# NORTH COAST FOREST HEALTH WATERSHED IMPROVEMENT PLAN

Prepared by Julia Sullivan, Forest Health Watershed Coordinator
On Behalf of the North Coast Durable Collaborative

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## EXECUTIVE SUMMARY

Healthy forests have the capacity to filter water, attenuate runoff, retain snowpack, and support thriving biological communities; they're an essential component of overall watershed health. California's North Coast is home to rich human and ecological communities, and it is a source region for much of the state's water and forest resources. Forest health across the North Coast, however, is suffering. The ecology and land use patterns of the North Coast region have changed in dramatic ways since colonization, the effects of which continue to have significant consequences for forest health. Wildfire, parcelization and land conversion, forest pests and disease, and permitting and funding challenges are all contributing to the pressures on North Coast forests, while shifts in the regional economy and funding landscape add to the complexity. Compounding these challenges, California's North Coast region contains extensive swaths of forestland "whose diversity of ownership is unparalleled elsewhere in the state." This patchwork of federal, state, local, and private forestlands demands an ambitious and coordinated approach, and ensuring that North Coast forests remain in or return to a healthy state will continue to be critical for the resilience of North Coast populations as well as those downstream.

Resource Conservation Districts (RCDs) are an integral part of that approach. Particularly given their experience working with non-industrial private forest landowners and capacity for coordinating with resource and land management agencies, RCDs "are best positioned to make change happen on the ground across both public and private land." Within the North Coast region, RCDs are regarded as trusted community partners. They are capable of bringing tremendous financial resources into their communities; helping private landowners navigate the challenges of forest management; and forging valuable connections between non-profit organizations, community groups, resource and land management agencies, and other entities. Although the forest health challenges confronting the North Coast region are great in their magnitude, North Coast RCDs have already proven their potential to be part of the solution. This WIP details 16 RCD action goals ranging from forest stand improvement and prescribed fire implementation across land ownerships to the encouragement of biomass markets and support for local Fire Safe Councils. It shines a light on exemplary programs such as the North Bay Forest Improvement Program, Siskiyou County Prescribed Burn Association, and Weaverville Community Forest. North Coast RCDs are poised to do much of the critical work that needs doing, but funding and capacity limitations often stand in their way. This Watershed Improvement Plan (WIP) aims to demonstrate the effectiveness of North Coast RCDs' ongoing work, highlight their untapped potential, and suggest interventions to close the gap.

This WIP was prepared on behalf of the North Coast Durable Collaborative (Durable Collaborative) – a coalition of eleven RCDs spanning the North Coast region. Through the Durable Collaborative, North Coast RCDs operate on two levels: (1) as individual RCDs working to address the unique forest health priorities of their respective communities; and (2) as a collective working to elevate the work of RCDs to the regional level and achieve cross-boundary, landscape-level impacts. Furthermore, this WIP was completed as a grant deliverable under the California Department of Conservation's 2018 Forest Health Watershed Coordinator Program, which is designed to facilitate watershed-scale collaborations, promote integrated watershed management efforts, and support local implementation activities to restore resilience to forestlands consistent with the *California Forest Carbon Plan* and Executive Order B-52-18.

## ACKNOWLEDGEMENTS

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## Table of Contents

## INTRODUCTION

This Watershed Improvement Plan (WIP) was prepared as a grant deliverable under the California Department of Conservation's 2018 Forest Health Watershed Coordinator Program, which is designed to facilitate watershed-scale collaborations, promote integrated watershed management efforts, and support local implementation activities to restore resilience to forestlands consistent with the *California Forest Carbon Plan* and Executive Order B-52-18.

The North Coast Durable Collaborative was awarded funding through the 2018 Forest Health Watershed Coordinator Program. The position of Forest Health Watershed Coordinator was first held by Tim Bailey and later by Julia Sullivan, the primary author of this WIP. While officially housed at the Humboldt County Resource Conservation District (RCD), the Forest Health Watershed Coordinator worked across the North Coast region and operated on the following two levels: (1) to support the unique forest health work of individual North Coast RCDs within their respective districts; and (2) to support the forest health work of North Coast RCDs as a collaborative, regional entity: the North Coast Durable Collaborative. For the purposes of this WIP, the North Coast region is defined as the area encompassed by the following present-day counties: Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Siskiyou, Sonoma, and Trinity. These nine counties are represented by the following eleven RCDs: Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Shasta Valley, Siskiyou, Gold Ridge, Sonoma, and Trinity.

This WIP is meant to capture the most salient trends and challenges playing out across the North Coast region while also serving as a resource that RCDs can use to identify priorities, advocate for themselves and their work, be competitive for grant funding opportunities, and secure base funding. The intended audience of this WIP is North Coast RCDs themselves as well as their local, state, and federal agency partners and potential funders. It warrants mentioning that the North Coast Resource Partnership (NCRP), as the regional recipient of funding through the Department of Conservation's Regional Forest and Fire Capacity (RFFC) Program, is tasked with creating a Regional Priority Plan (RPP). The author of this WIP communicated regularly with NCRP representatives to ensure that this planning document complements – and does not duplicate – the content of the NCRP's RPP.

This document is structured as follows: (1) the first section provides a snapshot of the North Coast region's ecology, human population, and economy as well as the challenges confronting the region; (2) the second section takes a closer look at North Coast RCDs' unique organizational capabilities and presents RCD survey data related to capacity strengths and needs; and (3) the third section details North Coast RCDs' action goals related to forest health, connecting them to those laid out in the *California Forest Carbon Plan*.

## NORTH COAST REGIONAL SNAPSHOT

California's North Coast region contains extensive swaths of forestland "whose diversity of ownership is unparalleled elsewhere in the state." This complex patchwork of federal, state, local, and private forestlands demands a coordinated approach, and RCDs "are best positioned to make change happen on the ground across both public and private land."[1] This section offers a brief snapshot of that mosaic by discussing the following topics related to the North Coast in

[1] "North Coast Regional Forest Health Concept Paper." *North Coast Durable Collaborative.*

broad strokes: (1) regional ecology; (2) regional population and land ownership; and (3) regional economy. Later sections will discuss how RCDs can continue to coordinate with one another to effect change and increase the pace and scale of critical forest health work.

## Regional Ecology

The North Coast region is a vast and varied one, but notable commonalities exist when it comes to the region's ecology and land use history, both of which have changed in dramatic ways since colonization. This section covers the following: historical land use and forest resilience; watershed highlights and existing WIPs; vegetation types; forest health threats; and forest health priorities.

### Historical Land Use and Forest Resilience

Prior to the Spanish, Mexican, and American colonization of California, the North Coast's forests were managed by Indigenous peoples for millennia. Their traditional management systems were tailored to unique cultural purposes and "influenced the size, extent, pattern, structure, and composition of the flora and fauna" throughout the region.[2] It follows that the landscape that colonizers first encountered in California was not an untouched wilderness but the result of "thousands of years of selective harvesting, tilling, burning, pruning, sowing, weeding, and transplanting."[3]

Of the management practices North Coast Indigenous peoples utilized, fire was the most "significant, effective, efficient, and widely employed vegetation management tool."[4] Fire had many notable ecological effects. In her book, *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources*, M. Kat Anderson identifies five such effects that stand out "as the most fundamental and compelling": (1) decreasing detritus and recycling nutrients; (2) controlling insects and pathogens; (3) managing wildlife; (4) modifying the structure of forest and woodland vegetation; and (5) maintaining habitat for shade-intolerant species.[5] In forests and woodlands in particular, Indigenous peoples regularly "fired the understory" to mitigate the accumulation of brush and encourage the growth of wildflowers and grasses. With regular burning, these fires tended to be low-intensity and rarely escalated into crown fires.[6] Specific to the North Coast, Anderson notes several examples that illustrate this "deliberate modification of the structure of forests and woodlands".[7] The Yurok "practiced burning at a frequency that was appropriate for each cultural purpose: burning of hazelnut for basketry occurred every two years; burning under the tan oaks to keep brush down took place every three years; burning for elk feed occurred every fourth or fifth year; burning in the redwoods for brush and downed fuel control occurred every three to five years."[8] The Karuk utilized fire in tan oak stands to reduce brush, which "facilitated acorn collection" and kept fuel levels low.[9] The anthropologist Frank Essene wrote that the Lassik regularly used fire to keep

[2] Anderson, M. Kat. *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources*. Berkeley: University of California Press, 2005.
[3] Ibid.
[4] Ibid.
[5] Ibid.
[6] Ibid.
[7] Ibid.
[8] Ibid.
[9] Ibid.

their territory clear of underbrush and make it easier to hunt and to travel, particularly adjacent to the Eel and Mad Rivers."[10]

The displacement and violent removal of Indigenous peoples impeded many tribes' ability to continue practicing their traditional management activities, and the industries and economies that emerged with colonization and settlement set into motion forces that would transform the landscape of the North Coast. Over the past 150 years, colonists and settlers' logging and fire suppression activities, in combination with natural regeneration, have dramatically changed the composition and structure of North Coast forests. While European settlers extracted resources from the North Coast in a variety of ways, the logging industry has perhaps the most significant legacy across the region. The U.S. Forest Service made aggressive fire suppression its policy after a series of devastating wildfires in the first decades of the 20th century. Without regular fires to maintain low-density forests, logging became the primary mode of tree removal. Over the course of the 20th century, most of California's largest trees were removed from the landscape via timber harvest, and small trees proliferated in the absence of regular fire.[11] While logging reached its zenith in the 1950s, new road infrastructure in California's national forest system ensured that it continued well into the 1970s,[12] and it remains central to the economies of numerous North Coast communities, which is discussed in the *Regional Population and Land Ownership* section of this document. As a result of these dramatic and compounding transformations in land use and management, present-day North Coast forests are far less resilient than those that preceded them, and they are particularly vulnerable to catastrophic wildfire.

### Watershed Highlights and Existing WIPs

According to the North Coast Regional Water Quality Board, and with additional input from North Coast RCDs, the North Coast region contains all or parts of the following Hydrologic Units, as captured in **Figure 1** in the *Appendix*: Smith River, Klamath River, Redwood Creek, Trinidad, Mad River, Eureka Plain, Eel River, Cape Mendocino, Mendocino Coast, Russian River Bodega, Tomales-Drakes Bay, and San Pablo Bay.[13] As captured in **Table 1** in the *Appendix*, there is an abundance of active watershed groups and existing WIPs or comparable watershed plans in the region. These watershed groups and the plans they are working to implement capture the myriad threats to watershed health across the North Coast, including water quality impairment, decreased water quantity, and salmonid extinction – all of which stand to be exacerbated by climate change. While all of these interrelated issues are of paramount importance, given the breadth and depth of work already underway on these priorities, this document identifies forest health as its primary focus.

Healthy forests have the capacity to filter water, attenuate runoff, retain snowpack, and support thriving biological communities; they're an essential component of overall watershed health. California's North Coast is home to rich human and ecological communities, and it is a source

[10] Ibid.
[11] Bustic, Van et al. "Improving the Health of California's Headwater Forests." *Public Policy Institute of California*. September 2017. <https://www.ppic.org/wp-content/uploads/r_0917vbr.pdf>.
[12] Ibid.
[13] "Watershed and River Information." *North Coast Regional Water Quality Control Board.* <https://www.waterboards.ca.gov/northcoast/water_issues/programs/watershed_info/>.

region for much of the state's water and forest resources. Ensuring that its forests remain in or return to a healthy state will continue to be critical for the resilience of North Coast populations as well as those downstream.[14]

### Vegetation Types

**Table 2** below captures the dominant vegetation types present across the region and identifies which ones can be found in each county. (X = present; O = absent)

**Table 2. Vegetation Types**

| **County** | **Vegetation type** | | | | |
|---|---|---|---|---|---|
| | *Chaparral* | *Oak woodland* | *Coastal redwood* | *Mixed conifer* | *Agricultural land* |
| Del Norte | O | X | X | X | X |
| Humboldt | O | X | X | X | X |
| Lake | X | X | O | X | X |
| Marin | X | X | X | X | X |
| Mendocino | X | X | X | X | X |
| Napa | X | X | X | X | X |
| Siskiyou | X | X | O | X | X |
| Sonoma | X | X | X | X | X |
| Trinity | O | X | O | X | X |

### Forest Health Threats and Challenges

While each of the vegetation types captured in **Table 2** is facing its own set of unique challenges and pressures, there are certain threats that imperil them all. Catastrophic wildfire, parcelization and land conversion, and forest pests and disease all loom large across the North Coast, while challenges in permitting and funding forest improvement work continue to hinder progress on forest management – particularly for non-industrial private forest landowners. This section briefly examines each of these threats and challenges.

#### *Wildfire*

The Karuk Tribe's publication, *Good Fire: Current Barriers to the Expansion of Cultural Burning and Prescribed Fire in California and Recommended Solutions*, states the following: "Indigenous peoples used fire to shape vegetation in the landscape to create more fire resistant ecosystems and mitigate the impacts from wildfires and climate variability." The "concomitant effects of removal of Indigenous fire practices from California's ecosystems has become increasingly self-evident in the extent and magnitude of recent wildfires."[15] Every county featured in this plan has been affected by the unprecedented wildfires of recent years. At the time of this writing, nearly half of the 20 largest wildfires in California history have occurred in the

[14] "About." *North Coast Resource Partnership*. <https://northcoastresourcepartnership.org/about/>.
[15] Clark, Sara A. et al. "Good Fire: Current Barriers to the Expansion of Cultural Burning and Prescribed Fire in California and Recommended Solutions." *Karuk Tribe*. <https://karuktribeclimatechangeprojects.files.wordpress.com/2021/03/karuk-prescribed-fire-rpt_final-1.pdf>.

past two years – four in 2021 and five in 2020.[16] Of these 20 wildfires, seven have burned in at least one North Coast county: the August Complex, the Mendocino Complex, the LNU Lightning Complex, the Carr Fire, the Monument Fire, the River Complex, and the Klamath Theater Complex.[17] **Table 3** below is adapted from CAL FIRE's "Top 20 Largest California Wildfires" and highlights some information related to these seven events. These exceptionally large wildfires have been devastating in their ecological, human, and economic impacts, and there have been and will continue to be numerous smaller wildfires that do not top the charts but still wreak considerable damage. Climate projections indicate that catastrophic wildfires of the scale and frequency captured below are likely to be the new reality with which Californians must contend. It is critical that forest management be enacted at a pace and in a manner that is commensurate with the severity of the threat posed by wildfire.

*Image 1. A pyrocumulus cloud produced by the River Complex Fire, as seen from above Yreka, Siskiyou County, August 2021. Credit: Julia Sullivan.*

## Table 3. Large North Coast Fires

[16] "Top 20 Largest California Wildfires." *CAL FIRE*. January 2022. <https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf>.
[17] Ibid.

| Fire Name | Date | County/Counties | Acres | Structures | Deaths |
|---|---|---|---|---|---|
| *August Complex* | August 2020 | Mendocino, Trinity, Tehama, Glenn, Lake, Colusa | 1,032,648 | 935 | 1 |
| *Mendocino Complex* | July 2018 | Colusa, Lake, Mendocino, Glenn | 459,123 | 280 | 1 |
| *LNU Lightning Complex* | August 2020 | Napa, Solano, Sonoma, Yolo, Lake, Colusa | 363,220 | 1,491 | 6 |
| *Carr* | July 2018 | Shasta, Trinity | 229,651 | 1,614 | 8 |
| *Monument* | July 2021 | Trinity | 223,124 | 50 | 0 |
| *River Complex* | July 2021 | Siskiyou, Trinity | 199,343 | 122 | 0 |
| *Klamath Theater Complex* | June 2008 | Siskiyou | 192,038 | 0 | 2 |

[18]

*Image 2. Smoke from nearby wildfires in Weaverville, Trinity County, August 2021. Credit: Julia Sullivan.*

[18] Ibid.

### *Parcelization and Land Conversion*

The twin forces of parcelization and land conversion are currently playing out across the North Coast, serving to further complicate forest management efforts. Sonoma County, for example, claims the title of the most highly parcelized county in California.[19] Whether driven by vineyard owners, cannabis growers, or developers, these lucrative land uses have – in many cases – resulted in the purchase and subsequent division of land into ever smaller parcels.[20] Land conversion has often occurred concurrently, with forests being cleared to establish vineyards and ranching and agriculture driving the conversion of coastal grasslands.[21] Increased development in the wildland-urban interface (WUI), which is defined as "the area where houses and wildland vegetation meet or intermingle," is also occurring rapidly across the North Coast region.[22] Not only does the "close proximity of houses and wildland vegetation" increase fire risk, but new construction in the WUI results in the loss and fragmentation of native vegetation.[23] These trends are touched on more in depth in the *Notable Population Segments* and *Land Ownership and Management* sections.

### *Forest Pests and Disease*

Healthy forest ecosystems maintain native insect populations and pathogens in check, but changing environmental and biological conditions, e.g., drought, invasive species, etc., can "favor their development into outbreak status."[24] Moreover, invasive species have the potential to significantly impact forestland ecology, and they are a mounting concern in the North Coast region. The California Forest Pest Council identifies the following insect and disease problems typical to the North Coast region: root decay caused by the velvet-top fungus; non-native Phytophthora diseases, including sudden oak death and Port Orford-cedar root disease; Western gall rust affecting bishop and Monterey pines; Dwarf mistletoes affecting pines, grand fir, and Western hemlock; and the Flathead fir borer affecting Douglas fir.[25] Increased tree mortality due to forest pests and diseases also heightens wildfire risk, as standing dead trees become yet more fuel for wildfires. Improving the overall health of North Coast forestlands through the strategies discussed in this WIP will help to mitigate against forest pests and diseases, as forests will be better able to withstand environmental and biological stressors.

### *Permitting and Funding Challenges*

When it comes to forest improvement work, private landowners must navigate a "complex set of regulations related to timber harvesting, reforestation, vegetative fuels treatment, and ongoing management and conservation of their lands."[26] The associated permitting processes are

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[19] EuphratF., Frederick D. et al. "Protecting Forests Across Landscapes and Through Generations: The Sonoma County Forest Conservation Working Group." <http://cemarin.ucanr.edu/files/177064.pdf>.
[20] Jason Wells. Personal communication. August 2021.
[21] "Northern California coastal forests." *World Wildlife Fund*. <https://www.worldwildlife.org/ecoregions/na0519>.
[22] Radeloff, Volker C. et al. "Rapid growth of the US wildland-urban interface raises wildfire risk." *PNAS*. March 12, 2018. <https://www.pnas.org/content/115/13/3314>.
[23] Ibid.
[24] "Forest Health." *University of California Agriculture and Natural Resources: UCCE Mendocino County*. <https://cemendocino.ucanr.edu/Forestry/ForestHealth/>.
[25] "North Coast." *California Forest Pest Council*. <https://www.caforestpestcouncil.org/north-coast>.
[26] "California's Wildfire and Forest Resilience Action Plan: A Comprehensive Strategy of the Governor's Forest Management Task Force." *State of California*. January 2021. <https://www.fire.ca.gov/media/ps4p2vck/californiawildfireandforestresilienceactionplan.pdf>.

demanding and present a formidable barrier to landowners who seek to proactively manage their forests. The necessary planning and permitting work can come at a high cost per acre without financial support in the form of government cost-share programs, and the cumbersome nature of obtaining a permit often renders active management economically infeasible for small forest landowners.[27]

There are three primary permitting options available to small forest landowners: Timber Harvest Plans (THPs), Non-Industrial Timber Management Plans (NTMPs), and Working Forest Management Plans (WFMP).[28] The former allows for a single commercial harvest of timber conducted by a Licensed Timber Operator (LTO), while the latter two are "good options for private forest landowners with smaller acreage," although they restrict silvicultural treatments to uneven-aged regeneration methods.[29] All three plans require a Registered Professional Forester (RPF) for development. A region-wide shortage of RPFs, as reflected in the results of the "RCD Forest Health Capacity Survey" discussed later in this document, has created a serious bottleneck when it comes to responding to landowners' requests for THPs, NTMPs, and WFMPs.[30] In many North Coast counties, a significant backlog of landowner requests for support stands in the way of small forest landowners proactively managing their land.

