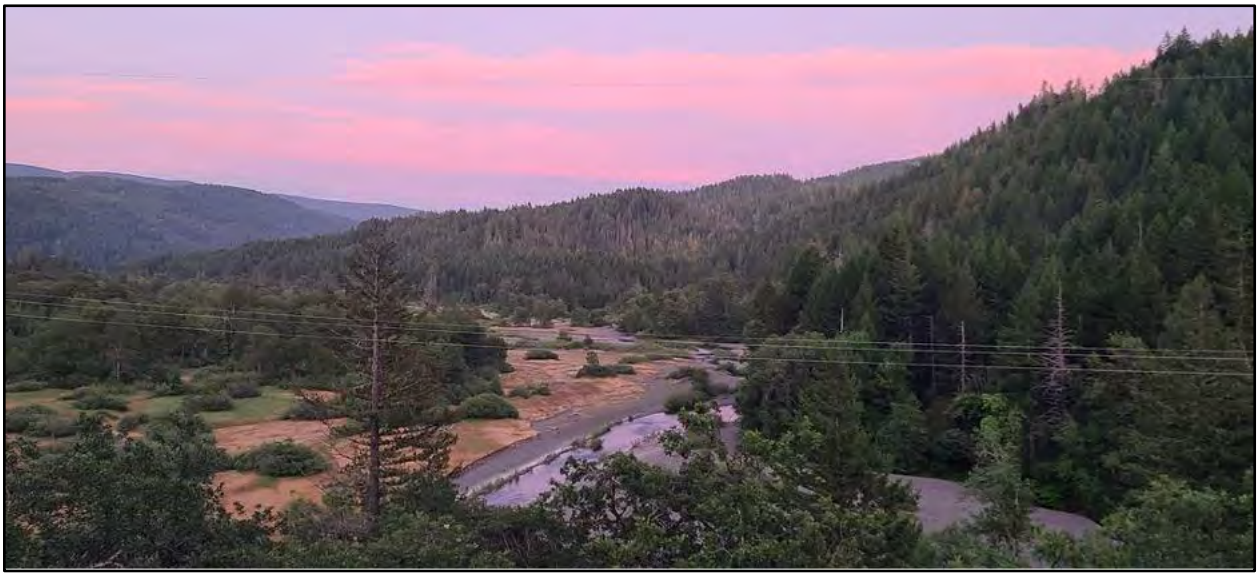
Wood Feedstock Aggregation Feasibility Study in the Mad River - Van Duzen - Dinsmore Region



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Prepared by:

Redwood Alternative Agriculture Fund

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Acknowledgments

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Acronyms

RAAF	Redwood Alternative Agriculture Fund
NCRP	North Coast Resource Partnership
OPR	The Governor's Office of Planning and Research
MVD	Mad River-Van Duzen-Dinsmore Region
AOI	Area of Interest
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
RMA	Road Maintenance Association
USFWS	United States Fish and Wildlife Service
BDT	Bone Dry Ton
NRCS	National Resources Conservation Service
WRTC	The Watershed Research and Training Center
USFS	United States Forest Service
VDWFSC	Van Duzen Watershed Fire Safe Council
CWPP	Community Wildfire Protection Plan
BF	Board Feet

1. Introduction

a) Project Purpose/Goals

The Redwood Alternative Agriculture Fund (RAAF) was awarded funding from the North Coast Resource Partnership to investigate a cooperative model to facilitate the removal, transportation, aggregation, and processing of woody biomass from public and private forest lands in the Eastern Humboldt/Western Trinity regions for the public good. Referred to as "The Dinsmore Pilot Project," the project identified key partners in the region to facilitate the aggregation of woody biomass and a preliminary site to aggregate, sort, and process woody feedstock. The contents of this report are the result of a year-long feasibility study on relevant operators, equipment, treatment activity, and feedstock volumes available to develop a biomass processing and sorting facility in Dinsmore.

b) Background

In response to the impacts of increased wildfire activity and damage, California's Wildfire and Forest Resilience Action Plan has set the ambitious goal of implementing fuels reduction projects on 500,000 acres annually. While significant funding is available to accomplish these efforts, value generation from forest products removed through fuels reduction efforts is necessary to sustainably reach these goals and help the state increase its wildfire resilience over the long term.

