areas' wildfire resilience through a greenbelt buffer intervention. The planned Building Resilient Infrastructure and Communities (BRIC) awarded projects for the Guerneville area, while there is a relative gap of planned projects for Sonoma Springs.

- **Varied Landscape Similar to Other Areas:** Sonoma Spring's varied physical landscape has a less clear implementation strategy for a greenbelt buffer, which presents a better opportunity to explore more innovative approaches and make recommendations applicable to similar communities found throughout the state.

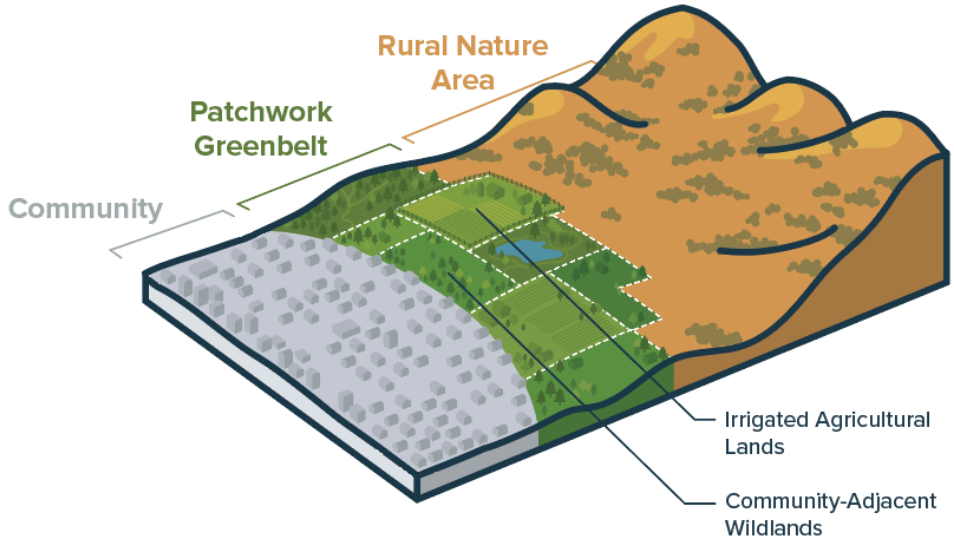
- **Multiple Land Use Types as Proof of Concept:** The Springs lacks a clear WUI boundary with small residential parcels intermixed with larger agriculture and woodland properties surrounding an urban core. These multiple land uses and landscape characteristics offer a proof of concept to our innovative patchwork greenbelt buffer solution that works with existing land assets to yield wildfire risk reduction.

- **Existing Greenbelt Buffers:** The location of irrigated lands—primarily vineyards—in Sonoma Springs have effectively slowed down fires in the 2017 Nuns fires, exemplifying the opportunity to steward these lands for future fire risk reduction.

- **Bolstering Existing Actions in Sonoma County:** Wildfire interventions in Sonoma Springs have the added benefits of bolstering existing actions to reduce risk in the surrounding area. The Sonoma Valley Wildlands Collaborative (a group of six conservation organizations and land management agencies coordinating the management of natural lands)–is actively implementing projects north of the project focus area. In addition to these efforts, Audubon Canyon Ranch has been implementing fuel reduction projects on Oak Hill Farm just north of the project focus area in recent years. The implementation of a patchwork greenbelt buffer in Sonoma Springs can aid existing efforts in the adjacent landscapes and reduce the spread of wildfire in the region as a whole.

Sonoma Springs is a semi-rural community with varied landscapes and numerous land uses. Diverse landscapes like Sonoma Springs do not lend themselves to reducing wildfire risk from a traditional, linear greenbelt buffer alone. A contiguous greenbelt buffer is not responsive to dynamic landscape characteristics, parcel sizes, land ownership types, and vegetation. And although, in the project proposal, the project team had hypothesized the need to plan for a linear greenbelt, we found areas like Sonoma Springs to lend themselves to an innovative, patchwork approach to designing a greenbelt buffer, leveraging existing opportunities like agricultural lands within the built and natural environment.