## Forest Health Priorities

In light of the looming threats and challenges outlined in the previous section, the following forest health priorities demand attention and have been identified as top priorities by North Coast RCDs: biodiversity; cultural resources; ecological resilience and carbon sequestration; and streamlined permitting processes and support for local entities.

### *Biodiversity*

While vegetation type varies widely across the North Coast, as captured in **Table 2**, due to the pressures outlined in the previous section, every county featured in this document is confronting habitat and biodiversity loss. Addressing the biodiversity challenges unique to each vegetation type is a priority of North Coast RCDs.

The North Coast is home to globally unique coastal redwood and mixed conifer forests. While somewhat similar to the temperate rainforests that hug the Washington and Oregon coasts, California's North Coast forests are distinct in that "redwoods and Douglas fir-tanoak forests dominate many lowland areas," and these "ancient and spectacular conifers are among the biggest, tallest, and oldest trees in the world." They often exceed 200 feet in height and 15 feet in diameter.[31] There are "only a few other forests in the world [that] have a similar assemblage and structure of ancient, giant conifers." In the absence of periodic disturbances such as fire, "some ecologists suspect that redwood groves may…eventually be replaced by western hemlock."[32] Moreover, the World Wildlife Fund notes the following: "Eight conifer species are endemic to

[27] Stewart, William et al. "Forestry." *Ecosystems of California*. University of California Press, 2016.
[28] Ingram, Kim. "Permitting rules and regulations for private landowners: What you can and cannot do." *Forest Research and Outreach*. January 19, 2021. <https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=45662>.
[29] Ibid.
[30] Ibid.
[31] "Northern California coastal forests." *World Wildlife Fund*. <https://www.worldwildlife.org/ecoregions/na0519>.
[32] Ibid.

the ecoregion. A rich understory or herbs, shrubs, treelets, ferns, and fungi is found under the towering redwood and other conifers."[33]

The oak woodlands of the North Coast are also hotspots for biological diversity. In a 1997 article published in *California Agriculture* titled, "Oak woodlands harbor greatest diversity," the authors note that California's oak woodlands "harbor the richest biological diversity of any major habitat in the state."[34] According to University of California Cooperative Extension researchers, they contain "some 2,000 species of plants, 170 birds, 100 mammals, 60 amphibians and reptiles and 4,000 species of insects."[35]

The health of North Coast forests is also intimately tied to that of the region's threatened salmon and steelhead populations. The endangered Coho Salmon is of particular concern, as are the threatened Chinook Salmon and Northern California steelhead. While much in-stream work is being done to protect these fish populations, ensuring overall watershed health requires looking at land uses and development throughout the watersheds of concern, particularly road infrastructure. Increased sediment loads resulting from erosion on heavily used logging roads and landslides in the wake of wildfires negatively impact these species. For those districts engaged in road decommissioning to reduce sedimentation and benefit fish populations, carrying out this critical work while maintaining evacuation routes in case of wildfire is a difficult balance to strike.

### *Cultural Resources*

As discussed in the *Historical Land Use and Forest Resilience* section, cultural burning and prescribed fire were, and remain, critical tools for managing California's fire-adapted ecosystems. Given that many of the forest health threats outlined in the previous section stem from the disruption of Indigenous stewardship methods, the management strategies and priorities advocated for throughout this document are based, in part or in whole, on the restoration of these same Indigenous practices. Cultural resources exist at the center of these stewardship methods and must, therefore, be a primary lens through which this work is viewed.

CAL FIRE maintains a Cultural Resources Management Program, the purpose of which is to "identify and manage archeological, historical, and Tribal cultural resources located within project areas under CAL FIRE jurisdiction and to develop methods to protect these resources from project-related impacts."[36] According to CAL FIRE, cultural heritage resources include sites of archaeological, historical, or Tribal cultural significance; structures; objects; features; places; cultural landscape; sacred places; and artifacts.[37] While the protection of existing cultural resources is an important management priority and one that should remain at the forefront of project development and implementation efforts, recognizing Indigenous peoples "as original stewards of this land" and ensuring that RCDs' "policies, projects, and behaviors honor their

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[33] Ibid.
[34] Merenlender, Adina. "Oak woodlands harbor greatest diversity." *California Agriculture* 51 (6): 7. November 1, 1997. <https://calag.ucanr.edu/Archive/?article=ca.v051n06p7>.
[35] Ibid.
[36] "Cultural Resources Management Program." *CAL FIRE*. <https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/environmental-protection-program/cultural-resources-management-program/>.
[37] Ibid.

Traditional Ecological Knowledge" (TEK) is an equally critical component of this work.[38] This requires moving beyond long-dominant forest management paradigms, fostering authentic and lasting partnerships with Tribes, and working towards the meaningful incorporation of TEK into forest improvement work.

### *Ecological Resilience and Carbon Sequestration*

As stated in the Public Policy Institute of California's 2017 report, "Improving the Health of California's Headwater Forests," managing forests for resilience is inherently difficult "because increasing one benefit may reduce other benefits in complex and non-linear ways."[39] The California spotted owl is emblematic of this challenge. The California spotted owl requires "dense canopy cover for nesting habitat, but forests with such densities are also fire-prone."[40] It follows that decreasing forest density in an attempt to increase resilience to wildfire inevitably reduces owl nesting habitat, leaving land managers to navigate these tradeoffs. Broadly speaking, managing headwater forests to improve resilience means "reducing current high fuel loads, increasing the diversity of tree sizes in the forest, reducing mortality from disease and insects, and protecting large trees."[41] Prescribed fire, managed wildfire, and mechanical thinning are just a few of the many tools available to achieve this outcome, and determining the appropriate application of each depends on myriad factors. While no single forest management prescription is appropriate in every context, in general, reducing the volume of forest biomass and mitigating the risk of catastrophic wildfire will enable forests to continue to provide benefits into the future – carbon sequestration among them. Lower biomass "reduces the risk of high-severity fires," promotes "low- and moderate-severity fires that increase habitat heterogeneity and do not kill many large trees," and "reduces the overall water demands of forests."[42] Lower stand density also helps forests ward off insect attacks, resist "wholesale conversion in composition," and adapt to what will likely be a hotter and drier future climate.[43]

In the context of climate change, numerous agencies and funding entities are increasingly prioritizing carbon sequestration in forests as a strategy to draw down atmospheric carbon dioxide and mitigate climate change. When it comes to carbon sequestration, however, considering timescale is paramount. While thinning forests will necessarily result in short-term losses in carbon storage, the avoided losses in carbon storage over the long-term (generated by reducing the risk of catastrophic wildfire and supporting ecological resilience) are critical. Ensuring that carbon calculations and projections account for this long-term reality is essential to prioritizing the right kind of forest management for this moment and into the future.

### *Streamlined Permitting Processes and Support for Local Entities*

The Public Policy Institute of California's (PPIC) 2017 report offers some suggestions for how permitting processes might be streamlined to encourage rather than disincentivize active forest management. Establishing forest health districts may be one such option that is explored further in the *Resource Concerns and Action Goals* section of this document. Another hopeful

[38] "Strategic Plan: 2020-2024." *Mendocino County Resource Conservation District*. November 17, 2020.
[39] Bustic, Van et al.
[40] Ibid.
[41] Ibid.
[42] Ibid.
[43] Ibid.

development can be found in the 2021 report, "California's Wildfire and Forest Resilience Action Plan: A Comprehensive Strategy of the Governor's Forest Management Task Force," which notes that by December of this year, the Board of Forestry and Fire Protection, working with the AB 1492 Leadership Team, will finalize a permit synchronization work plan, the purpose of which is to "align permitting under the Forest Practice Act and Forest Practice Rules with the Water Board and CDFW permitting and regulatory requirements."[44] CAL FIRE's California Vegetation Treatment Program (CalVTP) can also be utilized to expedite the California Environmental Quality Act (CEQA) compliance process and is discussed in the *Resource Concerns and Action Goals* section.

Galvanizing support for local entities is also critically important. In the spring of 2021, the PPIC convened multiple focus groups to explore the question of "how to pay for headwater forest management."[45] They noted that, together, "small-scale, non-industrial forest landowners (also known as family forest owners) and the U.S. Forest Service own nearly three-quarters of headwater forests in California," but both "face significant challenges to scaling up forest management on their own." RCDs, Fire Safe Councils (FSCs), and other local entities are proving to be critical partners in this work, "connecting local and federal landowners to local, state, and federal programs that provide resources for management." Too often, however, they are running into formidable obstacles to scaling up efforts – namely, stable, dedicated funding. Supporting local partners by increasing their fiscal certainty, reducing their reliance on cyclical grant funding, and empowering them to engage in long-term planning and investments in staff will have compounding benefits for the forest landowners across the region who value and depend on their support. This is discussed further in the *Restoration Economy* section.

## Regional Population and Land Ownership

The North Coast is home to a mosaic of human populations – some whose presence dates back millennia and others whose ties to the region are more recent and evolving. The distinct communities discussed in this section all contribute to the social and cultural diversity of the region, and they all relate to and manage land in distinct ways. Understanding these differences is critical to mounting a regional forest health strategy that is sensitive and responsive to the nuances of place.

### Tribal Nations

As discussed in the *Historical Land Use and Forest Resilience* section, Spanish, Mexican, and American colonization "disrupted… life for California Indians and the regimes of management that supported much of California's natural resources."[46] Despite their displacement, violent removal, "and continued erasure locally and nationally," Native peoples still maintain an active presence on and stewardship of their ancestral lands.[47] While reducing Tribes' presence to a list leaves much to be desired, it serves as a useful starting point in comprehending the diversity of Tribes across the North Coast region. The following list includes both federally recognized and

[44] "California's Wildfire and Forest Resilience Action Plan: A Comprehensive Strategy of the Governor's Forest Management Task Force."
[45] McCann, Henry and Bustic, Van. "Building Capacity for Long-Term Forest Stewardship." *Public Policy Institute of California*. July 6, 2021. <https://www.ppic.org/blog/building-capacity-for-long-term-forest-stewardship/>.
[46] Katuna, Michelle. "Chileno Valley Ranch Carbon Farm Plan." *Marin Resource Conservation District*.
[47] Ibid.

non-federally recognized Tribes and was compiled with input from North Coast RCDs as well as local sources, including the Northern California Indian Development Council's "County List of Tribal Nations in California,"[48] the State of California Native American Heritage Commission's "Digital Atlas of California Native Americans,"[49] and Native Land Digital.[50]

| | |
|---|---|
| **Del Norte County** | Elk Valley Rancheria<br>Resighini Rancheria<br>Tolowa Dee-Ni' Nation<br>Yurok Tribe |
| **Humboldt County** | Bear River Band of the Rohnerville Rancheria<br>Big Lagoon Rancheria<br>Blue Lake Rancheria<br>Trinidad Rancheria<br>Hoopa Valley Tribe<br>Table Bluff Reservation<br>Wiyot Tribe<br>Karuk Tribe<br>Resighini Rancheria<br>Yurok Tribe |
| **Lake County** | Big Valley Band Rancheria<br>Elem Indian Colony<br>Habematolel Pomo of Upper Lake<br>Middletown Rancheria of Pomo Indians<br>Robinson Rancheria<br>Scotts Valley Reservation |
| **Marin County** | Federated Indians of Graton Rancheria<br>Coast Miwok Tribal Council of Marin |
| **Mendocino County** | Cahto Tribe<br>Coyote Valley Band of Pomo Indians<br>Guidiville Indian Rancheria<br>Hopland Band of Pomo Indians<br>InterTribal Sinkyone Wilderness Council<br>Manchester Band of Pomo Indians<br>Pinoleville Pomo Nation<br>Potter Valley Tribe<br>Redwood Valley Little River Band of Rancheria of Pomo<br>Round Valley Indian Tribes |

[48] "County List of Tribal Nations in California." *Northern California Indian Development Council.* <https://www.ncidc.org/county-list-tribal-nations-california>.
[49] "Digital Atlas of California Native Americans." *State of California Native American Heritage Commission*. <https://nahc.ca.gov/cp/>.
[50] *Native Land Digital.* <https://native-land.ca/>.

| | |
|---|---|
| | Sherwood Valley Band of Pomo Indians<br>Yokayo Rancheria |
| **Siskiyou County** | Karuk Tribe<br>Quartz Valley Reservation |
| **Sonoma County** | Cloverdale Rancheria of Pomo Indians of California<br>Dry Creek Rancheria of Pomo Indians<br>Federated Indians of Graton Rancheria<br>Kashia Band of Pomo Indians of the Stewart's Point Rancheria<br>Lower Lake Rancheria<br>Lytton Band of Pomo Indians |
| **Trinity County** | Nor-rel-muk Wintu Nation<br>Tsnungwe Tribe |

### Notable Population Segments

Most North Coast counties include some combination of the following population segments, each of which warrants mention for its social and cultural significance to the region in recent centuries: State of Jefferson supporters; cannabis growers; timber and logging families; dairy farmers; homestead/ranchette families; vineyard owners and operators; ranchers; multi-crop farmers; rural residential populations; and tech transplants and new-to-the-area wealthy landowners. Acknowledging that there is considerable variation and overlap across the North Coast, this section seeks to highlight the most notable population segments across the region, beginning in the northernmost counties and progressing southward towards the San Francisco Bay Area. Brief descriptions are found below.

| | |
|---|---|
| **State of Jefferson supporters** | Del Norte and Siskiyou counties are central to the proposed State of Jefferson territory – the long-standing movement that calls for secession by California's rural far north from the rest of the state.[51] This movement is an extreme expression of the more widespread disenchantment with state government that permeates much of these and surrounding counties, which constitutes an important force within the broader region and warrants consideration when it comes to landowner outreach and forest management. |
| **Cannabis growers** | Cannabis growers have a large presence throughout the North Coast, particularly in the area that is often referred to as the Emerald Triangle – the region encompassing Humboldt, Mendocino, and Trinity counties. Significant illegal cultivation had long been taking place in these counties, but the 2016 legalization of recreational marijuana served to further |

[51] Hubler, Shawn. "The State of California's 'State of Jefferson'." *The New York Times*. May 26, 2021. <https://www.nytimes.com/2021/05/26/us/california-jefferson-secession.html>.

catalyze this lucrative industry, which has drawn droves of people into the region to engage in the many aspects of cannabis cultivation and distribution.[52] Related to this trend, in neighboring Siskiyou and Trinity counties, there are notable communities of Hmong people, many of whom have migrated to those counties in recent years from the Central Valley or elsewhere in the United States to pursue the cultivation of cannabis.[53] A 2017 *New York Times* article stated that there are approximately 1,000 ethnic Hmong families in the Trinity Alps area alone – a large figure for a county whose total population hovers around 16,112.[54] Importantly, water use related to cannabis cultivation is having significant impacts on local watersheds.

**Timber and logging families**

As discussed in the *Historical Land Use and Forest Resilience* section, the timber industry has perhaps the longest legacy across the North Coast. According to the report *California's Forest Products Industry and Timber Harvest, 2016*, Humboldt County provided the second largest proportion of the state's timber harvest at 11 percent, with Mendocino, Siskiyou, and Trinity counties also consistently ranking as top timber producers and Del Norte and Sonoma counties contributing smaller percentages.[55] While these numbers in large part reflect the presence and activity of private timber companies, these counties are also home to numerous timber and logging families. Of note is the fact that this demographic is currently experiencing a generational shift and turnover in forestland ownership.

**Dairy farmers**

Humboldt County also has a large dairy industry, although its count of individual dairy farms has decreased dramatically in the last decade due to consolidation.[56] Marin and Sonoma counties are also home to a number of small coastal dairy farmers. The 2020 "Marin County Crop & Livestock Report"

[52] Witt, Emily. "How Legalization Changed Humboldt County Marijuana." *The New Yorker*. May 20, 2019. <https://www.newyorker.com/news/dispatch/how-legalization-changed-humboldt-county-weed>.
[53] St. John, Paige. "Hmong pot growers in Siskiyou County seeking identify, profit – or both." *Los Angeles Times*. September 10, 2017. <https://www.latimes.com/local/california/la-me-hmong-marijuana-siskiyou-20170910-htmlstory.html>.
[54] Fuller, Thomas. "California's 'Green Rush' Takes Hmong Back to Their Opium-Growing Roots." *The New York Times*. June 3, 2017. <https://www.nytimes.com/2017/06/03/us/hmong-marijuana-california.html>.
[55] Marcille, Kate C. et al. "California's Forest Products Industry and Timber Harvest, 2016." *United States Department of Agriculture: U.S. Forest Service, Pacific Northwest Research Station*. December 2020. <https://www.fs.fed.us/pnw/pubs/pnw_gtr994.pdf>.
[56] Jill Demers. Personal communication. August 2021.

| | |
|---|---|
| | states that livestock products represented 38% of total agricultural production value in Marin County in 2020.[57] |
| **Homestead/ranchette families** | There are myriad homesteaders and ranchette owners that call the North Coast home. Some of these communities came to the area as part of back-to-the-land movements that unfolded during the late twentieth century. Some have arrived more recently and were drawn to the North Coast for other reasons. Regardless, they constitute a notable population segment. |
| **Vineyard owners and operators** | Lake, Mendocino, Sonoma, and Napa counties are home to large populations of vineyard owners and operators. A nontrivial percentage of these vineyard owners are absentee, which has important ramifications for community outreach and forest management.[58] As noted in the *Forest Health Threats and Challenges* section, vineyard development is one of the driving forces contributing to deforestation and/or parcelization in some North Coast counties. |
| **Ranchers and multi-crop farmers** | Cattle ranchers and multi-crop farmers are also found throughout the North Coast, particularly in Sonoma, Napa, and Marin counties. These ranches and farmlands often contain or abut significant areas of oak woodland, and many are entering into carbon farm planning processes with support from RCDs and/or the United States Department of Agriculture's Natural Resource Conservation Service (NRCS). The 2020 "Marin County Crop & Livestock Report" states that livestock represented 39% of total agricultural production value in Marin County in 2020.[59] |
| **Rural residential populations** | Rural residential communities are also found throughout the North Coast. While they may not be as directly engaged in land management activities as those populations mentioned above, they are contributing to increased development in the WUI. Moreover, ensuring safe ingress and egress for these communities in the event of a wildfire is a forest management priority and an important piece of the overall forest health puzzle. |
| **"Tech transplants"** | Relatedly, in recent years, there has been a discernible trend of "tech transplants" leaving the San Francisco Bay Area and |

[57] "Marin County Crop & Livestock Report, 2020." *Department of Agriculture, Weights and Measures*. <https://www.marincounty.org/-/media/files/departments/ag/crop-reports/2020-marin-crop-livestock-report071421.pdf?la=en>.
[58] Lucas Patzek and Frances Tjarnstrom. Personal communication. August 2021.
[59] Ibid.

migrating into North Coast counties.[60] Especially given the increased popularity of remote work due to the COVID-19 pandemic, there is likely to be a continued influx of persons who desire a more rural setting and/or lifestyle into the region. Many of these new residents choose to retain their high-paying jobs, and their growing presence has the effect of driving up housing costs and exacerbating an already critical affordable housing crisis.[61]

[60] North Coast Durable Collaborative. Personal communication. August 2021.
[61] Jason Wells. Personal communication. August 2021.