Fuels reduction treatments reduce wildfire risk and restore forest health around vulnerable communities. These efforts produce large amounts of woody biomass[1] and other non-merchantable material. Currently, the most common fate of this "low quality" woody biomass is broadcast and pile burning. These approaches create significant emissions and air quality impacts and do not recover value from the fuels reduction efforts. Furthermore, it's unlikely that meeting this fuels reduction acreage goal is sustainable for the state of California without receiving some revenue stream from the forest treatment activities.

In 2022, The North Coast Resource Partnership (NCRP) was awarded a contract by the Governor's Office of Land Use and Climate Innovation, previously the Governor's Office of Planning and Research, for the Woody Feedstock Aggregation Pilot Project, part of a state-wide pilot program to support efforts to increase the pace, scope, and scale of fuels management efforts in the region. This project aims to provide multi-benefit alternatives to the open-pile burning of the woody biomass produced from hazardous fuel management activities, to increase wildfire resilience in North Coast forests, and to provide reliable biomass outlets for private, non-industrial forest landowners. In the fall of 2023, NCRP announced the selection of 3 sub-regional pilot projects to investigate their ability to coordinate feedstock delivery to existing or new markets as a public-serving wood brokering entity for non-industrial land management practices. Each sub-region received an effective award of $90,000 to research new organizational

[1] Woody biomass refers to small diameter trees (<12in DBH), tree tops, and limbs of trees. While the primary focus of this initiative is the material generated from non-industrial forest restoration and stewardship practices, biomass can also come from industrial management in the form of tree tops, limbs, bark, and mill residue as logs are processed into durable wood products.

structures to organize wood selling and procurement while developing funding strategies to achieve community visions for sustainable land management and safety.

c) Feasibility Analysis Objectives

The Dinsmore Pilot sought to accomplish program objectives by completing a feasibility analysis of the Dinsmore region with the intent to serve as a woody feedstock aggregation and convening business. Early in the planning process, the Dinsmore team identified the need for a wood sorting yard and the desire to build a replicable model for other regions throughout the North Coast. The following objectives were identified to guide the feasibility study:

1) Research and engage community partners and organizations on resource mapping and willingness to participate
   (a) Define existing regional forest health priorities.
   (b) Identify existing forest health work being performed in the region.
   (c) Identify the region's existing forestry and fuels reduction operators and resources.
   (d) Assess community capacity for involvement in an aggregation facility.
2) Explore existing regional public-private partnerships and identify the best entity type to function as a wood broker.
3) Assess financial requirements to operate, sources of revenue, and staffing needs to manage a wood sort yard.
4) Identify available sources of funding to support business development.

2. Regional Context

The Mad River-Van Duzen-Dinsmore Region (MVD) is located within Humboldt and Trinity Counties. A 25-mile circumference called a “wood basket” was defined around the potential location of a wood sort yard in Dinsmore. The town of Hayfork is located to the far east of the wood basket, and Fortuna is located to the far west of the wood basket. While the red circle in **Figure 1** below represents a general area of interest (AOI), it is not meant to be a hard line. The green circle shown in **Figure 1** below depicts a 15-mile radius around the sort yard, delineating a preferable region to provide wood aggregation services. However, material distribution would be coordinated across a larger region. Highway 36 is the primary transportation corridor. It is unlikely that any material would be sourced from Highway 101 to the Dinsmore sort yard within the initial 5 years of operations.