Defining zones: Key characteristics and risk Profiles



In working with our Technical Advisory Committee, land use planners and land managers, ecological land stewardship experts, vintners, and community education partners, the project team identified four wildfire buffer zones (or zones) present in the focus area. These typologies reflect similar land characteristics (like slope and vegetation type), ownership profiles, and policy opportunities, among other factors, that are key to creating a comprehensive strategy with coordination across the landscape and priority actions for each zone. We saw these similarities as an overall asset to be able to direct a suite of strategies to specific groupings of parcels. By doing so, Sonoma Springs and similar communities can customize the most optimal wildfire interventions where they are best suited while simultaneously weaving together a patchwork of greenbelt buffers. The four zones are described below:

Community Zone: *Higher Density Residential Development*
This zone is dominated by residential development - predominantly single-family homes interspersed with natural areas - and presents the highest risk in terms of structures and human

life. Homes are often in close proximity and access is limited due to narrow streets. Mature trees attract people to these areas and provide needed shade and beauty but also overhang many structures. The small parcel size and plethora of owners can cause coordination and outreach challenges. For example, in the pilot area this zone constitutes just 14% of the land but 80% of parcels and 75% of people. And while only 7% of the land in this zone is designated as high or very high wildfire risk, the high density of residents and structures means that this zone is facing the highest risk of loss of life and property damage and is the key area in need of community-scale protections.

Risk Reduction Strategies:

- Implementing an effective home hardening program and creating and maintaining defensible space are likely to be the most impactful strategies in this area for reducing risk.
- Resident education programs that share evidence-based best practices and connect people to resources should be a high priority.
- Groups like Fire Safe Councils and Firewise Communities can provide guidance on rules and best practices and can partner with public agencies for management and oversight to ensure compliance.
- Public resources from local governments should prioritize assistance to low-income residents at risk who may not have the resources to invest in the necessary upgrades and management strategies.

Community-Adjacent Wildlands Zone (Patchwork Greenbelt Priority): *Low Density, moderate vegetation*

This zone is adjacent to the WUI zone and therefore acts as a key area for staging and treatment to protect against wildfire intrusion into more populated areas. However, due to decades of unmonitored development into the hillsides, this zone is characterized by a mix of dispersed housing on mid-sized lots (average 10 acres), surrounded by hardwood forests often characterized by challenging geographies for fire engine access and land management. The pilot area includes some of the steepest slopes with moderate vegetation, which make it difficult to manage with beneficial fire practices. This zone, representing 55% of the project area, has the highest need for action with over 42% of the area designated as high or very high wildfire risk.

Risk Reduction Strategies:

- A mix of policy tools, collaborative partnerships, easement strategies, and prioritized vegetation management are needed in this zone to significantly reduce wildfire risk.
- In order to maintain these lands over the long term, Ag + Open Space should assess conservation easements and acquisitions based on a property's potential for recreational, agricultural, and natural resource benefits.

- Integrate priority properties into county vegetation management plan and secure funding for ongoing vegetation management of priority properties.
- Prevent further development of dispersed homes in this area through the use of Urban Growth Boundaries, local ordinances, general plan policies, zoning overlays, or similar tools as well as policy tools and guidance that reinforce statewide regulations on building codes and defensible space requirements.
- The development of a physical patchwork in this zone will require coordination with fire agencies, private landowners, and vineyards (the primary irrigated land use in this case) to establish priority treatment areas and work to establish sufficient access for ongoing land management.
- Opportunities for coordination with fire response planning to create greater access to this zone for emergency response should be highlighted and pursued.

Agricultural Zone (Patchwork Greenbelt Priority): *Irrigated farmland and vineyards*
Agricultural lands have played a significant role in lowering wildfire risk and damages to homes. While agricultural lands can and do burn, they generally contain less flammable biomass and tend to have relatively high water content (via irrigation) or naturally contain moisture (e.g. grapevines). Due to these properties, agricultural lands can serve as natural fuel breaks to shield neighboring homes and communities from wildfires that often originate in nearby wildlands. In the pilot area, this zone is dominated by vineyard and irrigated uses and thus is already acting as a wildfire buffer.

Risk Reduction Strategies:

- Existing management of irrigated farmland and vineyards creates a natural wildfire buffer so no significant further physical land stewardship practices are recommended.
- Between vineyard areas and in surrounding lands with steep slopes, there is an opportunity for partnership between vineyards, neighboring landowners, and fire professionals to connect the flame-resistant vineyards as part of a larger, strategically designed system of shaded fuel breaks for both firefighter access and prescribed fires.
- Fire districts are facing severe capacity constraints due to the increase in risk over recent decades. Even when capacity isn't a problem, fire professionals have a highly-specific focus on fuel reduction, engine access, and emergency response, while more resources are needed for risk mitigation. However, Fire professionals working in Zone 4 need additional resources and landowner participation to ensure effective risk reduction strategies on private lands.
- This is envisioned to take place as part of the strategy outlined for Zone 2 but will require partnership with vineyard owners. There is a prime opportunity here to forge partnerships with vineyards to identify incentives for stewarding surrounding land for insurance

benefits and protection of assets while also continuing to educate them around best practices for wildfire risk reduction.