*Image 3. Chileno Valley Ranch in Marin County, August 2021. Credit: Julia Sullivan.*

## Land Ownership and Management

There is great variety in land ownership types across the North Coast region; most counties include some combination of the following ownership types: federal, state, non-industrial private forestland, and private industrial/agricultural land. The predominantly federally owned Trinity County (76%, including the Bureau of Land Management and the U.S. Forest Service) sits at one of the spectrum, while the overwhelmingly privately owned Sonoma County (90%, including both non-industrial forestland and industrial/agricultural land) sits at the other. For the purposes of this WIP, and given the strengths of North Coast RCDs, this section will focus on private forestland, although later sections discuss opportunities for RCDs to partner with state and federal entities on public lands.

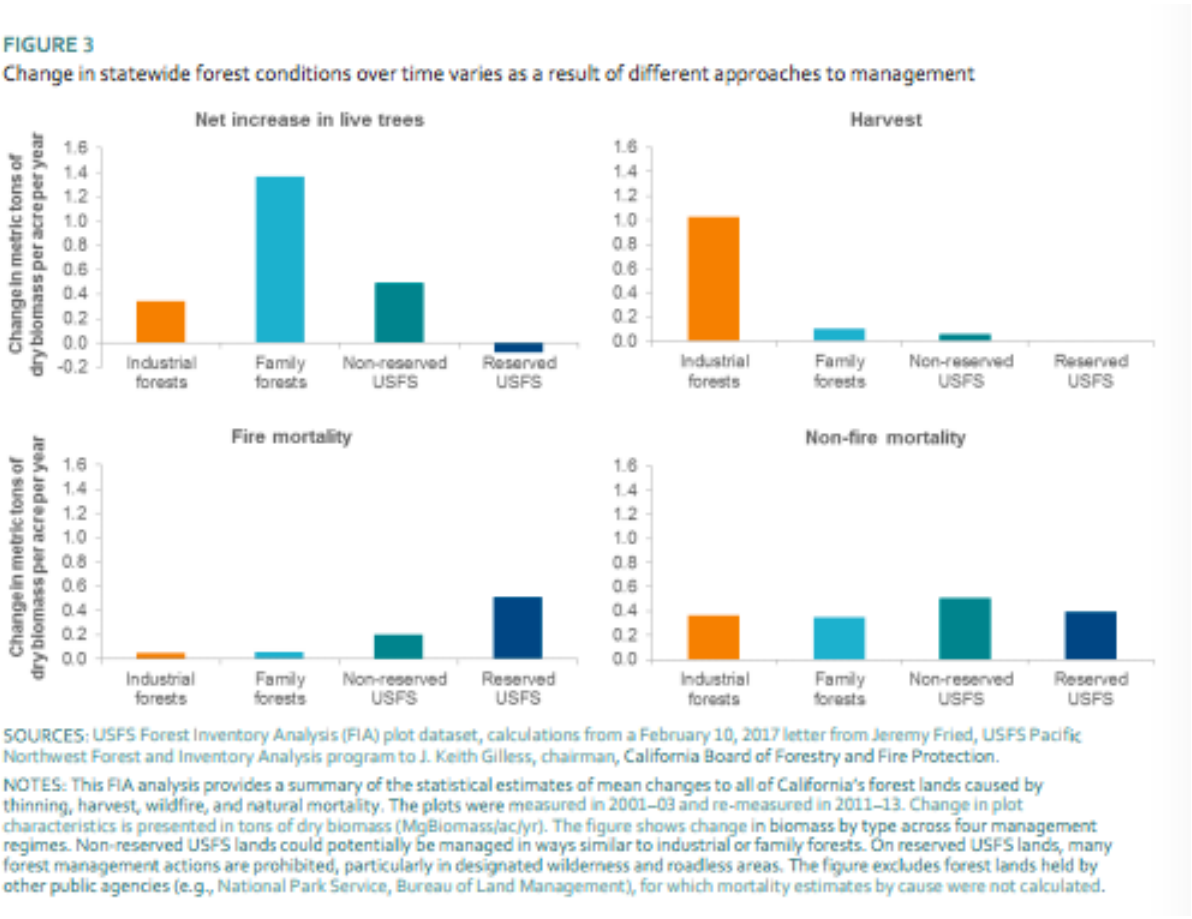


*Figure 2. This figure was extracted from the PPIC's report, "Improving the Health of California's Headwater Forests."*[62]

A considerable percentage of forestland in the North Coast region is privately owned, and forest management varies in important ways depending on ownership type. The PPIC's September 2017 report, "Improving the Health of California's Headwater Forests," identifies that family-owned forests "have limited management of biomass and regular suppression of fires" and "have seen the largest increase in living tree biomass, whereas "reserved USFS [U.S. Forest Service] lands, which are also not actively managed but allow fire, have seen a net reduction in living biomass, principally from losses due to large fires."[63] These trends are captured starkly in **Figure 2** above. Moreover, in their recent report, "Western Water Threatened by Wildfire: It's Not Just a Public Lands Issue," the American Forest Foundation (AFF) "highlights the important role states can play in empowering landowners to protect the headwaters that supply millions of Westerners with clean water." In California, the AFF identified 7,039,686 acres of private and family lands with high fire risk and high water supply importance compared to 5,971,320 acres of public and Tribal lands with the same risk levels.[64]

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[62] Bustic, Van et al.
[63] Bustic, Van et al. "Improving the Health of California's Headwater Forests." *Public Policy Institute of California*. September 2017. <https://www.ppic.org/wp-content/uploads/r_0917vbr.pdf>.
[64] "Western Water Threatened by Wildfire: It's Not Just a Public Lands Issue." *American Forest Foundation*. <https://assets.ctfassets.net/4mlen87uc8f3/2cVZU4kDEDlekXLrP851NY/04dd7b3b16546026d3d9b96f54880b01/final_fire_report.pdf>.


*Image 4. Vineyard in Napa County, August 2021. Credit: Julia Sullivan.*

Land ownership across the North Coast, however, is anything but static; there are several notable patterns in ownership, development, and settlement that are presently unfolding across the region, including further development in the WUI as well as rural gentrification and amenity migration. Subdivisions in wildland areas as well as areas of wildland-urban interface or intermix typically extend outward from population centers, and they are all likely to increase in size and number, bringing more and more people into forestland ownership. Many of the "tech transplants" and new-to-the-area wealthy landowners mentioned in the previous section do not have experience or interest in actively managing the forestland they come to own, and their growing presence in the region will inevitably have significant ramifications for private forest management, especially as the aforementioned generational shift among long-time residents currently underway continues to play out.

As discussed in the *Streamlined Permitting Processes and Support for Local Entities* section, ensuring that non-industrial private forest landowners have access to the support and funding they need to carry out active forest management on their properties is a critical piece of the forest health puzzle.

## Regional Economy

This section rounds out the North Coast regional snapshot by focusing on the region's economy. It offers a brief overview of the North Coast's historic employment sectors and contemporary trends before discussing the burgeoning restoration economy in particular.

**Table 4. Basic Economic Data for North Coast Counties**[65]

| County | Population | Median age | Median household income | Unemployment rate[66] |
|---|---|---|---|---|
| Del Norte | 27,743 | 39.5 | $45,283 | 9.0 |
| Humboldt | 136,463 | 38.4 | $51,662 | 7.4 |
| Lake | 68,163 | 44.5 | $47,138 | 8.8 |
| Marin | 262,321 | 47.3 | $110,843 | 5.6 |
| Mendocino | 91,601 | 43.4 | $51,744 | 7.7 |
| Napa | 138,019 | 41.6 | $92,769 | 7.5 |
| Siskiyou | 44,076 | 47.8 | $45,241 | 9.5 |
| Sonoma | 488,863 | 43.1 | $87,828 | 6.6 |
| Trinity | 16,112 | 52.5 | $40,846 | 7.6 |

### Historic Employment Sectors and Contemporary Trends

Following the displacement and forced removal of Indigenous peoples, settlers to the North Coast engaged primarily in extractive natural resource and mining activities – namely, fur, gold, timber, and agriculture. Over the past century or so, economies across the region have evolved and continued to shift towards "more stewardship-based and service-oriented activities (outdoor recreation, education, sustainable forestry)."[67] As demonstrated in **Table 5** below, which presents industry-specific data for the region, none of the North Coast counties featured in this document counts natural resources and mining among its top three industries. Instead, with some exceptions, most counties claim the following industries as their top three: (1) local government; (2) education and health services; and (3) trade, transportation, and utilities. However, natural resources and agriculture still deserve our attention and consideration, as they constitute an important piece of this region's past, present, and future – particularly when it comes to forest management and climate change. As demonstrated in the *Regional Population and Land Ownership* section, many of the populations with whom RCDs work are still engaged in these sectors of economic activity.

**Table 5. Top Three Industries per County and Number Employed (as of December 2020)**[68]

| County | Local government | State government | Education and health services | Trade, transportation, and utilities | Manufacturing |
|---|---|---|---|---|---|

[65] *United States Census Bureau*. <https://data.census.gov/cedsci/>. Population, median age, and median household income data is pre-COVID-19 and is based on the "2019 American Community Survey 5-Year Estimates."
[66] "Labor force data by county, not seasonally adjusted, November 2020-December 2021." *U.S. Bureau of Labor Statistics*. <https://www.bls.gov/web/metro/laucntycur14.txt>.
[67] Earth Economics. "North Coast Healthy Watersheds & Vital Communities: Economic Analysis." *North Coast Resource Partnership*. April 2018. <https://northcoastresourcepartnership.org/site/assets/uploads/2018/06/NCRP_Report_GreenprintAnalysis_v1.pdf>.
[68] https://www.bls.gov/cew/

| | | | | | |
|---|---|---|---|---|---|
| Del Norte | 1,811 | 1,425 | 1,499 | N/A | N/A |
| Humboldt | 8,787 | N/A | 8,750 | 8,961 | N/A |
| Lake | 3,530 | N/A | 4,441 | 3,021 | N/A |
| Marin | 11,412 | N/A | 19,147 | 18,291 | N/A |
| Mendocino | 5,259 | N/A | 5,642 | 6,260 | N/A |
| Napa | N/A | N/A | 9,063 | 10,189 | 11,494 |
| Siskiyou | 2,936 | N/A | 2,072 | 2,100 | N/A |
| Sonoma | N/A | N/A | 32,815 | 35,694 | 21,839 |
| Trinity | 758 | N/A | 385 | 367 | N/A |

[69]

In their 2011 book chapter "Jobs and community in Humboldt County, CA," Mark Baker and Lenya Quinn-Davidson examine the growth that has occurred in the restoration economy in recent decades. While their analysis is limited to Humboldt County, the trends they capture are not unique to that county, and some can be extrapolated more broadly across the North Coast region. According to Baker and Quinn-Davidson, recent job growth in Humboldt County "has been concentrated in sectors such as education, trade, transportation and utilities, government, and health care," and growth in these areas "has largely offset declines in natural resources, mining and manufacturing jobs."[70] However, the authors acknowledge that job quality – "measured in terms of wages, benefits, and job satisfaction" – in service sector employment is potentially "less than in the area's declining natural resource and manufacturing sectors."[71]

### Restoration Economy

Coming off of the historic wildfire seasons of recent years and amid mounting cries to "increase pace and scale," the State of California is investing heavily in forest improvement work. In April of 2021, Governor Newsom approved $536 million in early action funding for forest health and fuel reduction programs.[72] Later in 2021, the state Legislature approved a Wildfire Resilience Expenditure Plan totaling $1.524 billion. This necessary and welcome investment is largely being channeled through a series of grant programs; it includes sizeable allocations of $170 million and $130 million to CAL FIRE's Forest Health Grant Program and Fire Prevention Grant Program, respectively. It also allocates $85 million to the Department of Conservation's RFFC Program. The five investment categories across which this money will be distributed are the following: resilient forests and landscapes; wildfire fuel breaks; community hardening; science-based management; and economic development of the forest sector.[73] More recently, the Wildfire and Forest Resilience Package proposed for 2022-2023 and 2023-2024 includes $800 million in new funding, including $240 million and $232 million over two years for CAL FIRE's Forest Health Grant Program and Fire Prevention Grant Program, respectively. The RFFC will

[69] **Table 4** and **Table 5** are modeled after similar ones contained in the NCRP's 2018 report, "North Coast Healthy Watersheds & Vital Communities: Economic Analysis."
[70] Baker, Mark and Quinn-Davidson, Lenya. "Jobs and Community in Humboldt County, CA." *Human Dimensions of Ecological Restoration: Integrating Science, Nature, and Culture*. January 2011.
[71] Baker, Mark and Quinn-Davidson, Lenya.
[72] "Governor Newsom Signs Landmark $536 Million Wildfire Package Accelerating Projects to Protect High-Risk Communities." *Office of Governor Gavin Newsom*. April 13, 2021. <https://www.gov.ca.gov/2021/04/13/governor-newsom-signs-landmark-536-million-wildfire-package-accelerating-projects-to-protect-high-risk-communities/>.
[73] "Budget Change Proposal – Cover Sheet." *State of California*. January 2021. <https://esd.dof.ca.gov/Documents/bcp/2122/FY2122_ORG0540_BCP4456.pdf>.

receive a proposed $40 million.[74] These large allocations demonstrate that forest improvement work is a high priority of the state, and this sector is likely to continue to receive significant public investment into the future.

This doubling down on forest improvement work comes on the heels of decades of already steady growth in the restoration movement and economy. Public funding for restoration work has been increasing since the North Coast saw its first non-profit restoration groups spring up in the 1980s, many of which were nurtured into being by committed back-to-the-landers. These community-based watershed organizations were initially comprised largely of volunteers. They drove much of the region's early restoration work and, in so doing, built community, fostered meaningful connections between people and place, and eventually generated lasting employment opportunities for local residents.[75]

### *Funding Shifts*

As restoration work has grown more popular and come to be viewed as more urgent, the sector's center of gravity has drifted away from these small, local organizations and, instead, towards those firms capable of executing large, technologically complex restoration projects. That is to say, the latter have commanded more authority, and the funding has followed. Shifts in restoration priorities and funding criteria have both catalyzed and compounded this drift. Of course, the restoration sector includes other activities outside the realm of forest improvement, but the trends unfolding in the sector as a whole are relevant to those entities engaged in forest health work.

California's forest health challenges are certainly great in scale and demand that action be coordinated across local, regional, and state levels, but much is lost when grantors repeatedly favor large-scale, highly technical projects over more integrative forms of ecological restoration. In this way, community priorities can become eclipsed by scientific ones. Disembodied directives such as "increase pace and scale" have the potential to erase the nuances of place and make invisible many of the other critical components of restoration work – particularly community outreach and education. Baker and Quinn-Davidson offer the following:

> Higgs (2005) argues that as restoration expands there is an inherent tendency for it to conform to our society's dominant forms of rationality, which emphasize efficiency and technocratic forms of expertise and knowledge. The danger of this shift towards a narrower reading of the meaning and purpose of restoration, as Higgs and other persuasively demonstrate, is the potential loss of the broader sociocultural values and benefits that restoration could provide, and the undermining of its ability to engage people in activities that simultaneously produce healthier watersheds and communities.[76]

The North Coast Resource Partnership's command of $4.25 million through the first round of RFFC Program funding and slice of the recent $85-million allocation is somewhat emblematic of

[74] Petek, Gabriel. "The 2022-23 Budget: Wildfire and Forest Resilience Package." *Legislative Analyst's Office*. January 2022. <https://lao.ca.gov/reports/2022/4495/wildfire-forest-resilience-012622.pdf>.
[75] Baker, Mark and Quinn-Davidson, Lenya.
[76] Baker, Mark and Quinn-Davidson, Lenya.

this shift. While this regional organization continues to carry out critical high-level planning work across the North Coast and has brought in tremendously valuable sums of money for the region, those organizations with boots on the ground and deep ties to their unique communities are not equipped with the same resources and are limited in their access to funding streams by competitive Request for Proposal (RFP) and grant processes. The Watershed Center's 2020 capacity and needs assessment, "Investment Opportunities for Increasing Forest and Fire Capacity in California," offers the following statement on this trend:

> As the focus of funding increasingly seems to be toward regional entities, and to support regional processes that are hoped to deliver more measurable impacts across landscapes, there may be a need to continue to invest locally as well to ensure that there are building blocks for the success of larger strategies at smaller scales.[77]

Returning to Baker and Quinn-Davidson, the authors note that the aforementioned trend "toward funding fewer, larger, and more technologically complex restoration projects" is also catalyzing a shift in the "nature of private sector restoration employment." Instead of "many small organizations with year-round (though limited) staff," the private sector restoration landscape is increasingly comprised of "fewer, bigger entities with relatively high seasonal subcontracting capacities and needs."[78] Based on these trends, funding for forest health and wildfire prevention work can be hard for small, local organizations competing with larger entities to capture. When they are able to capture slices of the huge investments being made by the state, however, they are more capable of translating that funding into stable, year-round local jobs.

## OPPORTUNITIES AND GOALS RELATED TO FOREST HEALTH

Resource Conservation Districts play critical roles in their communities, and they have considerable expertise in nurturing the very building blocks The Watershed Center calls for in the prior quote. Their very structure ensures that this is the case; RCDs are governed by boards of local landowners identifying and steering priorities at the ground level. In this way, RCDs are "grounded in [their communities'] past and future, responsive to [their] needs, knowledgeable, non-regulatory, and publicly accountable." They are well-positioned to combine resources and tailor them to the particularities of their communities, and their missions are just as focused on people as they are on natural systems.[79] Given their status as special districts, RCDs are authorized by the state to "perform a variety of resource and land management functions, including forest stewardship, fuels management, and watershed planning and management." Particularly when it comes to advancing forest health work across a patchwork of ownerships, RCDs are well-positioned to organize "forest management projects across multiple private properties" and "assist groups of forest owners in identifying common management needs and pooling private resources to pay for ongoing management."[80] RCDs are constrained, however, by their access to stable funding.

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[77] "Investment Opportunities for Increasing Forest and Fire Capacity in California: A Capacity and Needs Assessment of Local Groups, Non-Profits, and Tribes." *The Watershed Center*. January 2020.
[78] Baker, Mark and Quinn-Davidson, Lenya.
[79] "RCD External Brand Elements Draft." *North Coast Durable Collaborative*.
[80] McCann, Henry. "Building Community to Support Healthy Forests." *Public Policy Institute of California.* February 1, 2018. <https://www.ppic.org/blog/building-community-support-healthy-forests/>.