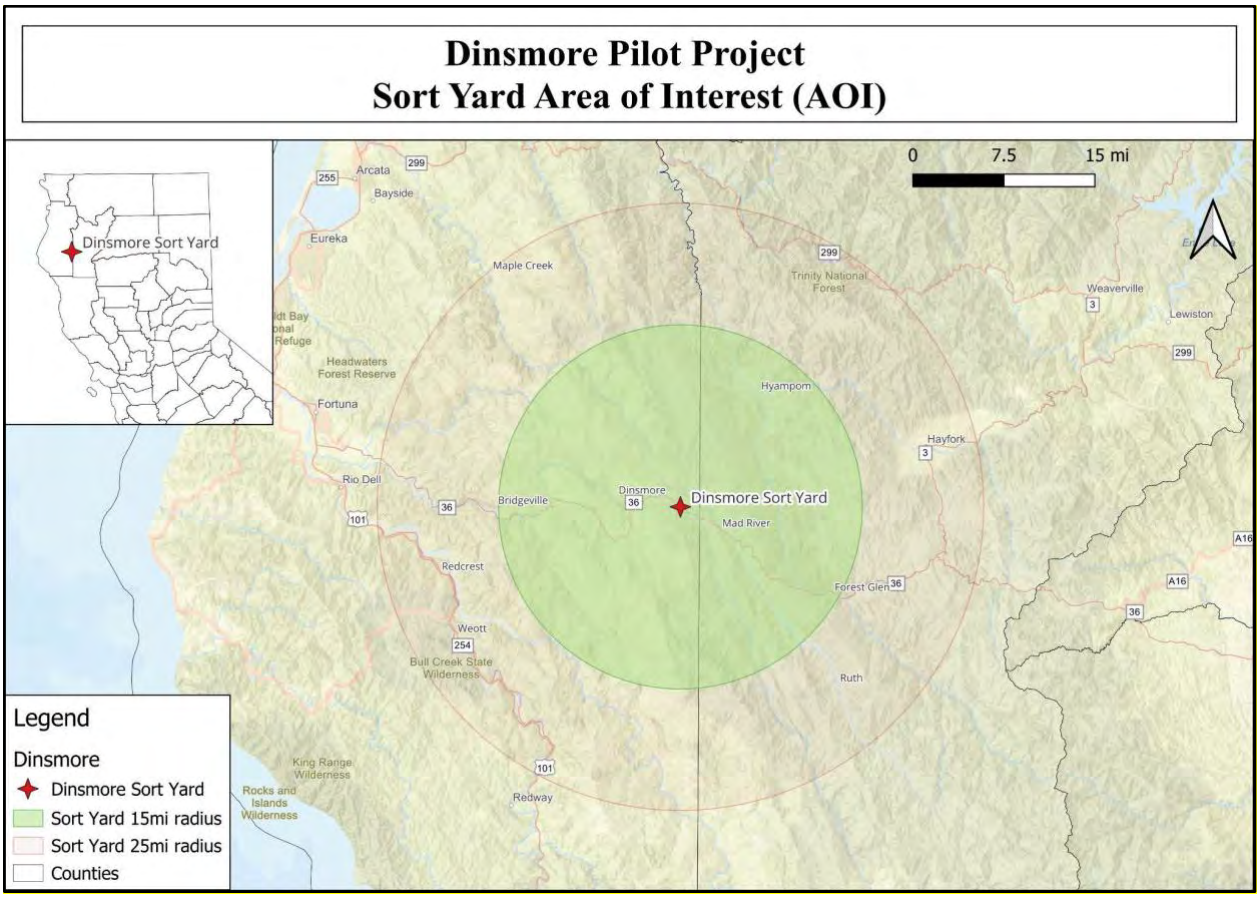

Figure 1. Dinsmore Pilot Project Area of Interest

a) Landscape Conditions and Uses

The MVD region contains portions of the Van Duzen and Mad River watersheds. The topography includes steep canyons formed by the rivers and their tributaries, which include Indian Creek, Larabee Creek, Little Van Duzen River, Butte Creek, East Creek, and Pilot Creek, to name a few. A majority of the region is designated as having "Very High Fire Hazard Severity" or "High Fire Hazard Severity," as determined by the California Department of Forestry and Fire Protection (CAL FIRE). This area is one of the largest open rangeland-type wildlands in the region, made up of grasslands and oak savannah. Observations of many areas throughout this unit indicate that Douglas fir is invading meadows and oak woodlands, eventually shading out the white and black oaks and other hardwoods, and consequently suggests a significant loss of wildlife habitat, range values, cultural uses, biodiversity, and other ecosystem services. Restoring the forest health and fire resilience of this region will require removing and limbing mixed conifers, mainly consisting of Douglas fir. Much of this area is above the fog belt and is much warmer and drier than the lower elevations.

As shown in **Figure 2**, over the last five years, several fires larger than 500 acres have impacted the eastern and northern sides of the AOI. According to some analyses, the Humboldt County side of the

AOI has not seen fire in almost a century[2]. Current conditions have significantly departed from a disturbance-based ecosystem, making this area more vulnerable to high-severity wildfires. With high fire hazard levels, this pattern is expected to continue or increase in frequency. These fires have also prompted the need to do significant post-fire restoration and forest stewardship work, which would potentially generate an adequate supply of material for an aggregation yard.