Rural Nature Zone: *Grasslands, woodlands, and forest*
This zone is dominated by grasslands and oak woodlands and includes relatively low-slope areas that are generally well-positioned for beneficial fire. The area is biologically diverse, set further back from densely populated communities, and provides important opportunities for wildlife movement and habitation. The pilot area includes black volcanic rock outcrops and blue oak woodlands and has little residential and commercial development. Due to the prevalence of native and fire-adapted flora and fauna, this zone is a naturally lower wildfire risk area that is not likely to burn as hot or fast as other areas, if managed with ecologically-sensitive treatment.

Risk Reduction Strategies:

- With the low slopes and distance from population centers, this zone is a prime candidate for beneficial fire treatment and thinning (with retention of habitat vegetation).
- This zone is a naturally low wildfire risk area, but ecologically-sensitive treatment is critical to ensure that risk remains low and that the land can continue to serve as a critical habitat and migration pathway for local fauna.
- Due to the overlap of these conservation benefits and wildfire risk, this zone is especially well suited for conservation acquisition or easements by Ag + Open Space as a strategy for realizing joint benefits to species mobility, biodiversity, and wildfire risk reduction.

This Sonoma Springs Pilot Project was invaluable in understanding the opportunities, barriers, and corresponding paths forward to reach the ultimate goal of designing and implementing a wildfire buffer in a community that's primed with the potential for conservation and fire risk reduction strategies. Sonoma Springs' mosaic of land use types and landscape characteristics lends itself to a landscape-scale governance approach that will require the ongoing coordination of private and public actors.

While this added complexity and an increased need for collaboration and coordination amongst numerous stakeholders, it was an essential pivot from our original assessment of the implementation of a singular greenbelt buffer to a comprehensive strategy for achieving wildfire risk reduction, conservation outcomes, and land stewardship through a multi-pronged physical patchwork strategy.

Barriers Encountered

One of the main barriers that the project team encountered was around community engagement. The development of an equitable community engagement process and the planning and the necessary relationship building took longer than initially anticipated. The project team wanted to be adequately prepared to come to the community and have fruitful conversations about the realization of the buffer zone and not create false expectations around the outcomes of the project, especially around things that were outside the control of the project team's scope. Because of this a decision was made that strategically delaying community engagement would be the best course of action to mitigate the potential risk of losing trust with the community. Going into the community engagement phase, the team wanted to ensure that they were positioned to speak to the parcels of the buffer zone as well as the patchwork of landowners who represent those areas.

Additionally, relationship building with the various actors who would be involved in realizing the buffer zone took longer than anticipated. As multiple private properties were comprising the patchwork buffer, it became a barrier to identify and reach the relevant private property owners in a timely manner to engage them in this project. Since the project team wanted to have those relationships secure so that they could bring them to the wider community of residents for a more tangible conversation, that was a major barrier to the more widespread community engagement initially envisions for this effort. Another obstacle was the mismatch in reach of our main community engagement partner Latino Service Providers (LSP) to the Latinx community in Sonoma County and the location of the ultimately selected buffer zone, Sonoma Springs. Sonoma Springs was selected for the buffer project to be able to focus wildfire resources in areas currently lacking attention; however, LSP has fewer connections to residents in this area as opposed to other parts of the county. Because of this, the project team had to increase the role of another partner, Sonoma Ecology Center, as they held more relationships in the Sonoma Springs area, shifting overall the ultimate makeup and timeline of resident engagement in wildfire buffer conversations.

Finally, while not necessarily a barrier, as mentioned above the project team did identify the need to pivot from the original project goal of prioritizing lands for conservation through a community-engaged process to create a greenbelt buffer for wildfire risk reduction to serve communities most impacted by wildfire risk. In broadening this goal and moving away from the concept of a linear greenbelt and towards a landscape scale buffer zone approach, the project team expanded the ultimate project vision to include a mix of conservation strategies. The ultimate vision is for The Springs community to be protected from future fire through a network of stewarded lands that are managed for wildfire risk, ecological vitality, and economic opportunity. Implementation of the buffer strategy is as much about process as it is final outcome.