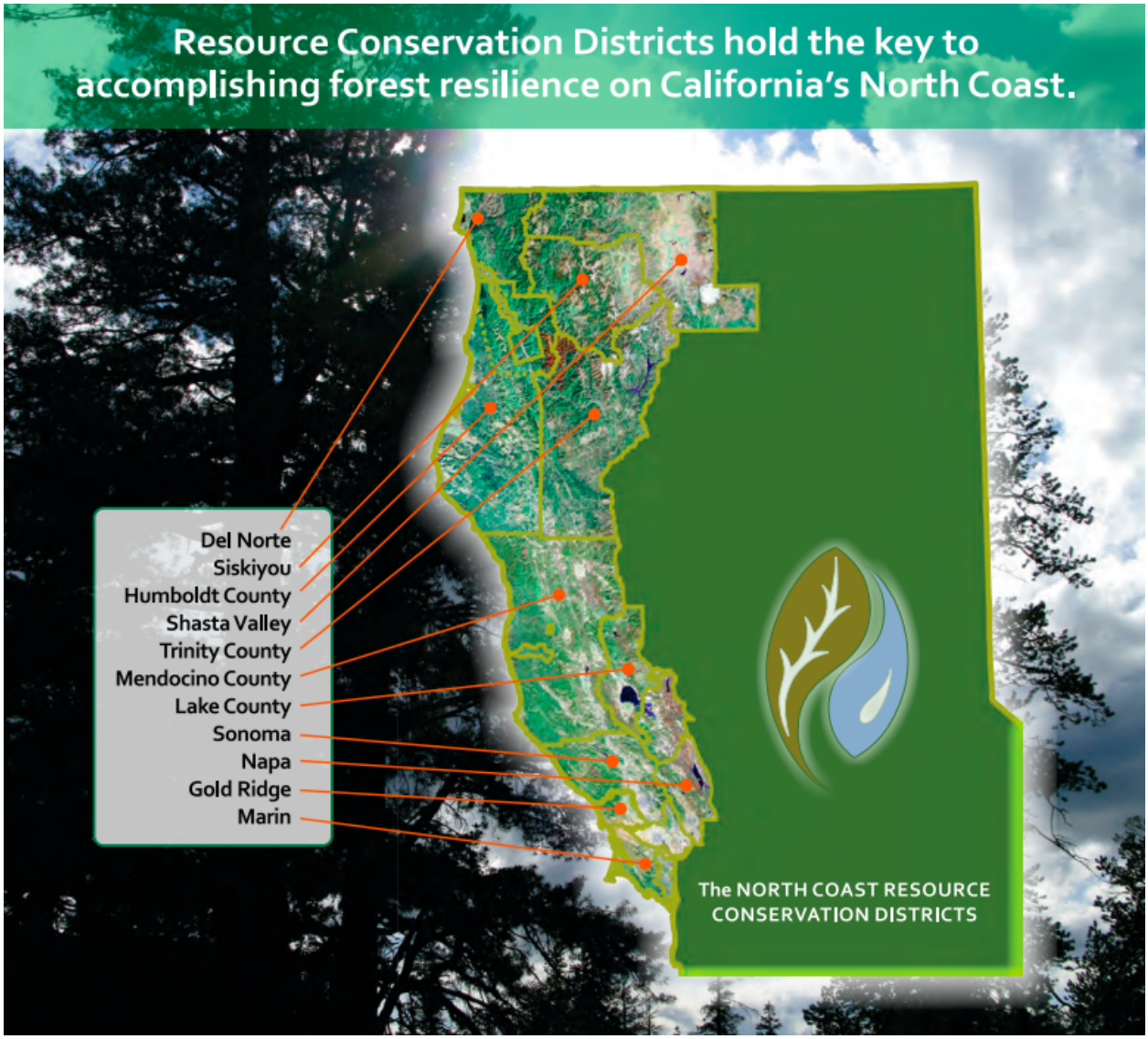


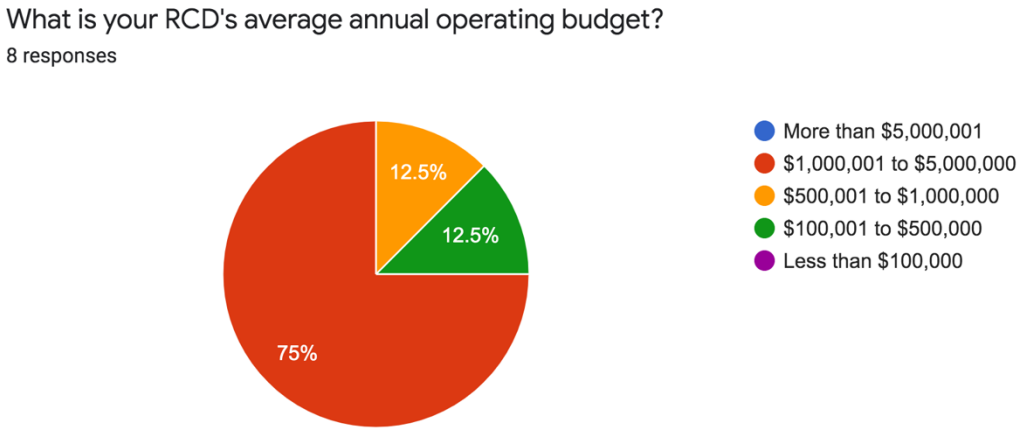

*Figure 3. This image was drawn from the North Coast Durable Collaborative's North Coast Forest Health brochure.*

## RCD Realities

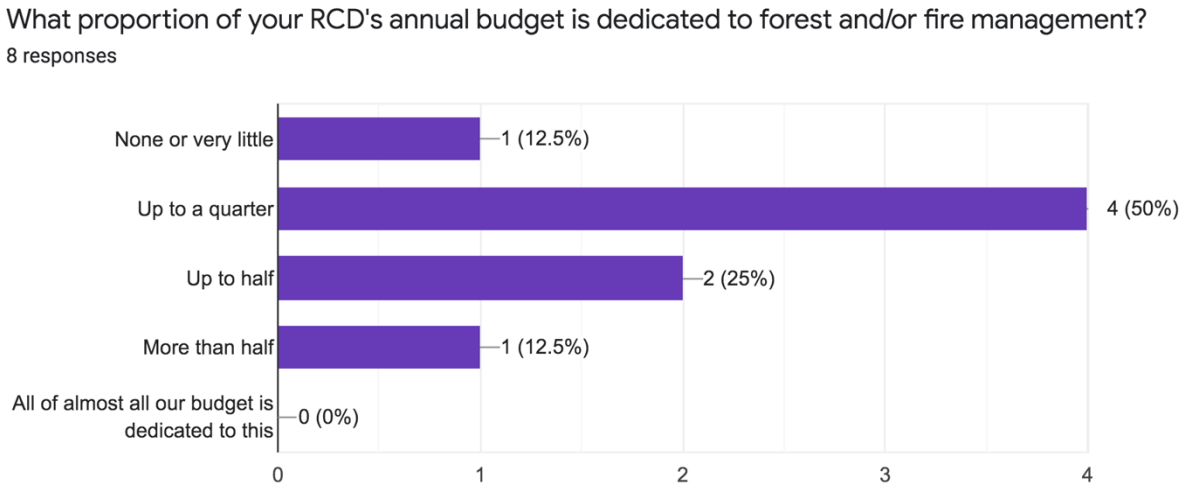
Drawing from the results of the 2021 "RCD Forest Health Capacity Survey" administered by Forest Health Watershed Coordinator Julia Sullivan, which was completed by a total of eight North Coast RCDs, the following sections aim to highlight RCD strengths alongside the budget, hiring, and capacity challenges that RCDs confront in carrying out forest health work specifically. Complete survey results can be found in the *Appendix*.

### Budget

The figure below captures the annual operating budget of North Coast RCDs. Six out of eight respondents (75%) reported an annual operating budget of between $1,000,001 and $5 million, and two respondents reported smaller annual budgets.




The figure below displays the proportion of North Coast RCDs' annual budgets dedicated to forest and/or fire management. Only one of the eight respondents reported more than half their budget being dedicated to this work, with the majority of respondents reporting "up to a quarter" (50%) or "up to half" (25%).



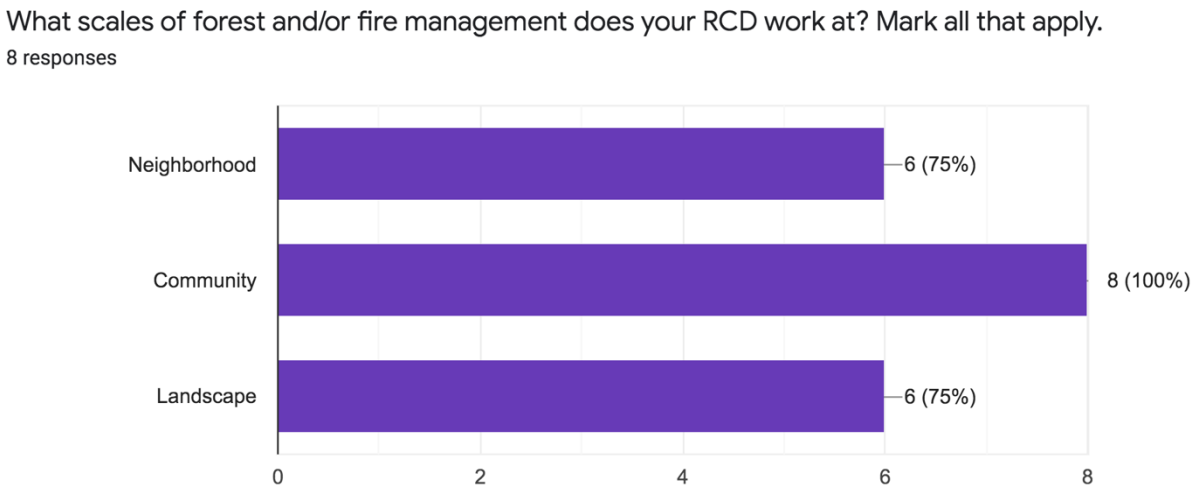

As captured in the Barriers section to follow, many North Coast RCDs are in need of more direct funding – both when it comes to base operations (62.5%) as well as funding specific to forest and/or fire projects/programs/work (50%).

## RCD Strengths and Barriers

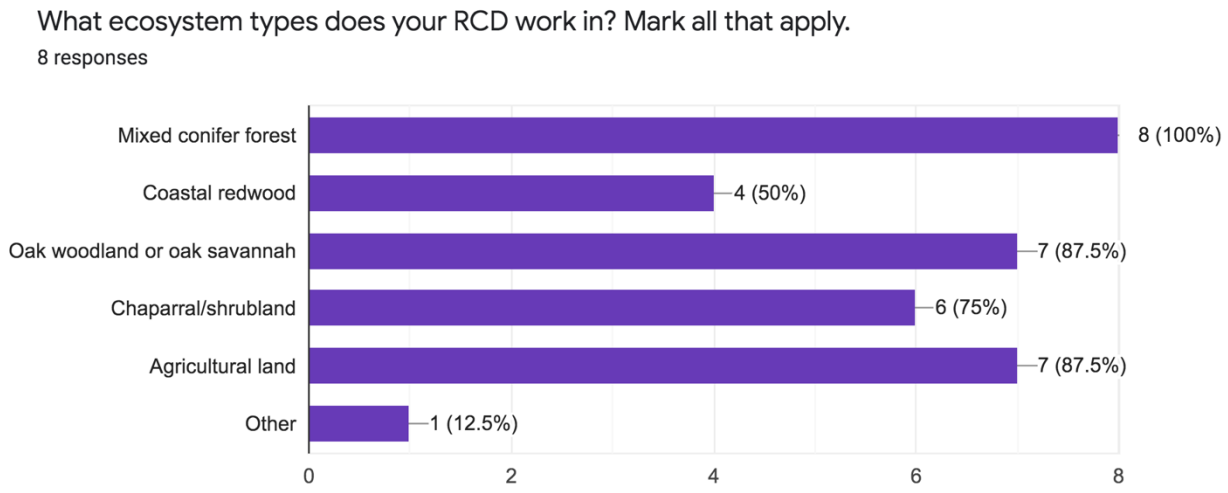
Individually and as a collective, North Coast RCDs have considerable experience working at various levels and in different ecosystem types.

### Strengths

As demonstrated by the figure below, 100% of the eight North Coast RCD respondents report working on forest and/or fire management at the community level, and a considerable majority of North Coast RCDs also report experience with this work at the neighborhood and landscape level.




Moreover, RCDs have expertise working across various ecosystem types. All North Coast RCDs have experience working in mixed conifer forests; nearly all North Coast RCDs have experience working in oak woodlands or oak savannahs and agricultural land (87.5%); and 75% of North Coast RCDs have experience working in chaparral/shrubland systems. Lastly, four out of eight respondents (50%) reported experience working in coastal redwoods, which only occur in a portion of North Coast counties.




When asked to indicate their two greatest strengths related to forest health, North Coast RCDs offered the following responses:

> "Community Organization, Grant Writing"
>
> "Agreements with State Non-Profits and neighboring RCDs for Forest Planning on Private Land with NRCS funding."
>
> "1. Ecologically-based restoration planning and implementation 2. Silvicultural prescriptions"
>
> "We are good at getting things done, including forest health projects. We care about people in addition to natural resources."
>
> "(1) We have the technical skills needed for forest management planning and TA (GIS, inventorying, etc.). (2) We have strong relationships with most local/regional organizations doing pre-fire/forestry work."
>
> "Planning and implementation"
>
> "Our capacity to manage large contracts; ability to directly contract w/ CAL FIRE"

### Barriers

When asked to select the top three barriers to achieving their forest and fire-related vegetation management goals, the top four responses across RCDs were the following: inadequate amounts of funding for base operations (62.5%); inadequate amounts of funding for forest and/or fire projects/programs/work (50%); lack of staff skills and qualifications in our organization (50%); and CEQA, NEPA, or other permitting requirements (50%).

For those RCD respondents who have recruited for a Registered Professional Forester (RPF) position, when asked if they found an adequate applicant pool, the majority responded in the negative. Selected responses are below:

> "RPF recruitment in early 2021 did not include adequate candidates."
>
> "We…expect it would be difficult to fill that position here because we can't compete with local contractors and companies."
>
> "No, small applicant pool and our offer was rejected (Aug 2021); position still open."
>
> "We successfully hired a great RPF, but the applicant pool was quite small."
>
> "We couldn't find a California licenses RPF, so we hired someone with the skills and training, but who needs to take the licensing exam."
>
> "We have recruited a few times, and no, definitely not an adequate applicant pool."

As evidenced by these responses, inadequate funding and an inadequate applicant pool for key positions are major barriers to RCDs when it comes to achieving their forest and/or fire-related vegetation management goals. The following excerpt was drawn from the North Coast RCDs' shared forest health concept paper and captures the challenges of inconsistent funding and the necessity of stable funding for key positions.

> The compartmentalization of funding agencies and grant programs, as well as the lack of coordination among these agencies, makes the acquisition of funding for projects onerous and time-consuming. While the State has become very proactive in allocating funding for fire-prevention activities, there are no assurances or stability for organizations that are dependent on competitive grant programs. A secure revenue stream for coordinators and other key regional positions (e.g., Registered Professional Foresters and Burn Bosses) is necessary.[CITE]

The effects of these funding patterns compound. Critical resource concerns are mounting across North Coast watersheds, but cyclical grant cycles inhibit strategic long-term planning. The PPIC captures this point in their 2018 blog post, "Building Community to Support Healthy Forests": "Finding durable funding sources for headwater RCDs could help spur long-term forest management work that would bring benefits to entire watersheds."[81] Not only would North Coast RCDs' individual districts benefit tremendously from more stable funding streams, but the ecology and resources of the region as a whole would be better safeguarded.

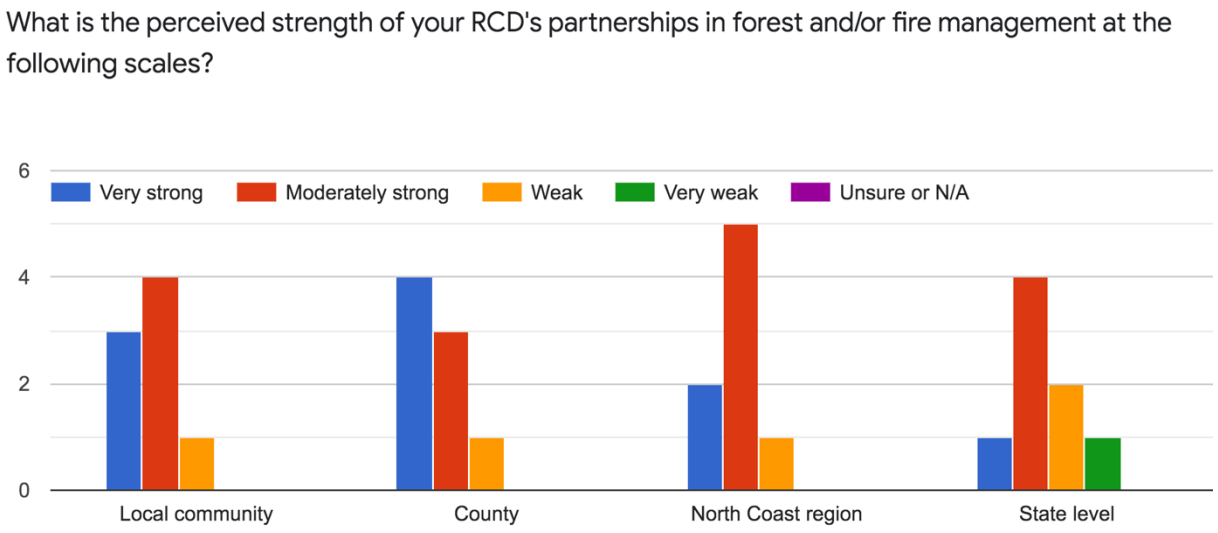
### Partnerships and Capacity-Building

This section highlights results from the "RCD Forest Health Capacity Survey" questions related to partnerships and capacity strengths and needs.

[81] McCann, Henry and Bustic, Van.

When asked what types of entities North Coast RCDs want to develop or enhance their partnerships with, RCDs' top responses were the following: Tribes (100%); CAL FIRE Unit (87.5%); state agencies or programs (87.5%); federal agencies or programs (87.5%); county government (75%); non-profits (75%); and funders (75%).

When asked to report the perceived strength of their partnerships in forest and/or fire management at various scales, four North Coast RCDs (50%) reported "very strong" at the county level, while three reported "moderately strong" (37.5%). Four (50%) reported "moderately strong" at the local community scale, and three reported "very strong" (37.5%). At the state level, North Coast RCDs on the whole reported feeling only "moderately strong" (50%), "weak" (25%), or "very weak" (12.5%).




On the subject of capacity strengths and needs, six out of eight North Coast RCDs (75%) reported wanting to add or enhance their capacity in the following categories: planning; implementation; cultural fire; and organizational. Five RCDs (62.5%) reported wanting to add or enhance their capacity around collaboration and partnership, and four RCDs (50%) reported the same related to outreach. Three RCDs (37.5%) reported wanting to add or enhance their capacity around monitoring, while two RCDs (25%) reported not needing this capacity. North Coast RCDs reported the following with regards to the capacities they already have: monitoring (25%); planning (25%); collaboration and partnership (37.5%); outreach (50%); implementation (25%); and organizational (25%). One RCD (12.5%) reported not needing capacity around cultural fire, and one RCD (12.5%) reported not knowing.

Related to collaboration and partnerships, North Coast RCDs reported wanting to add or enhance the following capacities: interorganizational data management and sharing (62.5%); identifying shared values among multiple perspectives regarding forest and/or fire management (62.5%); **developing partnerships between public land management agencies and private**

**landowners (75%)**; facilitating/convening multiple entities to advance planning and prioritization (62.5%); **planning multijurisdictional projects (75%)**; and developing interorganizational contracts, agreements, MOUs, etc. (62.5%). One respondent reported already having the following capacities: interorganizational data management and sharing; identifying shared values among multiple perspectives regarding forest and/or fire management; developing partnerships between public land management agencies and private landowners; and facilitating/convening multiple entities to advance planning and prioritization. Three respondents reported already having capacity around developing interorganizational contracts, agreements, MOUs, etc. (37.5%).

Related to planning, North Coast RCDs reported wanting to add or enhance the following capacities: GIS mapping of social, cultural, and/or economic values related to wild and/or prescribed fire (62.5%); GIS mapping of forest resources or other biophysical resources related to wild and/or prescribed fire (37.5%); designing fuel treatments in and around communities (i.e., the WUI or other developed areas) (50%); conducting local workforce capacity assessments (50%); participating in pre-wildfire season conversations with fire managers about local projects, priorities, and values at risk (25%); business or enterprise planning (12.5%); wood utilization project development (50%); identifying and prioritizing priority landscape level fuel treatment projects at the county scale or another larger scale (62.5%); and **completing state and/or federal environmental compliance processes (87.5%)**. One respondent reported already having the following capacities: conducting local workforce capacity assessments (25%) and completing state and/or federal environmental compliance processes (25%). Two respondents reported having the following capacities: GIS mapping of forest resources or other biophysical resources related to wild and/or prescribed fire (25%) and identifying and prioritizing priority landscape level fuel treatment projects at the county scale or another larger scale (25%). Four respondents reported having capacities in the following areas: designing fuel treatments in and around communities (i.e., the WUI or other developed areas) (50%) and participating in pre-wildfire season conversations with fire managers about local projects, priorities, and values at risk (50%).