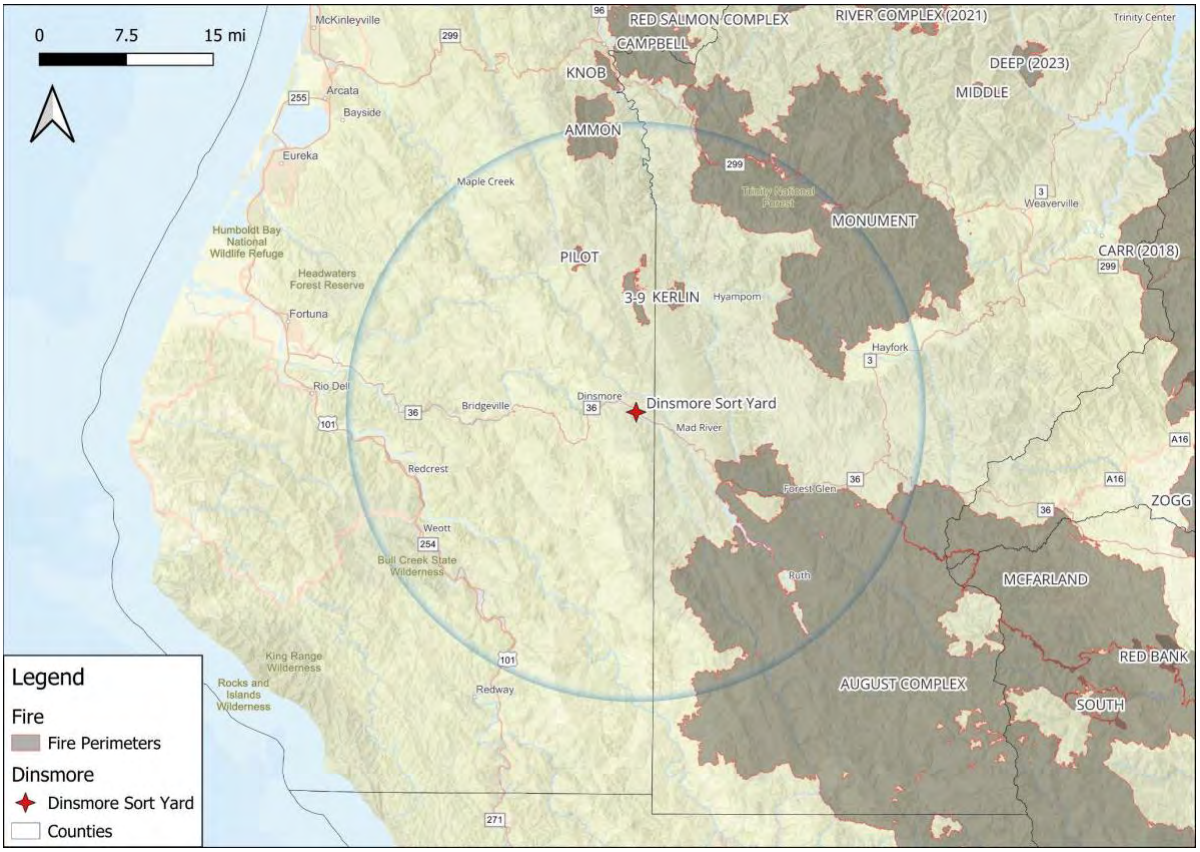

Figure 2. Area wildfires larger than 500 acres in the last 5 years.

As shown in **Figure 3**, public land dominates the Trinity County side of the AOI, while private land is the dominant ownership pattern in Humboldt County. The composition of private land uses includes farms and rural residences in the lower floodplain and near the river; large- and medium-sized swaths of ranchland; residential parcels concentrated along the main roads; and large parcels of timberland managed primarily by Humboldt Redwood Company. Most residential properties lie along Highway 36 and between the towns of Bridgeville, Dinsmore, and Mad River.

[2] Climate and Wildfire Institute. Regional Resource Kits: "Fire Return Interval Departure (FRID) Condition Class"