External Factors

While there is significant opportunity for impact in assembling this patchwork buffer as a wildfire resilient landscape, the nuanced challenges of working with private landowners in the wildfire-adjacent zone and with vineyards in the irrigated agricultural zone mean that strategic coordination and communication with landowners will be essential. In recognizing that land stewardship and wildfire risk reduction is not going to be achieved through one-time projects, but instead, through long-term, sustained, land stewardship, external factors impacting that success in fostering collaboration and continued support for landowner participation.

In the Pilot Area over 90% of the 370 parcels in the Wildlands-Adjacent zone are privately owned, meaning achieving widespread participation in land management programs is a significant external factor, and one that is posing to be a significant challenge - especially because absent and unresponsive landowners are common in this typology. The Sonoma County's planning agency recently had to abandon plans to construct a publicly funded shaded fuel break in this area due to a lack of response from property owners, which was a necessary prerequisite for preliminary site studies.

Additionally, physical land stewardship activities will have greater per-acre costs than agricultural and forest lands due to smaller acreage of landholdings, steep topography, and access challenges for machinery and crews. The need for funding of these activities is another external factor impacting overall buffer viability. Strategies must be explored that pool resources from those who stand to benefit, including not only those stakeholders that are responsible for implementation, but also the Community Zone residents that will benefit immensely from this community scale wildfire risk reduction.

Increased coordination with the farm and vineyard owners is critical for maintaining this long-term benefit greenbelt buffer. Irrigation is a critical component to the wildfire buffer aspect of this land, but is a significant use of water that may have environmental downsides, especially in a drought era. Additionally, there is a need to find better ways to collaborate with vineyards and agricultural operations to share costs and associated benefits of land management activities in the wildlands-adjacent area while also building shared understandings of best practices for reducing wildfire risk through land management. This is especially important given that many vineyard owners are hesitant about prescribed fire (a highly effective land stewardship approach) due to the risk of smoke impacts to grapes and fear of additional regulations impacting their bottom line.

To overcome these challenges, a mix of policy tools, collaborative partnerships, easement strategies, and prioritized vegetation management are needed.

Participating Stakeholders

- Partners
  - Sonoma County Agricultural Preservation and Open Space District
    - Main government agency partner, closely collaborating with Greenbelt Alliance in this effort to ensure it provides the value and direction for the agency's future steps implementing the resilient infrastructure investment in the identified greenbelt buffer
  - Sonoma County Regional Parks
    - Participant in meetings to identify community vulnerabilities and recommendations of additional considerations
  - Sonoma County Office of Climate Resiliency
    - Participant in meetings to identify community vulnerabilities and recommendations of additional considerations
  - Latino Service Providers
    - Partner in ongoing community outreach, specifically with the Latinx community, to build local power and influence in land-use planning
- Community stakeholders
  - Landowners
    - Explore opportunities for conservation easements or other protection and land stewardship actions so they can review and provide input on potential areas for implementing greenbelt buffer projects, articulate the benefits and concerns they might have for potential conservation strategies and specific land management and stewardship options they prefer
  - Local Residents
    - Explore local resident interests and identify the training, equipment, and capacity-building required for influencing the near-term land-use policy changes needed and community-led long-term stewardship of the project
  - Farmworkers
    - Traditionally underrepresented and most impacted by wildfires
  - Sonoma Latinx Community
    - Traditionally underrepresented and most impacted by wildfires
  - Sonoma County's Board of Supervisors
    - Responsible for wildfire resilience efforts and investments, engaged in conversations to align local wildfire risk reduction priorities and community needs
- Technical advisors
  - Pepperwood
    - Offers their expertise in the latest wildfire data and monitoring, and work on the county's Wildfire Fuel Mapper

- Sonoma County's Division of Climate Action and Resilience
  - Currently embarking on a project to plan and design greenspace corridors through underserved communities
- Regional CAL Fire Experts
  - Advising on development and execution a local resident outreach and implementation plan
- Members of County's Vegetation Management Technical Advisory Committee
  - Participant in meetings to identify community vulnerabilities and recommendations of additional considerations
- Sonoma Ecology Center
  - Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations
- Audubon Canyon Ranch
  - Has been implementing fuel reduction projects on Oak Hill Farm just north of the project focus area in recent years. Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations
- Fire Safe Sonoma
  - Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations
- WRA landscape restoration
  - Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations
- UC Cooperative Extension
  - Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations
- Sonoma Land Trust
  - Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations
- CAL FIRE Sonoma County Operations
  - Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations
- Gold Ridge RCD
  - Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations
- Permit Sonoma

- Will engage private landowners. Member of Technical Advisor Committee to provide input on the data and methodology used to identify potential Pilot Project locations.