Related to implementation, North Coast RCDs reported wanting to add or enhance the following capacities: implementing defensible space programs (37.5%); managing defensible space programs (37.5%); post-fire recovery addressing erosion, flood control, and/or revegetation (50%); participating in cooperative controlled burning (50%); conducting roadside clearing (37.5%); developing and/or managing a hand thinning workforce (25%); developing and/or managing a prescribed fire workforce (37.5%); owning equipment (50%); leading cooperating burning efforts (50%); developing and managing a planting workforce (25%); acting as a burn boss in implementing prescribed fire (37.5%); and managing landscape-scale fuel projects (62.5%). One respondent reported already having the following capacities: implementing defensible space programs; participating in cooperative controlled burning; developing and/or managing a hand thinning workforce; and owning equipment. Two respondents reported already having the following capacities: managing defensible space programs; and managing landscape-scale fuel projects. Three respondents reported already having the following capacities: post-fire recovery addressing erosion, flood control, and/or revegetation; and conducting roadside clearing.

Related to cultural fire, North Coast RCDs reported wanting to add or enhance the following capacities: achieving intergenerational burning (25%); **supporting partner efforts regarding cultural burning with staff, financial assistance, equipment, or other resources (75%)**; acquiring resources to support family-based burning (50%); protecting tribal sovereignty around legal, policy, and regulatory frameworks (25%); conducting cultural burning for the enhancement of cultural needs and uses (62.5%); identifying indigenous practitioner "burn boss" standards (12.5%); and intertribal coordination (37.5%). No RCDs reported already having any capacities around cultural fire, although several reported not needing certain capacities, particularly identifying indigenous practitioner "burn boss" standards (12.5%).

Related to monitoring, North Coast RCDs reported wanting to add or enhance the following capacities: monitoring impacts on fire resilience (50%); monitoring carbon savings (50%); and monitoring wildlife habitat (25%). There was an even split between respondent reporting wanting to add or enhance the following capacities and those that reported being unsure: monitoring socio-economic outcomes; and monitoring cultural outcomes. No RCDs reported already having any capacities around monitoring, although two respondents reported not needing capacity around the following: monitoring impacts on fire resilience; and monitoring wildfire habitat.

Related to outreach, North Coast RCDs reported wanting to add or enhance the following capacities: developing outreach materials (50%); outreach to private landowners (50%); **outreach to disadvantaged communities (75%)**; outreach to residents (62.5%); **outreach to tribal governments and tribal environmental departments (75%)**; and outreach to public landowners (agencies) (25%). Related to organizational administration and management, North Coast RCDs reported wanting to add or enhance the following capacities: volunteer recruitment and/or management (37.5%); financial monitoring, modeling, and analysis as it relates to forest and/or fire enterprises, projects, or workforce development, etc. (62.5%); applying for and updating federally-negotiated indirect costs rates (37.5%); and administration/management of funds, agreements, and/or contracts (37.5%).

When asked to report their two greatest areas for improvement related to forest health, North Coast RCDs offered the following responses:

> "need more staff/time, don't have experience yet managing fuel reduction crews"
>
> "Finding administrative help with permitting to fully utilize funding."
>
> "1. Increasing technical workforce capacity 2. In-house environmental compliance analysis and document preparation (i.e. CEQA)"
>
> "We only have one RPF, which is not enough to meet local needs. We can't apply for CalFire grants because our indirect rate is higher than their cap."
>
> "(1) Project management tools and processes to improve the efficiency of TA that involves multiple RCD staff. (2) Navigating CEQA environmental compliance for FMPs as well as larger projects."

> "NEPA and Capacity"
>
> "Having a clearly defined role in the county/community; increasing technical expertise of staff"

When asked which formats are the most useful for capacity building, **100% of respondents reported "direct funding," 87.5% of respondents reported "connecting to peers working on similar issues,"** and 62.5% of respondents reported one-on-one technical. Although less popular, two respondents (25%) indicated that the following formats would also be useful: peer exchanges; webinars; in-person workshops or conferences; best-practice handbooks; and job shadowing.

When asked to report any other thoughts related to barriers, partnerships, and/or capacity strengths and needs, North Coast RCDs offered the following responses:

> "We need ongoing long term outreach funding to maintain relationships in the community to offer support when it's needed, especially in preparing for and recovering from fire."
>
> "Related to tribal capacity, we certainly want to enhance our partnerships with Tribes on forest and fire projects and we want to work to support Tribal leadership to build capacity for more cultural fire projects. Related to insurance needs, the primary insurance needs we see are insurance availability for forestry operators, burn bosses and landowners to readily and affordably get adequate insurance coverage for fire operations to remove that barrier to implementing prescribed fire and summertime forest operations. Needs for markets of small diameter wood products, pine, and juniper."
>
> "NEPA on Federal Lands is ALWAYS a barrier to planning and implementing large scale landscape level projects"

## Resource Concerns and Action Goals

Taking into consideration the forest health threats and priorities discussed in the *Regional Ecology* section and based on the "RCD Forest Health Capacity Survey" results regarding budget, partnerships, capacity strengths and needs, and barriers, this section aims to capture North Coast RCDs' primary action goals related to forest and watershed health and the broader planning and project prioritization context in which they are situated. **Table 6**, which is included in the *Appendix*, below captures the above information in broad strokes. It connects RCD action goals to the overarching goals laid out in the *California Forest Carbon Plan (CA FCP)* (May 2018), which is a requirement of the Watershed Coordinator Grant Program and this WIP, to ensure maximum alignment with state-level goals.[82] It connects RCD action goals to relevant

[82] While the *CA FCP* is the primary guiding document, the following state-level planning documents were also considered during the process of identifying gaps and developing RCD action goals: the *2021 California Climate Adaptation Strategy*; *Natural and Working Lands Climate Smart Strategy* (Oct. 2021); *California's Wildfire and*

NRCS practices, given the close working relationship of that agency with RCDs and the extent to which NRCS programming dictates cost-share opportunities for private forest landowners. **Table 6** also identifies performance measures for gauging success and notes relevant existing RCD programs.

Drawing from the content presented in **Table 6**, this section does the following: (1) highlights relevant goals laid out in the *CA FCP*; (2) nests RCD action goals within these overarching state-level goals and targets; (3) identifies a suite of mechanisms available to RCDs to fill existing gaps and carry out critical forest health work across the North Coast; and (4) highlights existing RCD programs and relevant regional efforts. Particularly notable RCD programs that might be especially instructive to other RCDs are highlighted in break-out boxes.

The following list captures the RCD action goals presented in **Table 6** in the accompanying document:

1. Forest stand improvement on private and state/local public forestland
2. Increase prescribed fire implementation on private and state/local public forestland
3. Develop and utilize efficient permitting mechanisms
4. Integrate forest health considerations into regional Carbon Farm Planning efforts
5. Enhanced wildlife habitat on private and state/local public forestland
6. Partner with federal agencies on forest stand improvement on federal forestlands
7. Expanded reforestation efforts in critical watersheds
8. Maintain commercial timber infrastructure and encourage the creation of markets for small-diameter material to support the development of a restoration economy
9. Support mountain meadow restoration across the North Coast ranges
10. Support the use of biochar and encourage the development of biomass markets in the region to support local economies and reduce greenhouse gas emissions (where proven to not have negative environmental effects)
11. Develop and submit competitive and collaborative grant proposals for public funding opportunities in partnership with county government and other local and regional partners
12. Commit to strengthening existing and/or creating new relationships with Tribal partners and support natural resource goals of Tribes
13. Coordinate with and support local and county-level Fire Safe Councils
14. Continued collaboration with NCRP
15. Expand support for city and county parks
16. Engage research entities in RCD projects

## CA FCP GOAL 3.1.1: IMPROVE HEALTH AND RESILIENCE ON PRIVATE AND STATE/LOCAL PUBLIC FORESTLAND

### *RCD Action Goal 1:*

*Forest stand improvement on private and state/local public forestland*

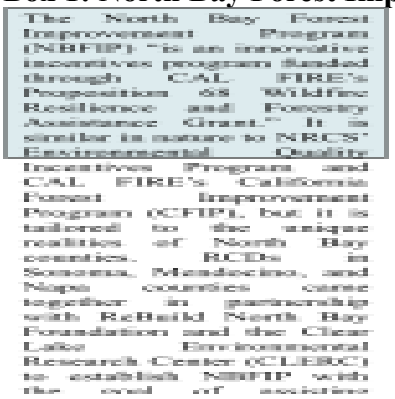
Making meaningful progress on forest stand improvement across both private and state/local public forestland is a critical goal shared by North Coast RCDs. These RCDs are already

*Forest Resilience Action Plan* (Jan. 2021); and *California's Strategic Plan for Prescribed Fire, Cultural Burning & Prescribed Natural Fire* (Oct. 2021).

working within existing systems and actively developing and employing creative mechanisms to increase the pace and scale of this work in their respective districts and across the region (see **Box 1: North Bay Forest Improvement Program** below), but their efforts are hamstrung by a number of factors, and gaps in capacity and planning further compromise RCDs' ability to do the work they are truly capable of doing. Together, the following mechanisms will help to fill existing gaps, align resources, and increase support for RCDs' on-the-ground work related to forest stand improvement on private and state/local public forestland:

- ⇒ Active direct contracts between RCDs and local CAL FIRE Units
- ⇒ Contributing to Regional Conservation Partnership Program
- ⇒ Long-term funding for technical assistance, community coordination, and project development
- ⇒ Pipeline for channeling funding from NCRP to North Coast RCDs
- ⇒ Workforce development: seasonal RCD crews
- ⇒ Meeting demand for Registered Professional Foresters

**Box 1: North Bay Forest Improvement Program**


The North Bay Forest Improvement Program (NBFIP) "is an innovative incentives program funded through CAL FIRE's Proposition 68 Wildfire Resilience and Forestry Assistance Grant." It is similar in nature to NRCS' Environmental Quality Incentives Program and CAL FIRE's California Forest Improvement Program (CFIP), but it is tailored to the unique realities of North Bay counties. RCDs in Sonoma, Mendocino, and Napa counties came together in partnership with ReBuild North Bay Foundation and the Clear Lake Environmental Research Center (CLEARC) to establish NBFIP with the goal of assisting

[83]

**MECHANISM: Direct contracts with CAL FIRE**

Developing and/or enhancing their relationship with CAL FIRE was a priority of 87.5% of North Coast RCD survey respondents. Fortunately, partnering with CAL FIRE via direct contract is another opportunity that RCDs are afforded due to their status as special districts.[84] CAL FIRE is able to enter into agreements with RCDs without going through a formal bidding process, and RCDs have successfully partnered with CAL FIRE in the past on "vegetation management and fuels reductions projects, roadside clearings, and landscape scale restoration."[85] Contracting with CAL FIRE does not require match, and the contracting process allows for negotiation around administrative costs. Given the state's necessarily aggressive goal of treating 500,000 acres annually, CAL FIRE will need to continue to partner with local organizations to implement projects. While some RCDs are approached by their local CAL FIRE Unit seeking support with specific fuels projects, those RCDs that are interested in contracting with CAL FIRE can reach to their local Unit Chief.[86] At the time of this writing, this process is underway in Lake County.

[83] "What is NBFIP?" *After the Fire*. <https://afterthefireusa.org/our-programs/before-the-fire/nbfip-intro/what-is-nbfip/>.
[84] "Get After It!: A Guide to Local, State and Federal Project Opportunities for Forest, Fire, and Fuels." *California Association of Resource Conservation Districts.* 2019. <https://carcd.org/wp-content/uploads/2019/08/Get_After_It_A_Guide_for_Forest_Health_Program_Development_2019.pdf>.
[85] Ibid.
[86] Ibid.

Humboldt County RCD's experience with CAL FIRE provides an illustrative example of the capacity-building potential of direct contracts.

- Humboldt County RCD was approached by their local CAL FIRE Unit requesting their support in completing the construction of a shaded fuel break near the community of Garberville in Humboldt County. Humboldt County RCD entered into a direct contract with CAL FIRE, through which they successfully oversaw and completed the project. In the process, Humboldt County RCD gained valuable implementation experience in the realms of forest health and fire prevention, allowing the organization to build capacity in this critical area. It has since hired on additional staff to coordinate future forest health work. This project also opened a channel of communication between Humboldt County RCD and CAL FIRE that has led to further collaboration. At the time of this writing, the two entities are working together to pursue funding through the State Coastal Conservancy to construct a shaded fuel break near the community of Redway.

### MECHANISM: Regional Conservation Partnership Program

The Regional Conservation Partnership Program (RCPP) represents yet another opportunity for North Coast RCDs to develop and/or enhance their relationship with federal agencies and programs. The RCPP "promotes coordination of NRCS conservation activities with partners that offer value-added contributions to expand [their] collective ability to address on-farm, watershed, and regional natural resource concerns."[87] For those districts that do not contain National Forest, the RCPP might emerge as a more attractive collaborative model than the Joint Chiefs'. Two notable RCPP projects in the North Coast region warrant mention and could serve as jumping-off points for future work under this program:

- In 2021, the ReBuild North Bay Foundation, along with 14 partners, was awarded RCPP funding for the project **"Building Fire Resiliency in California's Coast Range Forests and Grasslands."**[88] The goal of this program is to "reduce fuel loads, improve forest and rangeland health, prevent soil erosion and help wildfire damaged areas recover by engaging the participation of landowners and producers in seven fire-prone counties in Northern California." Over the course of this project, "[p]artner contributions from local Resource Conservation Districts will provide technical assistance to landowners."[89]
- The **North Coast Oak Woodland Conservation Project** was awarded in 2016 under the leadership of the University of California Cooperative Extension (UCCE) with the

[87] "Regional Conservation Partnership Program." *United States Department of Agriculture: Natural Resources Conservation Service, California*. <https://www.nrcs.usda.gov/wps/portal/nrcs/main/ca/programs/farmbill/rcpp/>.
[88] "Rebuild Northbay Foundation: Nearly $5 Million Awarded to Reduce Wildfire Fire Dangers in Colusa, Lake, Mendocino, Napa, Solano, Sonoma, and Yolo Counties from USDA Natural Resources Conservation Service." *Singer Associates, Inc.* April 27, 2021. <https://singersf.com/rebuild-northbay-foundation-nearly-5-million-awarded-to-reduce-wildfire-fire-dangers-in-colusa-lake-mendocino-napa-solano-sonoma-and-yolo-counties-from-usda-natural-resources-conservation-serv/>.
[89] "NRCS Awards 4 New Partnership Projects in California to Help Mitigate Climate Change and Protect Natural Resources while Supporting America's Producers." *United States Department of Agriculture: Natural Resources Conservation Service, California*. April 26, 2021. <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ca/newsroom/releases/?cid=NRCSEPRD1769048>.

goal of restoring "deciduous oak-dominated stand structure and ecosystem resilience in order to conserve and expand wildlife habitat and range values, and to provide a venue for shared development of skills and expertise, best management practices, and strategic vision across the region."[90] The project spans Humboldt, Mendocino, and Trinity counties. The project concludes this year, but the North Coast Oak Woodland Conservation Project RCPP represents a powerful collaborative model. In the North Coast region, the loss of deciduous oak woodlands remains a critical conservation concern.

### MECHANISM: Long-term funding

Without stable, long-term funding, North Coast RCDs are bound to short-term grant cycles with quick turnarounds. This requires them to concentrate much of their capacity on grant identification, application, and reporting activities, which inevitably pull them away from other work. Moreover, this cycle locks RCDs into shorter timeframes and deliverables and prevents them from engaging in the sort of long-term planning activities that would benefit their individual communities as well as the North Coast region as a whole.

As discussed previously in this document, when asked which formats are the most useful for capacity building, 100% of RCD survey respondents reported "direct funding." It is difficult to overstate the impact that direct funding for technical assistance, community coordination, and project development would have on North Coast RCDs' work.

### MECHANISM: Funding pipeline between NCRP and North Coast RCDs

The North Coast Resource Partnership (NCRP) is a coalition of Tribes and counties working together on integrated regional planning and project implementation to enhance working and natural lands, built infrastructure, local economies, and community healthy across the Tribal lands and counties of Del Norte, Humboldt, Mendocino, Modoc, Siskiyou, Sonoma, and Trinity counties. As such, its geography overlaps considerably with that of the North Coast Durable Collaborative. Moreover, NCRP is the regional recipient of Regional Forest and Fire Capacity (RFFC) Program funding, commanding significant sums of funding for forest health and wildfire resilience work in the North Coast region. Given their complementary roles, and in an effort to effectively distribute resources, the Durable Collaborative and NCRP have been meeting regularly to discuss and actualize their shared vision for the region.

Throughout 2021, the two entities initiated a process to enter into an MOU to formalize their collaborative partnership and establish the North Coast Technical Assistance Program, which would have been designed to channel RFFC funding from the NCRP to individual North Coast RCDs for technical assistance and project implementation work. Due to concerns over the optics of this arrangement, however, the MOU remained unsigned. Instead of formally establishing the North Coast Technical Assistance Program, the Durable Collaborative submitted a Statement of Qualifications to the NCRP's Request for Qualifications in early 2022. If selected and added to NCRP's pool of North Coast technical assistance providers, individual North Coast RCDs and/or groups of North Coast RCDs will be called upon and paired with other regional entities requiring technical support as needed.

[90] Ibid.

Given that the NCRP will continue to administer the RFFC Program, it will be essential for the Durable Collaborative to keep strengthening its relationship with the NCRP and keep newly established channels of communication and funding open. It follows that stable funding for a coordinator position between the two entities is critical; this is discussed in a later section.

### MECHANISM: Workforce development

Across the North Coast, there is a shortage of local contractors and firms with the training and equipment necessary to carry out forest stand improvement at the pace and scale necessary. Some RCDs rely on California Conservation Corps (CCC) crews and Conservation Camp crews to implement projects, but the former tend to be more expensive, and the latter often have limited availability and require significant oversight. As fuels reduction work ramps up across the region, ensuring that local workforces are developed and expanded commensurately is a priority. Not only will an adequate workforce help to ensure that projects progress smoothly from development to implementation to maintenance, but it will ensure that public funding dollars translate to local jobs that infuse local economies. Fortunately, state agencies are increasingly focusing their attention on the bottleneck of workforce development, and some funding opportunities and exemplary, creative programs are emerging.

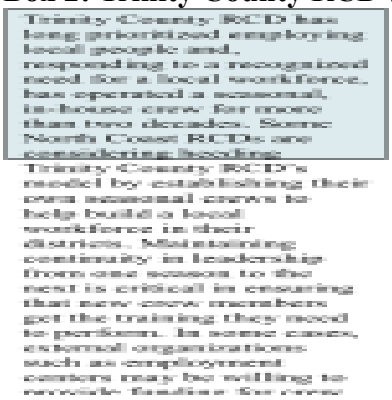
Half of RCD survey respondents reported an interest in adding or enhancing their ability to conduct local workforce capacity assessments, and one RCD survey respondent reporting already having this capacity. Given that RCDs frequently serve as local partners in applying for and administering grants in coordination with other entities, RCDs are well-positioned to build capacity by identifying and empowering local contractors, community groups, and non-profits with the potential to train and equip existing and/or new staff.