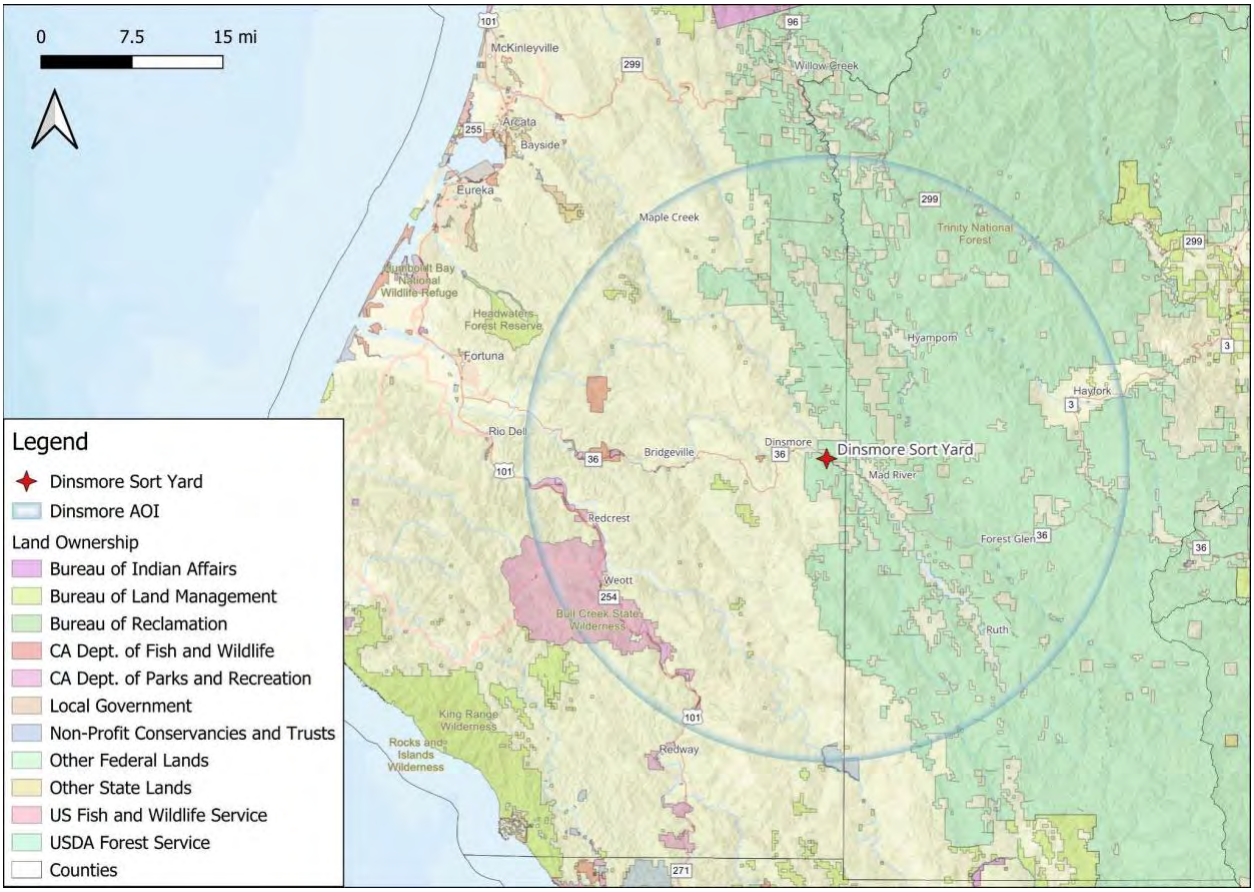

Figure 3. Land Ownership in the MVD AOI

The AOI is roughly split between federal (566,371 acres) and private (648,331 acres) ownership, with the remaining fraction held in state, local, and non-profit ownership. Because fuels reduction is most effective when applied across the landscape irrespective of ownership, this ownership split highlights the import of fuels reduction services (funding and implementation) to integrate seamlessly between federal and private land ownerships. **Table 1** below summarizes land ownership acreage with thing MVD AOI.

Land Ownership	Acres	Percentage Ownership of Total AOI
Federal	**566,371**	**45%**
Bureau of Land Management	5,875	<1%%
USDA Forest Service	560,496	44%
State, local, and non-profit	**42,304**	**3.3%**
CA Dept of Fish and Wildlife	4,363	<1%
CA Dept of Parks and Recreation	36,007	2.8%
Other State Lands	143	<1%

Local Government	241	<1%
Non-Profit Conservancies and Trusts	1,550	<1%
Private	**648,331**	**51%**
TOTAL	**1,257,006**	

Table 1. Summary of land ownership type by acres within the MVD AOI

b) Community Characteristics

The MVD community is dispersed, strongly independent, and based on a culture of self-reliance. A majority of small landowners in the MVD regions relied on cannabis cultivation as their primary form of income since the 1990s, even though cannabis was not legalized until 2017 (personal comm.). Starting with the passage of California Proposition 64 in 2016, the small-scale cannabis operators in the AOI, similar to those throughout California, began seeing a steady decline in the economic viability of Cannabis production as regulation favored more centrally located large-scale production.[3] . In 2021 and 2022, the licensed cannabis industry virtually collapsed, and many rural properties have been and continue to be left abandoned with the remnants of the "Green Rush" and the mismanaged forests left to deteriorate further (personal comm).

The entire AOI is considered a "Low-income community" by the "California Climate Investments Priority Populations Mapping Tool". Other than the few remaining larger ranch and commercial timberland owners in the MVD AOI, the private landowners and residents are generally disenfranchised and live below the poverty line.

While public landownership in the MVD AOI is primarily the jurisdiction of the USFS (consisting mainly of Six Rivers and some of the Shasta-Trinity National Forest,) BLM and the CDFW also have jurisdiction over a small portion of forest lands in the area.

The California Department of Parks and Recreation also holds substantial acreage in the southwest portion of the AOI. Still, it is unlikely that any material will be procured from the parks along the Highway 101 corridor due to travel time to the MVD sort yard. However, it is feasible that a fuels reduction team centered out of the Dinsmore or Bridgeville area could perform fuels reduction treatments at the parks. The parks included in the AOI are Pamplin Grove (County Park), Cheatham Grove (County Park), Grizzly Creek (State Park), and Humboldt Redwoods State Park.