Lessons for other communities considering similar projects

Patchwork greenbelt buffers can play a beneficial role in reducing wildfire risk and improving resilience in myriad ways. Communities may choose to undertake a similar greenbelt buffer identification and implementation project if they are looking to:

- Identify strategic locations for wildfire defense
- Find ways to create buffers between homes and denser wildlands to slow fire spread
- Prioritize land stewardship and vegetation management activities given limited resources compared to potential need
- Increase overall wildfire resilience through land stewardship
- Conserve biodiversity in fire-adapted lands while reducing wildfire risk
- Provide wildfire resistant green spaces (due to vegetation type and irrigation) surrounding neighborhoods

However, assembling a patchwork greenbelt buffer will require significant coordination and partnership. As identified through this effort, the Community Adjacent Wildlands Zone (the mid-sized parcels, complex geography, very high wildfire risk, and adjacency to more populated areas) mean that coordinated stewardship of these lands will require an unusually high level of collaboration across land owners which will need to be coordinated and incentivized through governmental and private actions. This coordination using a mix of policy, partnership, and easement strategies can achieve significant wildfire risk reduction and ecological health through vegetation management and increased access. Additionally, opportunities for coordination with fire response planning to create greater access to this zone for emergency response should be highlighted and pursued.

This is an area where private ownership dominates but because of the complex nature of stewardship, and the high risk to adjacent communities of no action, public participation is critical to ensure effective management and stewardship of the land. Since this zone has the greatest opportunity for community-scale wildfire risk reduction, and also the greatest need for high-cost ongoing management activities, identifying a source for ongoing funding will be critical. Mechanisms for generating funds at the community scale should be considered, including special districts, assessments, and partnerships with insurers.

Additionally, in order to prevent further development of dispersed homes in this area, UGBs, local ordinances, general plan policies, zoning overlays, or similar tools should be considered, as well as policy tools and guidance that reinforce statewide regulations on building codes and defensible space requirements. Exploring the idea of a special designation for farms that are acting as buffer zones would allow increased communication between government, fire professionals and farmers to communicate about any changes in irrigation and to strengthen buffer effectiveness by linking farm areas and improving access for emergency response.

5. Next Steps

This effort demonstrates that embracing strategies that work with nature to reduce wildfire risk, rather than try and control it, will be more effective in the long run. This pilot provided insights into the challenges and opportunities in creating a contiguous, landscape scale wildfire buffer in a WUI zone with a broad mix of landowners and uses. At the crux of successful implementation is getting various actors, namely landowners and local governments, to work collaboratively to advance strategies in each WUI zone. Relying on voluntary activities will not yield the actions at scale or in the timeframe needed given the growing wildfire risk crisis.

Therefore, a critical next step in this project is to further explore more potent interventions that will incentivize, force, or require the new behaviors that need to happen. This brings to the forefront the emerging role of the insurance market in wildfire resilience. The California insurance of last resort - known as the FAIR plan - has more than doubled the number of homes it covers in the last five years to more than 350,000. This puts the state government at extreme financial risk, with resources already stretched thin from combatting large scale fires. And while there are some changes in the insurance system that need to happen to better model risk, in order to stabilize the market and ensure premiums are within reach of homeowners, risk must be reduced overall.

Landscape-scale interventions like the patchwork greenbelt buffer explored here can be a critical tool for reducing risk at the scale needed. Insurance coverage has the possibility of incentivizing homeowners and other landowners to work together. This also creates incentives for governments to explore zoning interventions and financial mechanisms such as wildfire resilience easements, assessment zones and tax incentives to fund ongoing stewardship. This also will help scale up this model as more communities adopt greenbelt buffer protections - providing better data on risk reduction opportunities. Further researching, testing, and developing these next step interventions to enable implementation of a network of patchwork greenbelts that buffer communities from high risk wildlands is the focal point of the project team’s ongoing work to realize this nature-based solution and leverage existing land uses to increase our ability to protect people and nature.

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