- CAL FIRE's recently announced **Business & Workforce Development Grants** may be an opportunity for RCDs to steer funding towards the work of both assessing and building workforce capacity. At the time of this writing, up to $24 million is available through this grant program, with eligible workforce development projects being defined as follows: "universities, colleges, government and community organizations, and businesses that aim to increase workforce capacity in the fields of logging, fuels treatment, transportation, manufacturing, or other support services that bolster the development of a resilience forest sector workforce."[91] Grant guidelines indicate that "[r]esearch and development projects related to workforce development will also be considered."[92]
- Shasta College, located in Redding, offers a **Heavy Equipment Logging Operations and Maintenance Certificate**, which trains students "to enter a career in the logging industry as a heavy logging equipment operator."[93] While this program is still nascent, its administrators are confident that student interest and enrollment will continue to

[91] "Wood Products & Bioenergy." *CAL FIRE.* <https://www.fire.ca.gov/programs/resource-management/climate-change-and-energy/wood-products-and-bioenergy-program/>.
[92] Ibid.
[93] "Heavy Equipment Logging Operations and Maintenance Certificate." *Shasta College*. <https://www.shastacollege.edu/academics/programs/heavy-equipment-operations/heavy-logging-equipment-operations/>.

grow, and this model has the potential to be exported to other institutions throughout the North Coast to help build a more robust regional workforce.[94]

**Box 2: Trinity County RCD's Seasonal, In-House Crew**


Trinity County RCD has long prioritized employing local people and, responding to a recognized need for a local workforce, has operated a seasonal, in-house crew for more than two decades. Some North Coast RCDs are considering leading Trinity County RCD's model by establishing their own seasonal crews to help build a local workforce in their districts. Maintaining continuity in leadership from one season to the next is critical in ensuring that new crew members get the training they need to perform. In some cases, external organizations such as employment centers may be willing to provide funding for crew

[95]

### MECHANISM: Meeting demand for Registered Professional Foresters

RPFs play a critical role in forest health work, but they are hard to come by throughout the North Coast. The majority of North Coast RCD survey respondents reported difficulty in hiring a registered RPF. As discussed earlier in this document, an RPF is necessary to complete all three of the primary permitting options available to small landowners (THPs, NTMPs, and WFMPs), and many RPFs face considerable backlogs of landowner requests for their services. Meeting demand for RPFs is, therefore, critically important.

- The American Forest Foundation (AFF) has successfully partnered with consulting firms and academic institutions in Oregon to develop creative ways to meet landowner demand for RPF services, drawing down the significant backlog in landowner requests for support in a relatively short window of time.[96]

### *RCD Action Goal 2:*

*Increase prescribed fire implementation on private and state/local public forestland*

*California's Strategic Plan for Prescribed Fire, Cultural Burning & Prescribed Natural Fire* states the following: "A new culture of prescribed fire and cultural burning is growing in California, with the potential to provide significant benefits to the state's ecosystems and residents."[97] The North Coast in particular has already generated significant momentum in the realm of prescribed fire and is home to a number of skilled practitioners and collaborative efforts that North Coast RCDs are well-positioned to engage with and support. The following mechanisms will be important to the goal of increasing prescribed fire implementation on private and state/local public forestland:

⇒ Increased capacity around prescribed fire

⇒ Active Prescribed Burn Associations in all North Coast districts

⇒ Support for cultural burning

[94] Becky Roe. Personal communication. February 2021.
[95] Kelly Sheen. Personal communication. November 2021.
[96] Natalie Omundson and Chantz Joyce. Personal communication. March 2021.
[97] "California's Strategic Plan for Prescribed Fire, Cultural Burning & Prescribed Natural Fire." *California Wildfire and Forest Resilience Task Force*. October 2021. <https://fmtf.fire.ca.gov/media/vuahweso/ca-rx-fire-strategic-plan-2021_10-17-21draft.pdf>.

### MECHANISM: Increased prescribed fire capacity

Particularly in response to recent wildfires, public and institutional support for community-based prescribed fire is growing across California. Increasingly, North Coast RCDs are partnering on projects that include prescribed fire as a treatment, and state and federal agencies as well as non-profit organizations are looking to incorporate more of this cost-effective and ecologically beneficial management tool into their forest health work. It follows that RCDs should prioritize building in-house expertise around prescribed fire and/or supporting partners who are well-positioned to do so in order to increase local and regional capacity to facilitate prescribed burning, particularly across ownership boundaries. The entities discussed below are strong collaborative models actively working to build this capacity in the North Bay and Trinity/Mid-Klamath regions of the North Coast:

- The **Bay Area Prescribed Fire Council** is a group of "nearly six dozen Bay Area fire agencies, environmental organizations, and academic labs who are sharing best practices around prescribed fire."[98]
- The **Northern California Prescribed Fire Council** has active Communications and Policy Committees, which handle communications and outreach efforts and consult on legislation related to prescribed fire, respectively. It also holds events and trainings throughout the region each year; the **Northern California Prescribed Fire Training Exchange (Nor Cal TREX)** is one such event.[99] TREX events provide a cooperative burning model "that services the needs of diverse entities, including federal and state agencies, private landowners and contractors, tribes, academics, and international partners – while incorporating local values and issues to build the right kinds of capacity in the right places."[100] North Coast RCDs should consider sending their own staff to these events and other training opportunities and encourage their partners to do the same.
- The **California Klamath-Siskiyou Fire Learning Network (CKS FLN)** is focused on building a "rich network of practitioners and community leaders from across the Trinity and Mid-Klamath region."[101] Members of the CKS FLN are actively engaged in regional organizing and collective action across Northern California and partner with the Watershed Research and Training Center (Watershed Center) in these efforts.[102] The Trinity County-based Watershed Center, for its part, offers the following prescribed fire services: burn planning, smoke management planning, broadcast burning, and pile burning.[103]

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[98] "Frequently Asked Questions About Fire and Fuels Management." *Audubon Canyon Ranch*. <https://www.fireforward.org/prescribed-fire-FAQs>.
[99] "About Us." *Northern California Prescribed Fire Council*. <http://www.norcalrxfirecouncil.org/about-us.html>.
[100] "Prescribed Fire Training Exchanges." *Conservation Gateway | The Nature Conservancy*. <https://www.conservationgateway.org/CONSERVATIONPRACTICES/FIRELANDSCAPES/HABITATPROTECTIONANDRESTORATION/TRAINING/TRAININGEXCHANGES/Pages/fire-training-exchanges.aspx>.
[101] "California Klamath-Siskiyou FLN." *Conservation Gateway | The Nature Conservancy*. <https://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/RegionalNetworks/Pages/CKS.aspx>.
[102] Ibid.
[103] "Our Services." *The Watershed Center*. <https://www.thewatershedcenter.com/wrtc-services>.

*Image 5. Oak regeneration after a prescribed burn carried out by the Siskiyou Prescribed Burn Association, August 2021. Credit: Julia Sullivan.*

### MECHANISM: Prescribed Burn Associations

Prescribed Burn Associations (PBAs) are "community based, mutual aid networks that help private landowners put 'good fire' on their land."[104] Northern California has a deep history of community-based prescribed fire work; Humboldt County was home to the first PBA in the state.[105] Similar to FSCs, PBAs often vary in their organizational structure, but they share a common goal of "facilitating community led burning."[106] PBAs provide the necessary framework to connect neighbors and community members with one another and to the necessary labor, equipment, and skills to implement prescribed burns. The California Prescribed Burn Association outlines the following steps of a typical burn process: (1) connect with your local PBA; (2) take a site visit of the potential burn unit with PBA representative, and begin to consider costs; (3) start a burn plan; (4) create a burn plan checklist; (5) determine what permits are needed; (6) create a Smoke Management Plan; (7) Determine liability; (8) prepare the burn unit; (9) conduct the burn; (10) conduct an After Action Review (AAR); and (11) post-fire stewardship. As evidenced by this somewhat lengthy and complex list, carrying out a prescribed burn is not a simple process. PBAs exist to guide landowners over these hurdles and foster a

[104] "About." *California PBA*. <https://calpba.org/ca-pba-about>.
[105] "California Klamath-Siskiyou FLN."
[106] "About." *California PBA*.

community of practice, and every county should have one. Similar to FSCs, there are different ways for RCDs to engage with and support these entities. Sonoma and Siskiyou counties offer two different models below.

- The North Bay Area is home to the **Good Fire Alliance**, which is a well-established PBA that operates largely independently from North Bay RCDs. It is comprised of private landowners and managers spanning Sonoma and Marin Counties and "strives to be a network of support for cooperatively conducted burns in the North Bay."[107]
- The **Siskiyou County PBA** was recently established with significant support from Shasta Valley RCD. This PBA was launched as a demonstration project with funding from NCRP's RFFC Program, and Shasta Valley RCD staff has played a critical role in administering that funding as well as organizing and facilitating the PBA's first few successful burns on private property. The Siskiyou County PBA has received considerable support from the community, but it requires additional, stable funding to ensure its continued success and longevity.

### MECHANISM: Support for cultural burning

In *California's Strategic Plan for Prescribed Fire, Cultural Burning & Prescribed Natural Fire*, cultural burning is defined as follows: the "intentional application of fire to land Native American Tribes, tribal organization, or cultural fire practitioners to achieve cultural goals or objectives, including for subsistence, ceremonial activities, biodiversity, or other benefits."[108] Many North Coast RCDs have expressed a desire to build and strengthen their relationships with Tribes, and offering support for cultural burning may be one avenue to do so. Throughout California, "Tribes, tribal organizations, and cultural fire practitioners are engaging in partnerships with local, state, and federal agencies and nongovernmental organizations and sharing Indigenous Knowledge with modern prescribed fire practitioners."[109] There are numerous efforts underway by Tribes and tribal organizations to facilitate the practice of cultural burning in the North Coast, all of which are worthy of recognition and support by North Coast RCDs. Two such entities are highlighted below:

- The **Indigenous Peoples Burning Network (IPBN)** "promotes fire-related cultural restoration – knowledge and practices – in large landscapes." While active in multiple areas across the country, touches down in the combined ancestral territories of the Yurok, Hoopa, and Karuk Tribes of Northern California. In this landscape, partners "used a planning process developed by aboriginal peoples in Australia to craft a five-year strategic Healthy Country Plan," which emphasizes cultural burning and intergenerational learning.[110] The IPBN acknowledges that federal agencies and entities such as TNC are "increasing their commitments to equitable partnership with tribes" and points to TREX events as places where important cultural connections to fire are integrated into fire training.

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[107] "Good Fire Alliance." *California PBA*. <https://calpba.org/good-fire-alliance>.
[108] "California's Strategic Plan for Prescribed Fire, Cultural Burning & Prescribed Natural Fire."
[109] Ibid.
[110] "Fact Sheet." *Indigenous Peoples Burning Network*. <https://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/Documents/FactSheet_IPBN.pdf>.

- The **Cultural Fire Management Council (CFMC)** aims to "facilitate the practice of cultural burning on the Yurok Reservation and Ancestral lands."[111] The CFMC works with individual property owners interested in conducting burns on their land and has also partnered with TNC and the Fire Learning Network to host TREX events.

### *RCD Action Goal 3:*

*Develop and utilize efficient permitting mechanisms*

Developing and utilizing permitting mechanisms that remove barriers for landowners and create efficiencies for planning and implementation is critical to increasing the pace and scale of forest health work, particularly across the highly parcelized lands characteristic of much of the North Coast. The following approaches offer promise:

⇒ Establishment of forest health districts in parcelized North Coast counties

⇒ RCDs serving as public works entities and developing Public Works Plans in the Coastal Zone

⇒ Utilization of CalVTP for project development to expedite CEQA process

#### MECHANISM: Forest health districts

In its September 2017 report *Improving the Health of California's Headwater Forests*, PPIC suggests making greater use of tools that create opportunities for collaboration.[112] Related to this suggestion, PPIC proposes the development of forest health districts, which have the potential to be of particular value to the highly parcelized counties comprising the North Bay area: Lake, Mendocino, Napa, and Sonoma.

Forest health districts "would function in a manner similar to irrigation districts: land is privately owned, but decision making may be shared across all landowners in the district."[113] This model has the potential to bring numerous landowners and managers together to identify and chart forest health and resilience goals beyond the boundaries of their individual properties and across a shared landscape. Participants would "benefit from the economies of scale that come from planning forest management over larger spatial areas," which is must less expensive on a per unit basis than creating individual WFMPs and THPs for many smaller properties. Moreover, "timber harvest activities may be more profitable when plans can be developed over larger areas, and are more likely to attract necessary investments in sawmill or biomass power plants…"[114]

The existing state law authorizing special district formation provides the mechanism to establish forest health districts. In the event this proves to be infeasible, state legislation may be needed "to authorize property owners to create forest health districts to define the scope of the districts'

[111] "About Us." *Cultural Fire Management Council*. <http://culturalfire.org/about-us/>.
[112] Bustic, Van, et al. "Improving the Health of California's Headwater Forests." *Public Policy Institute of California*. September 2017. <https://www.ppic.org/wp-content/uploads/r_0917vbr.pdf>.
[113] Bustic, Van et al.
[114] Ibid.

powers and responsibilities."[115] Alternatively, interested landowners could come together to form forest health cooperatives that could offer many of the same benefits.[116]

### MECHANISM: RCDs serving as public works entities in the Coastal Zone

Numerous RCDs throughout California have already stepped up to serve as public works entities in their respective districts, drafting Public Works Plans (PWPs) to cover forest health work in the coastal zone on private and state lands: San Mateo RCD, Santa Cruz RCD, and Upper Salinas-Las Tablas RCD, to name a few. Before detailing the utility and application of PWPs, this arrangement is advantageous for multiple reasons: (1) as special districts, RCDs are considered by the state to be "public works entities" and are, therefore, eligible to apply for PWPs (CAL FIRE Units and local Fire Safe Councils (FSCs) are not considered public works entities); and (2) many RCDs already have considerable experience navigating complex permitting processes and bring that expertise to the table.

In some contexts, such as that of Marin County, a PWP is the only available tool that would allow entities such as the Marin Wildfire Prevention Authority (MWPA) to cover forest health work programmatically. By design, it would integrate the existing California Vegetation Treatment Program (CalVTP) with carefully developed coastal vegetation treatment standards (VTS) in order to meet the immediate need for compliance with the Coastal Act, serving as an alternative to Local Coastal Programs (LCPs) and multiple individual coastal development permits. A PWP presents a more efficient approach; there are no associated fees, and approval processes are expedited. Once developed, it offers an opportunity to swiftly increase the pace and scale of project implementation.[117][118]

For those North Coast RCDs with coastal land within their districts, pursuing the development of a PWP might have the potential to create new opportunities for project implementation at the intersection of forest health and wildfire prevention. At the time of this writing, Marin RCD is exploring the possibility of developing a PWP at the request of the MWPA, and Sonoma RCD is considering the same.

### MECHANISM: Utilization of CalVTP for project development to expedite CEQA process

When employed effectively, CAL FIRE's California Vegetation Treatment Program (CalVTP) can expedite elements of the CEQA process through the project specific analysis (PSA). It offers pre-determined and pre-approved standard practices and mitigation measures, and it prohibits particular treatment types in certain places or within certain timeframes to ensure completion of the CEQA compliance process.[119] The CalVTP treatment types are the following: wildland-urban interface fuel reduction; fuel breaks; and ecological restoration. The treatment activities approved to implement the aforementioned treatment types are the following: prescribed burning; mechanical treatment; manual treatment; prescribed herbivory; and herbicides.[120]

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[115] Ibid.
[116] Ibid.
[117] Sheena Sidhu. Personal communication. September 2021.
[118] Lisa Lurie. Personal communication. November 2021.
[119] "CalVTP: Testing a new tool for forest health project planning." *Sierra Nevada Conservancy*. January 6, 2021. <https://sierranevada.ca.gov/calvtp-testing-a-new-tool-for-forest-health-project-planning/>.
[120] "How to Use the CalVTP." *Board of Forestry and Fire Protection.* <https://bof.fire.ca.gov/projects-and-programs/calvtp/how-to-use-the-calvtp/>.

Utilizing CalVTP does not circumvent regular resource surveys; wildlife, botanical, and cultural surveys must still be completed. A flow chart capturing the CalVTP PSA process can be found in the Appendix.

As forest health work ramps up across the region, North Coast RCDs and their partners ought to familiarize themselves with CalVTP and gain confidence utilizing the tool, as it is poised to become the new standard for non-commercial vegetation treatment in California. RCDs might consider reaching out to their regional CAL FIRE forester to initiate a conversation around CalVTP as a good place to start.

### *RCD Action Goal 4:*

*Integrate forest health considerations into regional Carbon Farm Planning efforts*

Both soil health and forest health are presently areas of intense focus and investment in California. These realms overlap considerably – particularly when it comes to agroforestry, silviculture, invasive species management, and oak woodland systems – but they remain largely siloed. Ensuring better integration between ongoing Carbon Farm Planning efforts and forestry will enable forest health considerations to be better accounted for and prioritized by agricultural producers whose properties contain forested areas.

#### MECHANISM: Better methods to quantify avoided emissions/carbon losses due to wildfire in Carbon Farm Planning process

The following RCDs spanning six counties have active soil health programs and have come together to form the North Coast Soil Health Hub: Gold Ridge, Humboldt, Lake, Marin, Mendocino, Napa, and Sonoma. This organization is "a collaborative agricultural network of organizations, agencies, and producers dedicated to building soil health," and they are working "to promote stewardship of agricultural lands and increase resiliency" through regional partnerships and collaboration.[121] Within their respective districts, these RCDs are engaged in Carbon Farm Planning with interested producers. While Carbon Farm Plans tend to focus on opportunities for carbon sequestration on lands in agricultural production, there is potential to better integrate forest health considerations into carbon farm planning efforts. Numerous agricultural producers across the North Coast own properties that contain some forest, particularly oak woodlands, and Carbon Farm Plans represent an opportunity to capture and more effectively manage these critical forestlands and woodlands.

Incorporating forest health considerations into the carbon farm planning process will inevitably require reconciling the fact that achieving healthier forest stands and mitigating wildfire risk in the long-term often necessitates some tree removal and concomitant carbon storage losses in the short-term. However, forest health improvements do not have to be incompatible with effective carbon farm planning. Understanding how "avoided losses" can be quantified in carbon farm planning and advocating for standards that reflect the benefits of important practices such as forest thinning and tree removal will be a critical piece of this effort. The following practices are ones that naturally bridge the realms of soil health and forest health and offer potential points of entry into this evolving conversation: invasive species management; silviculture; prescribed burning; and prescribed grazing. Entities such as the Carbon Cycle Institute (CCI) and CAL

[121] "About: Team." *North Coast Soil Hub.* <http://soilhub.org/about/team/>.

FIRE are puzzling through these questions, but coordinated advocacy from RCDs could serve to advance and steer the discussion.

*Image 6. Chileno Valley Ranch in Marin County, August 2021. Credit: Julia Sullivan*

### *RCD Action Goal 5:*

*Enhanced wildlife habitat on private and state/local public forestland*

Given the nature of North Coast RCDs' forest health work, their projects intersect with wildlife habitat on private and state/local public forestland. While wildlife habitat is not typically the focus of RCDs' work, improvements to wildlife habitat often emerge as co-benefits of RCD projects that enhance forest health and resilience. While cumbersome permitting requirements and fees disincentivize concerted wildlife habitat projects, streamlined permitting mechanisms have the potential to increase RCDs' ability to prioritize wildlife habitat enhancement alongside their ongoing forest health work.

#### MECHANISM: Streamlined permitting mechanisms

Permitting mechanisms that do not require burdensome long-term monitoring and/or permit fees for voluntary habitat projects have the potential to transform RCDs' ability to carry out important wildlife habitat enhancement work. Mechanisms that reduce compliance requirements will also support this work.

- In late 2021, Governor Newsom signed Senate Bill (SB) 155, adding Section 21080.56 to the California Public Resources Code, which provides a new **CEQA statutory exemption for fish and wildlife restoration projects** (SERP) "that meet certain requirements."[122] The California Department of Fish and Wildlife's Cutting the Green Tape (CGT) Program is "responsible for coordinating with lead agencies seeking SERP concurrence.[123] This development is an example of a mechanism that has the potential to lessen the permitting burden on RCDs and other entities and streamline project development and implementation.