In addition, the area's rural nature means that emergency response resources are limited, with community fire-safe councils and volunteer fire departments often taking on significant responsibility for wildfire preparedness.

[3] "Smaller Cultivation & California Cannabis Policy: Recommendations for a Multi-Scale Cultivation Sector" M.Polson et. al. pg. 2

I. Community Organizations

This tight-knit community has strong ties to the land and values sustainable, community-driven solutions that protect both residents and natural resources. For this reason, community engagement is essential for the success of biomass projects in these areas, as local knowledge and participation will drive sustainable practices tailored to specific ecological and cultural needs. Working with trusted community organizations will be critical for success.

i. Wildfire Response Organizations

Three volunteer fire departments serve the region: Bridgeville Volunteer Fire Department, Kettenpom Zenia Volunteer Fire Department, and Southern Trinity Volunteer Fire Department. Almost *all* fire departments in Humboldt—even those associated with a special district—rely on volunteers. Many of them have *only* volunteers, without any paid staff members (Humboldt County, 2022)[4]. While these nonprofit, volunteer-based organizations lack capacity already, they—more than any other existing community-based organizations—have a significant interest in, and capacity to, participate in wildfire prevention and forest health activities.

The year-round staffed local USFS Ranger Station, based out of Mad River in Trinity County, is also within the MVD AOI. In addition, there is a CalFire Station in Bridgeville, which is only staffed seasonally.

ii. Nonindustrial Forest Landowner Support Organizations

While various opportunities are available for non-industrial forest landowner support, organizations working specifically to facilitate wildfire preparedness and forest health in the MVD AOI are limited. Engaging with and building the capacity of existing local networks is critical for building community trust and facilitating landscape-wide adoption of forest health and wildfire resilience projects.

iii. Local Nonindustrial Forest Landowner Support Groups

Two existing local organizations, in addition to the volunteer fire departments listed above, have/have had the capacity to participate in facilitating local landowner forest health treatments. These organizations are the Bridgeville Community Center (BCC) and the Van Duzen Watershed Fire Safe Council (VDWFSC), representing the Humboldt County Fire Safe Council (HCFSC). While the VDWFSC has implemented forest health projects in the past (Fire Adapted Landscapes and Safe Homes (FLASH), biochar workshop, Fire Safety days, etc.), at the time of the drafting of this document, the VDWFSC has one active member and has been unable to maintain the town of Bridgeville's Firewise status. Funds from the Dinsmore Pilot Project were used to support and reinvigorate the VDWFSC by working with volunteer firefighters and VDWFSC to design and host a community strategy session on January 26th, 2025, at the Bridgeville Community Center.

[4] Fire Protection Services | Humboldt County, CA - Official website. (n.d.). https://humboldtgov.org/698/Fire-Protection-Services

Other community-based organizations with an ancillary interest in community wildfire prevention and preparedness include the Six Rivers Lions Club, Bridgeville Community Emergency Response Team (CERT), Southern Trinity Area Rescue (STAR), Yager Environmental Stewards, Bridgeville United, Friends of the Van Duzen River, and the Bridgeville Fire Protection District.

iv. Regional and National Nonindustrial Landowner Support Groups

Active regional and national nonprofit and public organizations offering nonindustrial forest landowner support services in the MVD AOI include the Buckeye Conservancy, Six Rivers Initiative, the Watershed Resource and Training Center (WRTC), the Humboldt County Resource Conservation District (HCRCD), the Humboldt County Fire Safe Council (HCFSC), Trinity County Fire Safe Council (TCFSC), Trinity County Resource Conservation District (TCRCD), the National Resource Conservation Service (NRCS), CALFIRE (C-FIP Program), and the University of California Cooperative Extension (UCCE), an extension of the University's Agriculture and Natural Resources division (UCANR).