## CA FCP GOAL 3.1.2: IMPROVE HEALTH AND RESILIENCE ON FEDERAL FORESTLANDS

***RCD Action Goal 6:***

*Partner with federal agencies on forest stand improvement on federal forestlands*

When it comes to partnering more effectively with federal agencies on forest stand improvement on federal forestlands, the following mechanisms will help to fill existing gaps:

⇒ Utilizing the Good Neighbor Authority

⇒ Active Stewardship Agreements with U.S. Forest Service

⇒ Expanded geographic scope of existing Joint Chiefs' Landscape Restoration Partnership projects in the North Coast

⇒ Established participating agreements with federal agencies to increase prescribed fire capacity

⇒ Workforce development: seasonal RCD crews

### MECHANISM: Good Neighbor Authority

Developing and/or enhancing their relationship with federal agencies and programs was a priority of 87.5% of North Coast RCD survey respondents, and the Good Neighbor Authority (GNA) represents a means to do so. The GNA gives the U.S. Forest Service the authority to "contract with state entities to perform restoration activities on National Forest Service land." Through the GNA, state entities are empowered to oversee timber sales on federal lands, and the U.S. Forest Service can use that revenue to purchase services, such as planning, from state agencies. GNAs do not require match. RCDs, in turn, can contract with state agencies to carry out some or all of the tasks laid out in a supplemental agreement. GNA projects can be a good way for RCDs to foster relationships with state agencies and federal forests in their districts while creating "a new funding stream for ongoing restoration projects."[124]

[122] "CEQA Statutory Exemption for Restoration Projects (SERP)." *California Department of Fish and Wildlife*. <https://wildlife.ca.gov/Cutting-Green-Tape/SERP#569973311-things-to-know-before-requesting>.
[123] Ibid.
[124] "Get After It!: A Guide to Local, State and Federal Project Opportunities for Forest, Fire, and Fuels."

### MECHANISM: Stewardship Agreements

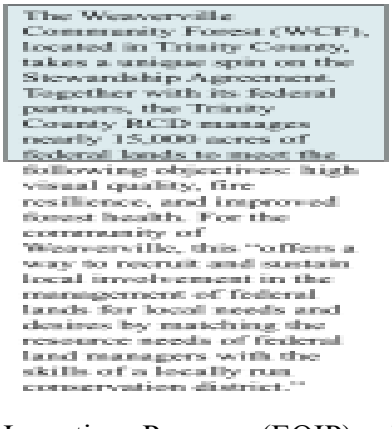
Stewardship Agreements also fall under the umbrella of federal agencies and programs with which a majority of North Coast RCDs (87.5%) have indicated an interest in developing and enhancing their ties. Stewardship Agreements are enacted between and for the mutual benefit of the U.S. Forest Service and a partner. Those RCDs whose districts contain National Forests(s) have the opportunity to work with the U.S. Forest Service through this mechanism. RCDs can serve as lead partners on Stewardship Agreements, which typically include "forest product removal and service work activities." "[W]ork is contracted on a "best value" basis, and – unlike timber sales – the excess value generated from a project is "kept on the forest via retained receipts."[125] Two types of Stewardship Agreements exist: (1) Master Stewardship Agreements (MSAs); and (2) Supplemental Project Agreements (SPAs). The first typically extend over a large area and are developed for an entire forest or region, and the latter are usually "written for specific projects conducted under an MSA."[126] RCDS also have the option of contracting for an SPA under a different entity's MSA. Trinity County RCD offers an illustrative example of how to work effectively via these structures:

- Trinity County RCD works through an overarching agreement with both the Shasta-Trinity and Six Rivers National Forests. The RCD has a **Master Participating Agreement** and a **Master Cost-Share Agreement** in place with both National Forests, respectively, which take them out of the realm of contracting. The RCD does substantial work under these Agreements, including through the Joint Chiefs' Landscape Restoration Project, which is discussed as the following mechanism.

[125] Ibid.
[126] Ibid.

*Image 7. A ten-year-old ridgetop fuel break in Weaverville Community Forest, Trinity County, August 2021. Trinity County RCD works with the BLM and U.S. Forest Service to come up with prescriptions for the Weaverville Community Forest via a Stewardship Agreement. Credit: Julia Sullivan.*

## Box 3: Weaverville Community Forest


The Weaverville Community Forest (WCF), located in Trinity County, takes a unique spin on the Stewardship Agreement. Together with its federal partners, the Trinity County RCD manages nearly 15,000 acres of federal lands to meet the following objectives: high visual quality, fire resilience, and improved forest health. For the community of Weaverville, this "offers a way to recruit and sustain local involvement in the management of federal lands for local needs and desires by matching the resource needs of federal land managers with the skills of a locally run conservation district."

[127]128

### MECHANISM: Joint Chiefs' Landscape Restoration Partnership

The Joint Chiefs' Landscape Restoration Partnership (Joint Chiefs') represents another opportunity for North Coast RCDs to develop and/or enhance their relationship with federal agencies and programs. Joint Chiefs' is a partnership between two U.S. Department of Agriculture (USDA) agencies: the NRCS and the U.S. Forest Service. Joint Chiefs' provides funding for implementation, which is channeled directly to the participating National Forests(s) and NRCS office. Funding allocated to NRCS is earmarked for the agency's Environmental Quality Incentives Program (EQIP), which provides support to private landowners engaged in forest

[127] "Home." *Weaverville Community Forest*. <https://tcrcd.net/wcf/>.
[128] Kelly Sheen. Personal communication. November 2021.

health work on their properties.[129] Depending on how closely a given RCD works with their local National Forest and/or NRCS office, this injection of funding could represent new work opportunities for RCDs.

The USDA selects new three-year projects every year, and two North Coast counties are actively working under Joint Chiefs': Trinity and Del Norte. Their projects are "Forest Health and Fire Resilience Rural Communities in Trinity County" and "Little Jones Creek Project-Smith River Collaborative," respectively. While these projects were pursued and awarded individually, in future rounds, there is potential to broaden the geographic scope of Joint Chiefs' proposals and mount a large-scale, multijurisdictional project that brings other National Forests and NRCS offices into the fold and, by extension, other North Coast RCDs. Conversations around doing just that were held amongst North Coast RCDs and their partners throughout early 2021. While a regional proposal was not attempted this year, RCDs learned that the leadership of participating agencies would be supportive of such a proposal, and an appetite for collaboration exists among National Forests of the North Coast.

#### MECHANISM: Participating agreements with federal agencies to increase prescribed fire capacity

As discussed earlier in this document, increasing the application of prescribed fire across the North Coast's federal forestlands requires increasing prescribed fire capacity. Given the decentralized and community-driven nature of the prescribed fire practitioner network, federal agencies stand to gain much-needed capacity by initiating and maintaining participating agreements with local, state, Tribal, and/or private partners that are skilled and motivated in the realm of prescribed fire. Operating under well-crafted participating agreements, partnering entities would be held to the standards and procedures around prescribed fire required by federal agencies and could aid in the effort to increase federal acreage treated and maintained with prescribed fire.

#### MECHANISM: Workforce development

See mechanism description under RCD Action Goal 1.

### CA FCP GOAL 3.1.3: RESTORE ECOSYSTEM HEALTH OF WILDFIRE- AND PEST-IMPACTED AREAS THROUGH REFORESTATION

#### *RCD Action Goal 7:*

*Expanded reforestation efforts in critical watersheds*

Reforestation efforts are a crucial piece of the state's emissions reduction goals and the carbon sequestration puzzle. As wildfire events increase in frequency and severity, the projects that unfold in their burn scars will continue to be of paramount importance. Due to recent wildfires, there are numerous North Coast RCDs' whose district boundaries contain considerable burned areas. When it comes to implementing reforestation projects, there are numerous potential bottlenecks that could hinder progress. Ensuring that there is a reliable supply chain of seedlings and appropriate species for reforestation is critical.

[129] Kelly Sheen. Personal communication. January 2021.

### MECHANISM: Seedling supply chain

CAL FIRE's recently announced Business & Workforce Grants include up to $4 million available for tree nursey operations. Per grant guidelines, seedlings must be made available to private landowners.[130] This recently announced funding opportunity is indicative of the increased attention being paid to the seedling supply chain and efforts to expand reforestation activities throughout the state.

## CA FCP GOAL 3.1.4: MAXIMIZING FOREST HEALTH GOALS IN SUSTAINABLE COMMERCIAL TIMBER HARVESTING OPERATIONS

***RCD Action Goal 8:***

*Maintain commercial timber infrastructure and encourage the creation of markets for small-diameter material to support the development of a restoration economy*

Maintaining commercial timber infrastructure and encouraging the creation of markets for small-diameter material are both essential to the development of a restoration economy. This approach has long been central to some North Coast RCDs' work, particularly those whose districts have more robust commercial timber industries. However, as funding for non-commercial forest improvement work continues to flow, it will be important for other districts to support the infrastructure and markets essential for the development of a restoration economy as well.

### MECHANISM: Forging relationships with commercial timber industry

It is important for RCDs to forge and maintain solid relationships with local mills and industrial timberland managers in order to stay plugged into the local realities of commercial timber harvesting and processing in their districts and broader region. When RCDs understand the strengths and gaps of their local commercial timber operations, they are better equipped to draw connections between commercial timber and the burgeoning restoration economy, identify how existing infrastructure could serve both, and support the development of markets for small-diameter material. Trinity County RCD and Shasta Valley RCD have long been working in this way and can likely offer lessons learned to other North Coast RCDs.[131]

- The WCF mentioned previously in this document serves as an example of this collaborative process. Trinity County RCD manages the WCF to provide timber to the town mill, preserve and enhance areas of educational and historical significance, and maintain the forest's visual aesthetics for the benefit of town residents.[132] The WCF was established as a pilot program in 2003 and offers a model for how the "historical model of timber-based economies" can change with the times. The WCF is succeeding in enacting community-driven forest management "that creates and retains living wage jobs in an otherwise challenged rural community."[133]

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[130] "Wood Products and Bioenergy: Business and Workforce Development Guidelines, FY 2021-2022." *Board of Forestry and Fire Protection*. January 3, 2022. <https://www.fire.ca.gov/media/wxbmyutq/business-and-workforce-development-grant-guidelines.pdf>.
[131] Lyndsey Lascheck. Personal communication. November 2021.
[132] "Home." *Weaverville Community Forest*.
[133] Ibid.

## CA FCP GOAL 3.1.5: RESTORE MOUNTAIN MEADOW HABITAT

***RCD Action Goal 9:***

*Support mountain meadow restoration across the North Coast ranges*

While mountain meadows are only present in some North Coast counties, those North Coast RCDs whose districts contain this critical habitat are well-positioned to support its restoration across the North Coast ranges.

### MECHANISM: Increased participation in Klamath Meadows Partnership for RCDs in the Klamath-North Coast Province

The Klamath Meadows Partnership (KMP) is a "recently formed coalition of scientists, public agencies, private landowners, Tribal entities, and watershed and restoration councils whose aim is to support meadow conservation and restoration across the Klamath Mountains and North Coast Ranges of California."[134] The KMP endeavors to "[f]oster collaborations to increase the pace and scale of meadow conservation and restoration," "[c]oordinate efforts to inventory meadows and prioritize restoration needs across the province," and "[b]uild off existing knowledge and resources to identify and/or develop assessment protocols, restoration methods, and monitoring strategies," among other goals.[135] As a new partnership, the KMP is actively growing, and Shasta Valley RCD recently joined its ranks. Other North Coast RCDs whose districts contain mountain meadow habitat may consider joining and/or supporting the work of this partnership.[136]

## CA FCP GOAL 3.3: INNOVATE SOLUTIONS FOR WOOD PRODUCTS AND BIOMASS UTILIZATION TO SUPPORT ONGOING FOREST MANAGEMENT ACTIVITIES

***RCD Action Goal 10:***

*Support the use of biochar and encourage the development of biomass markets in the region to support local economies and reduce greenhouse gas emissions*

Biochar use and biomass markets are two areas ripe with potential. While some processes for biochar creation and use are well-established, others are still in more exploratory phases and would benefit from further experimentation. Additionally, as funding for fuels reduction work continues to flow, biomass will continue to be removed from North Coast forests. Whether that biomass will reliably enter viable regional markets, support local economies, and reduce greenhouse gas emissions is less certain. The following mechanisms will help to ensure that it does:

- ⇒ Funding for exploratory/demonstration projects utilizing chipping and gasification processes and biochar production
- ⇒ Community access to necessary machinery/equipment

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[134] "Klamath Meadows Partnership." *Klamath Meadows Partnership.* <https://static1.squarespace.com/static/5fbadbe960151b0e314912a4/t/5fc586e9f3de5e49b52237b1/1606780649791/Klamath+Meadows+Partnership+Outreach.pdf>.

[135] Ibid.

[136] Lyndsey Lascheck. Personal communication. November 2021.

### MECHANISM: Funding for exploratory/demonstration projects

Organizations and community groups committed to finding viable uses for biochar and innovating solutions for biomass need the latitude to carry out exploratory and/or demonstration projects that test different processes and applications such as chipping and gasification. Funding opportunities should reflect the uncertainty within this realm and offer recipients considerable flexibility.

### MECHANISM: Community access to necessary equipment

Creating biochar and innovating uses for biomass often require access to expensive specialty equipment. Lack of access has been and continues to be a major impediment to innovation for motivated organizations and community groups. Moreover, for those entities that do have access to the necessary equipment, maintenance emerges as another challenge. CAL FIRE's recently announced Business & Workforce Grants may be an opportunity for RCDs to steer funding towards business development projects, including the following: "facilities, operations, and professional services that support the restoration of healthy, resilient forests by offering improvements to the wood products industry."[137] Ensuring that North Coast organizations and community groups can gain access to the necessary equipment, as well as replacement parts, is critical. Providing these entities with opportunities for training in equipment use and maintenance will further support the use of biochar and/or encourage innovative uses of biomass.

## CA FCP GOAL 3.4: CREATE CAPACITY FOR COLLABORATIVE PLANNING AND IMPLEMENTATION AT THE LANDSCAPE OR WATERSHED LEVEL

***RCD Action Goal 11:***

*Develop and submit competitive and collaborative grant proposals for public funding opportunities in partnership with county government and other local and regional partners*

At the time of this writing, there are myriad public funding opportunities available in the realm of forest health. As evidenced by recent rounds of funding, grant proposals that center a collaborative process and bring together multiple entities under a shared program tend to be the most competitive. Crafting grant proposals in partnership with county government and other local entities can become complex, but having the following mechanisms in place will ensure that North Coast RCDs are prepared to develop and submit competitive and collaborative applications:

- ⇒ Mechanism for collaborative process, planning, and project identification with county government, local non-profits, Fire Safe Councils, and community members
- ⇒ County Coordinators funded in multiple North Coast counties
- ⇒ Watershed Coordinators funded for multiple North Coast RCDs

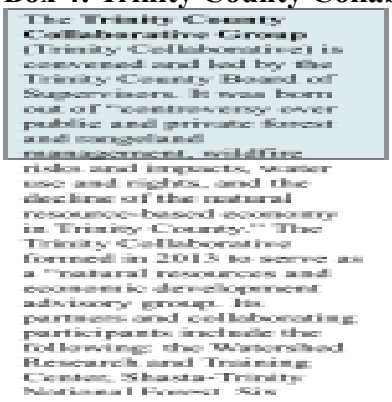
[137] "Wood Products & Bioenergy."

### MECHANISM: Collaborative process with county government and local entities

Three-quarters of "RCD Forest Health Capacity Survey" respondents indicated a desire to develop and/or enhance their relationship with county government. Given how many different players are engaged in forest health and fire resilience work at the local and/or county level, e.g., FSCs, PBAs, non-profits, etc., and the competitive nature of grant cycles, collaborative projects and programs that bring multiple entities together under a single umbrella are gaining popularity. Mounting initiatives in this way requires frequent communication and coordination, and convening regular meetings with county staff and other active organizations to keep everyone oriented around the same goals is essential. Each RCD is operating in a unique context and will, therefore, have a different mechanism for identifying and engaging with important players locally. Humboldt County RCD offers one example of what this process can look like, while the Trinity County Collaborative Group (Trinity Collaborative) highlighted in **Box 3** offers another:

- Humboldt County RCD meets monthly with County of Humboldt staff to discuss and coordinate ongoing and potential projects in the County. As a result of these regular meetings, a representative of Humboldt County RCD was granted membership to the Humboldt County FSC, following introduction by County staff and a vote by FSC members. This came out of a desire to emulate the work of the Trinity Collaborative and a recognition that the RCD and FSC would benefit from being better integrated into one another's work, which – in turn – would benefit the broader Humboldt County community. Moreover, these meetings have enabled the Humboldt County RCD and County of Humboldt to proactively coordinate on a variety of other topics – most recently, at the time of this writing, which entity would serve as the lead applicant for a CAL FIRE Forest Health Grant in partnership with a local watershed group.

**Box 4: Trinity County Collaborative Group**


The Trinity County Collaborative Group (Trinity Collaborative) is convened and led by the Trinity County Board of Supervisors. It was born out of "controversy over public and private forest and rangeland management, wildfire risks and impacts, water use and rights, and the decline of the natural resource-based economy in Trinity County." The Trinity Collaborative formed in 2013 to serve as a "natural resources and economic development advisory group. Its partners and collaborating participants include the following: the Watershed Research and Training Center, Shasta-Trinity National Forest, Six

[138] [139] [140]

### MECHANISM: County Coordinators funded in multiple North Coast counties

The California Fire Safe Council offers a County Coordinator Grant, the objective of which is to "educate, encourage, and develop county-wide collaboration and coordination among various wildfire mitigation groups operating within counties containing State Responsibility Area (SRA) lands." It prioritizes counties "with a high percentage of Very High Fire Severity Zones and a higher proportion of disadvantaged and/or low-income communities."[141] Many North Coast counties have

[138] "Home." *Trinity Collaborative*. <https://www.trinitycollaborative.net/>.
[139] "Trinity County Collaborative Group Organizational Charter." *Trinity Collaborative*. October 16, 2015. <https://www.trinitycollaborative.net/pdf/archive/Trinity_Collaborative_Charter_Revised_10-16-15.pdf>.
[140] "Partners & Collaborating Participants." *Trinity Collaborative*. <https://www.trinitycollaborative.net/partners.htm.>.
[141] "2021 County Coordinators Grant Opportunity." *California Fire Safe Council*. <https://cafiresafecouncil.org/grants-and-funding/2021-county-coordinators-grant-opportunity/>.

multiple active FSCs, while others have a single defunct FSC. Regardless, they could all benefit from increased support and coordination. Pursuing funding for County Coordinators in multiple North Coast counties will elevate the work of wildfire mitigation outreach and coordination. At the time of this writing, this grant program was closed, but North Coast RCDs should keep an eye on this opportunity in the future.

### MECHANISM: Watershed Coordinators funded for multiple North Coast RCDs

The Department of Conservation's Forest Health Watershed Program has helped the North Coast Durable Collaborative make its collective voice heard at the regional level, strengthening its relationship with regional entities such as the NCRP and envisioning large, cross-district forest health projects that leverage the combined strengths of multiple North Coast RCDs. The Forest Health Watershed Coordinator position has also helped individual North Coast RCDs build their organizational capacity around forest health work, whether through grant writing, project support, or partner coordination. In reality, however, each individual North Coast RCD would benefit tremendously from a fully funded Watershed Coordinator position. Watershed Coordinators could also be shared amongst smaller groups of North Coast RCDs whose districts are working on forest health issues in similar ways, e.g., a North Bay Watershed Coordinator, a Trinity-Siskiyou Watershed Coordinator, etc. The North Coast is a vast and extremely varied region, and Watershed Coordinators would be better able to serve RCDs if they were attuned to the on-the-ground realities of individual counties as opposed to being spread across nine of them.

## *RCD Action Goal 12:*

*Commit to strengthening existing and/or creating new relationships with Tribal partners and support natural resources goals of Tribes*

Three-quarters of "RCD Forest Health Capacity Survey" respondents reported wanting to add or enhance their capacities related to outreach to tribal governments and tribal environmental departments. Moreover, 100% of respondents indicated an interest in strengthening their partnerships with Tribes. Given this strong interest, North Coast RCDs should prioritize this work through education, strategic planning and language, and action.

- ⇒ Education, strategic planning, and action to foster relationships with Tribal partners
- ⇒ RCD participation in Tribal Council meetings as requested
- ⇒ Support for Tribal resource conservation goals
- ⇒ Hire Tribal Liaison as RCD staff and/or build in opportunities for Tribal representation and input on RCD programs
- ⇒ Support NRCS Tribal liaisons and planners
- ⇒ Acknowledge and incorporate Tribal knowledge and values into RCD programs

### MECHANISM: Education, strategic planning, and action

In the fall of 2020, North Coast RCDs arranged for and attended a ZOOM session facilitated by Native scholar Peter Nelson in which he discussed California Tribal history and how to begin

work with Tribes, among other topics. North Coast RCDs should carry the momentum generated by this session forward and continue to educate themselves in these critical areas.

Building off of this commitment to education, North Coast RCDs should strive to incorporate their commitment to developing and enhancing their relationships with Tribes into their strategic planning processes, which could then serve as a jumping-off point for action, with the goal of eventually mounting projects in collaboration with Tribal partners. Mendocino County RCD's "Strategic Plan: 2020-2024" and Humboldt County RCDs work with the Yurok Tribe could both serve as useful models for other North Coast RCDs.

- Under their "Guiding Principles," **Mendocino County RCD's "Strategic Plan: 2020-2024"** includes the following: "Respect and Honor Indigenous Peoples of Mendocino County." It elaborates by naming each of the Tribes that has lived and continues to live in Mendocino County. This priority area might also take the form of a land acknowledgement developed in collaboration with Tribes and delivered "prior to workshops and field activities to recognize territorial lands and [N]ative peoples, past and present."[142] Importantly, in their "Strategic Plan: 2020-2024," Mendocino County RCD also acknowledges that respecting and honoring Indigenous peoples "is a small gesture that becomes more meaningful when aligned with specific actions." [143] The RCD then goes on to detail each of the actions its individual programs, e.g., Water Resource Program, Forest Health program, etc., will take to enhance and develop its relationship with Tribes. While some of this language is necessarily aspirational, the RCD does make certain commitments to working with Tribes. Its Land Stewardship Program, for example, commits to facilitating the "regular and frequent participation of tribal members on the Willits mitigation lands" and to "include their input on how the land is managed."[144]
- The **Yurok Community Forest and Salmon Sanctuary Project**, which was awarded through CAL FIRE's Forest Health Grant Program, represents a collaborative project between Humboldt County RCD, the Yurok Tribe, and Western Rivers Conservancy. The RCD helped develop the grant proposal and continues to provide oversight and administrative support for the project, which involves pre-commercial thinning, restoration, and fuels reduction treatments on post-industrial properties that were acquired by Western Rivers Conservancy and managed by the Yurok Tribe over the last decade.

### MECHANISM: RCD participation in Tribal Council meetings

North Coast RCDs are committed to making themselves available to participate in Tribal Council meetings as requested. They recognize that RCD requests for Tribal input and participation in RCD programs and processes need to be balanced by a willingness on the part of RCDs to participate in Tribal processes. North Coast RCDs understand that their presence and participation in this Tribal forum may not always be appropriate or desired, so RCDs will defer to Tribes as to if and when it would be beneficial to attend these meetings.

[142] "Strategic Plan: 2020-2024." *Mendocino County Resource Conservation District*.
[143] Ibid.
[144] Ibid.

### MECHANISM: Support for Tribal resource conservation goals

In order to consistently support Tribal resource conservation goals, North Coast RCDs should stay abreast of Tribal initiatives and aspirations. By maintaining familiarity with Tribes' goals as they develop and evolve, RCDs will be better able to understand how to align their programming to support those goals, both over the short and long term. In particular, given their extensive experience writing and administering grants, North Coast RCDs may be well-positioned to support Tribes through these processes to access public funding if requested.

Regarding cultural burning specifically, see mechanism description under RCD Action Goal 2.

### MECHANISM: Tribal Liaison on RCD staff and/or build in opportunities for Tribal representation and input on RCD programs

Beyond participating in Tribal Council meetings as requested and supporting Tribal resource conservation goals external to RCD programming, North Coast RCDs should strive to build in meaningful opportunities for Tribal representation and input on RCD programs. Creating a Tribal liaison position on RCD staff would be one structural way to ensure this representation and input internally. Working towards the establishment of regular channels of communication and meetings between North Coast RCDs and Tribes would be another way to ensure that RCD programs consistently incorporate and reflect Tribal input.

### MECHANISM: Support NRCS Tribal liaisons and planners

The California Tribal Advisory Committee (TAC) was initiated in 2015 to help shape the NRCS California Tribal Program. It serves as a forum in which California Tribes and Tribal members "address natural resource issues on tribal lands" and "voice conservation issues that are important to them directly."[145] This Tribal Advisory Committee develops conservation plans and priorities for implementation and maintains communications with the NRCS' Tribal liaisons; of NRCS' two Tribal liaisons in California, one serves the Northern California region.[146] Given their close working relationship with the NRCS, North Coast RCDs can support the work of the NRCS Tribal liaison and others engaged in planning work with North Coast Tribes.

### MECHANISM: Acknowledge and incorporate Tribal knowledge and values into RCD programs

As they continue to educate themselves around North Coast Tribal history and consider how to begin working more meaningfully with Tribes, North Coast RCDs should acknowledge Tribal knowledge and values, incorporating them into their programs to the extent appropriate and without engaging in appropriation or extraction. As RCDs continue to engage more deeply with forest health work, they should pay special attention to those prescriptions, management activities, and stewardship practices that are directly derived from Tribal knowledge, sometimes referred to as Traditional Ecological Knowledge (TEK), and acknowledge them as such – verbally and/or in written form, depending on the nature of the programming. Beyond this acknowledgement, and beyond actively supporting Tribes in achieving their resource conservation goals, North Coast RCDs could work to ensure that their own programming reflects

[145] "California Tribal Advisory Committee." *United States Department of Agriculture: Natural Resources Conservation Service, California*. <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ca/about/outreach/tribal/?cid=nrcseprd1465058>.
[146] Ibid.

the values of North Coast Tribes by incorporating Tribal values into their programming with Tribal consent.

### *RCD Action Goal 13:*

*Coordinate with and support local and county-level Fire Safe Councils*

Creating and enhancing community resilience to wildfire is another critical piece of the puzzle of improving forest health and resilience on private and state/local public forestlands. The mechanisms below will help to fill existing gaps:

⇒ Active Fire Safe Councils in all North Coast districts

⇒ Long-term funding for technical assistance, community coordination, and project development

#### MECHANISM: Fire Safe Councils

Fire Safe Councils (FSCs) are "grassroots, community-led organizations that mobilize residents to protect their homes, communities, and environments from catastrophic wildfire."[147] Given the complementary missions of both RCDs and FSCs, partnerships between these entities can be "particularly effective in developing strong project concepts, securing project funding, and implementing those projects effectively."[148] As captured in the North Coast Durable Collaborative's "Resource Conservation District-Fire Safe Council Collaborative Frameworks" document, there is no one model for collaboration between RCDs and FSCs. The appropriate degree of integration and staff- and resource-sharing will depend on local context as well as the capacities of each entity. Regardless of the nature of the partnership, however, an active and thriving FSC is an important piece of the fire resilience landscape, and every county should have at least one. As trusted community partners, North Coast RCDs are well-positioned to support these entities – whether they overlap considerably with an RCD's own programming or operate totally independently. Marin RCD, Mendocino County, RCD and Trinity County RCD engage very differently with their local FSCs, but all three are effective in serving the unique needs of their communities.

- From its inception, **Fire Safe Marin**, Marin County's FSC, has operated largely independently from Marin RCD. While Marin RCD staff members sit on several of its committees and is actively supportive of its work, Fire Safe Marin is a well-funded organization with non-profit status that receives support from other entities, including the MWPA and CAL FIRE Foundation, as well as grants from local, state, and federal agencies.[149]
- Mendocino County RCD played an active role in nurturing the **Mendocino County FSC**. When the FSC was nearly defunct, Mendocino County RCD staff took on the administrative and coordination tasks necessary to ensure that it stayed afloat. Eventually, Mendocino County RCD helped the FSC acquire funding to hire its own staff and begin to operate independently from the RCD. This early investment of

[147] "Fire Safe Councils." *California Fire Safe Council*. <https://cafiresafecouncil.org/resources/fire-safe-councils/>.
[148] "Resource Conservation District-Fire Safe Council Collaborative Frameworks." *North Coast Durable Collaborative*.
[149] "About Us." *Fire Safe Marin*. <https://firesafemarin.org/about/>.

considerable staff capacity on the part of Mendocino County RCD ensured that the FSC received the support it needed to establish itself and grow to better serve its community.[150]

- Compared to Marin and Mendocino counties' models, the **Trinity County FSC** is more embedded within Trinity County RCD. The RCD has two staff members that help to coordinate the FSC, and the RCD's GIS Manager and IT and Webmaster lend additional support as needed. Trinity County RCD typically convenes and hosts FSC meetings and posts FSC updates on its social media platforms.[151]

### MECHANISM: Long-term funding

See mechanism description under RCD Action Goal 1.

### *RCD Action Goal 14:*

*Continued collaboration with NCRP*

As discussed earlier in this document, the geographies of the North Coast Durable Collaborative and the NCRP overlap considerably. Moreover, the work of these two entities is highly complementary; North Coast RCDs focus largely on technical assistance and project implementation, while the NCRP focuses more on regional planning. The following mechanisms will help to facilitate this important continued collaboration:

⇒ Continued funding for Watershed Coordinator on behalf of North Coast Durable Collaborative

⇒ Advocacy on behalf of North Coast RCDs by NCRP at the state level

### MECHANISM: Funding for Watershed Coordinator on behalf of North Coast Durable Collaborative

As discussed in a previous mechanism, the Forest Health Watershed Coordinator has opened up a channel of communication and coordination between the North Coast Durable Collaborative and the NCRP. The two entities have been able to work towards mutual understanding through this regular communication, strengthening their relationship with one another, ensuring that their work complements one another, and honing in on mechanisms that will enable them to work more effectively with one another. This communication has also enabled the North Coast Durable Collaborative to make its collective voice heard at the regional level. As RFFC Program funding continues to flow through the NCRP, it is critical that North Coast RCDs and the NCRP be in regular communication with one another to shape the ways in which the NCRP distributes its resources to communities and projects on the ground. Having RCD involvement in early stages of NCRP program development, as opposed to participating in late-stage reviews, will help ensure that the needs of RCDs and their communities are reflected in NCRP programming.

### MECHANISM: Advocacy on behalf of North Coast RCDs by NCRP at the state level

In addition to keeping the channel of communication between the North Coast Durable Collaborative and NCRP open in order to enhance the programming that is delivered across the

[150] Mary Mayeda. Personal communication. February 2021.
[151] "Home." *Trinity County Fire Safe Council*. <https://firesafetrinity.org/index.html>.

North Coast, this regular communication helps the NCRP stay abreast of and represent the needs of North Coast RCDs at the state level. Given its involvement in statewide planning processes, the NCRP is well-positioned to elevate and advocate for RCD interests, e.g., continuation of the Watershed Coordinator Program, direct funding, etc., as it interfaces with state agencies. To date, the NCRP and North Coast Durable Collaborative have discussed how the NCRP can better advocate for North Coast RCDs and have established preliminarily language and talking points that will enable them to do that.

### CA FCP GOAL 3.5: PROTECT AND EXPAND URBAN PARKS

***RCD Action Goal 15:***

*Expand support for city and county parks*

City and county parks feature prominently in some parts of the North Coast, particularly in the North Bay counties, and they constitute an important piece of the WUI. While most North Coast RCDs do not currently work closely with city and county parks, most have existing programming related to defensible space and home hardening, and some are getting more involved in urban forestry activities. These efforts have the potential to dovetail with city and county park forest management.

#### MECHANISM: Managing forests within the wildland-urban interface

Ensuring that city and county parks, particulary those within the WUI, are engaging in active forest management is critically important. The management activities that occur in these highly visible areas should integrate with community- and county-wide efforts. Moreover, these areas have the potential to serve as instructive demonstration sites, particularly for defensible space treatments, and could be used to host educational community events. North Coast RCDs are well-positioned to build relationships with city and county parks and bring those still outside the forest health and fire prevention fold into conversation with organizations and community groups actively working to manage forests in the WUI.

### CA FCP GOAL 3.6: WORK TO ADDRESS RESEARCH NEEDS

***RCD Action Goal 16:***

*Engage research entities in RCD projects*

There are many research needs in the fields of forestry and fuels management, some of which CAL FIRE's Forest Health Research Program is working to address.[152] North Coast RCDs are involved in the implementation of countless projects that may lend themselves to studying the effects of different fuel treatments, advancing the science of fuel breaks, and more. In this way, engaging research entities could be a natural complement to the ongoing work of RCDs.

[152] "Forest Health Research Program." *CAL FIRE, Fire and Resource Assessment Program*. <https://frap.fire.ca.gov/research-monitoring/program-overview-grant-solicitation/>.

### MECHANISM: Make opportunities for partnership available to research entities and academic institutions

As a collective, the North Coast Durable Collaborative is implementing numerous forest health projects in different vegetation types across a widely variable region. The rich pool of potential scientific data that their combined projects represent is vast. Given the myriad academic institutions throughout California and mounting interest in forestry and fire science, RCD projects could provide ample data to graduate students, research centers, and other entities looking to study the effects of forest health interventions. In this way, RCDs could serve as conduits for researchers interested in looking at different metrics. Actualizing these partnerships would require that potential research partners are in contact with RCDs and made aware of projects as they arise. Both the Shasta Valley RCD and Humboldt County RCD are already working with academic institutions in this way:

- The Shasta Valley RCD has been partnering with Oregon State University in their McKinley Scott Fuel Reduction project to study the response of the Pacific fisher to fuel treatments.
- Humboldt County RCD has been partnering with the Yurok Tribe to integrate Humboldt marten research into their forest health work and support regulatory compliance and treatment design.

## CONCLUSION

The North Coast RCDs represented within the North Coast Durable Collaborative are powerful individual entities capable of bringing tremendous financial resources into their communities; helping private landowners navigate the challenges of forest management; and forging valuable connections between non-profit organizations, community groups, resource and land management agencies, and other entities. As a collective of RCDs, the North Coast Durable Collaborative is a force operating at the regional level, learning from one another to achieve meaningful, cross-boundary and landscape-level impacts and working to ensure that RCDs receive the recognition and support they deserve for their critical work.

Although the forest health challenges confronting the North Coast region are great in their magnitude, North Coast RCDs have already proven their potential to be part of the solution. As evidenced by the 16 action goals detailed in the prior section, North Coast RCDs are motivated to continue to advance forest health work across the region, develop innovative programs and projects, and support and empower their communities. Particularly when it comes to working with non-industrial private forest landowners, North Coast RCDs are an integral piece of the forest health puzzle. Given that their goals align with those of the *California Forest Carbon Plan*, which was the impetus for this WIP, supporting North Coast RCDs in achieving their goals will help ensure that the state meets its forest health and carbon sequestration targets.

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## APPENDIX


*Figure 1. This map was drawn from the North Coast Regional Water Quality Board's webpage, "Watershed and River Information." Although it does not capture the North Coast region as defined in this WIP in its entirety, it is useful in visualizing the numerous Hydrologic Units that define the region.*

**Table 1. Existing Watershed Plans and Recent Watershed Groups**

| Hydrologic Unit | Hydrologic Area | Existing Watershed Plan | Most Recent Update | Recent Watershed Group |
|---|---|---|---|---|
| *Smith River* | | | | Smith River Alliance |
| *Klamath River* | Upper Klamath (West Section) Watershed | | | |
| | Shasta River Watershed | Shasta River Watershed Stewardship Report | 2008 | |

| | | | | |
|---|---|---|---|---|
| | Scott River Watershed | | | Scott River Watershed Council |
| | Middle Klamath Watershed | | | Mid Klamath Watershed Council |
| | Lower Klamath River Watershed | | | |
| | Salmon River Watershed | Salmon River Subbasin Restoration Strategy: Steps to Recovery and Conservation of Aquatic Resources | 2002 | Salmon River Restoration Council |
| | Trinity River Watershed | | | Trinity River Watershed Council |
| | South Fork Trinity River Watershed | | | Trinity River Watershed Council |
| *Redwood Creek* | | | | |
| *Trinidad* | Maple Creek Watershed | Trinidad-Westhaven Integrated Coastal Watershed Plan | 2008 | Trinidad Bay Watershed Council |
| | Little River Watershed | | | |
| *Mad River* | | | | Mad River Alliance |
| *Eureka Plain* | | | | |
| *Eel River* | | Eel River Action Plan | 2016 | Friends of the Eel River |
| *Cape Mendocino* | Oil Creek Watershed | | | |
| | Bear River Watershed | | | Bear River Watershed Group |
| | Mattole River Watershed | Mattole Integrated Coastal Watershed Management Plan | 2010 | Mattole Restoration Council |
| *Mendocino Coast* | Lost Coast | | | |
| | Noyo River Watershed | | | |
| | Big River Watershed | | | |
| | Albion River Watershed | | | Albion River Watershed Protection Association/Friends of Salmon Creek |

| | | | | |
|---|---|---|---|---|
| | Navarro River Watershed | Navarro Watershed Restoration Plan | 1998 | |
| | Garcia River Watershed | Garcia River Forest Integrated Resource Management Plan | 2006 | |
| | Gualala River Watershed | | | Gualala River Watershed Council |
| *Russian River* | | Russian River Integrated Coastal Watershed Management Plan | 2012 | Russian River Watershed Association; Russian River Watershed Protection Committee; Russian River Watershed Cleanup Committee; Russian Riverkeeper |
| | Laguna de Santa Rosa | | | Laguna de Santa Rosa Foundation |
| | Dutch Bill | Dutch Bill Creek Streamflow Improvement Plan | 2020 | Russian River Coho Water Resources Partnership |
| | Atascadero/ Green Valley | Green Valley Creek Watershed Management Plan | 2013 | Atascadero/Green Valley Watershed Council |
| | | Upper Green Valley Creek Streamflow Improvement Plan | 2019 | Atascadero/Green Valley Watershed Council |
| *Bodega* | Salmon Creek | Salmon Creek Integrated Coastal Watershed Management Plan | 2010 | Salmon Creek Watershed Council |
| | Americano Creek | Estero Americano Watershed Management Plan | 2007 | |
| | Stemple Creek | Stemple Creek/Estero de San Antonio Watershed Enhancement Plan | 1994 | |
| *Tomales-Drakes Bay* | Lagunitas Creek | | | Tomales Bay Watershed Council |
| | Walker Creek | | | |
| *San Pablo Bay* | | | | |

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For complete “RCD Forest Health Capacity Survey” results: https://docs.google.com/forms/d/1WYmBNcudXud17wB9rS7kJ2rc5uynvpj4MoYA7vUTL1Q/edit#responses

[153] “Watershed and River Information.” *North Coast Regional Water Quality Control Board.* <https://www.waterboards.ca.gov/northcoast/water_issues/programs/watershed_info/>.
[154] While each Hydrologic Area captured in **Table 1** does not have a corresponding watershed group, and all recent watershed groups captured do not necessarily have existing watershed plans, **Table 1** serves to demonstrate the sheer number of distinct watersheds across the North Coast and the myriad watershed-based efforts underway.