c) Current Forest Stewardship Operations & Identified Community Needs

I. Existing Community Action Plans

Multiple government and community-based initiatives have worked to identify region-specific issues and develop strategic plans to address the forest stewardship and wildfire safety concerns listed above. The primary regional strategic plans reviewed for this study were the CalFire 2023 Humboldt - Del Norte Unit Strategic Fire Plan[5], the Mad-Van Duzen Planning Action Plan[6] within the Humboldt County Community Wildfire Protection Plan (CWPP, 2019), and the Bridgeville Community Assessment[7], completed in 2010 as a required component of the community's Firewise certification.

The CWPP has identified priority projects in the region but has not been updated since 2019. As of the writing of this document, HCFSC, in conjunction with the County Coordinator Team's office, has secured funding for an updated CWPP. The towns of Bridgeville and Hydeseville did achieve Firewise certification in 2010 but could not maintain certified status. The town of Mad River has begun renewing its Firewise Certification as part of an initiative steered by a partnership between the WRTC, TCFSC, and TCRCD. The Firewise Communities program guides communities to organize and take action to reduce wildfire risk. HCFSC and the Firewise Communities program are great resources for small communities like those in the MVD AOI and should be utilized for collaboration and funding opportunities.

[5] McCray, K. (2023). Strategic Fire Plan.
[6] HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN. (2019). In Chapter 4.11: Mad–Van Duzen Planning Unit Action Plan.
[7] Carmona, J.-L., Fleek, B., Reardon, L., Immitt, C., Rodgers, M., Curran, N., Van Duzen Watershed Fire Safe Council, Bridgeville Volunteer Fire Company, Bridgeville Community Center, Humboldt County Community Development Service (CDS) and the Humboldt County FSC, Cal Fire, Six Rivers National Forest, & National Fire Protection Association (NFPA) and Firewise. (n.d.). Bridgeville community Assessment. In Firewise Communities Program. https://www.firewise.org

II. Current Planned Operations & Existing Biomass Supply

The CWPP online GIS database, as well as CalMapper (The CAL FIRE Management Activity Project Planning and Event Reporter, which is a CAL FIRE internal GIS application for capturing forest and fuels management projects and associated activities across programs within CAL FIRE,) show planned and completed fuels reduction and forest thinning projects in the region.

Pinion Public[8] lists planned and completed fuels reduction treatments on USFS lands (Six Rivers National Forest and Shasta Trinity National Forest) in the MVD AOI.

Table 2 below lists major known, recently completed, in progress, or scheduled-for-implementation Forest Health and Wildfire Resilience projects in the MVD AOI that are in process for timber/biomass utilization and commercialization.

Project Name	Year Completed/or planned	Material Volume	Material Type treated	Acreage treated
BLM, Larabee Valley Forest Health & Resiliency project	2023-2024	300 BDT	Dead and diseased Doug-fir and other vegetation	885
BLM, Butte Creek and Larabee Buttes Hazardous Fuels Reduction and Fire Resiliency	2023-2024	Volume not available	Dead and diseased Doug-fir and other vegetation along roadsides	Not specified
USFS Mad River August Complex Fire Restoration Project	2023-2025	Approx 40,000 BDT	Post-fire mitigation	64,088
USFS Rattail - Trinity Forest Health and Fire-Resilient Rural Communities Project	2025	15,600 BDT sawlogs estimated to be removed	Post-fire Mitigation	Up to 1,500 acres
USFS Bucktail	2025	11,700 BDT	Post-fire Mitigation	3,062
FLASH	2023	Material chipped or burned on-site	Thinning and limbing	167.61
FLASH	2024	Material chipped or burned on-site	Thinning and limbing	159.4

[8] Box. (n.d.). https://usfs-public.app.box.com/v/PinyonPublic/folder/158016222821

PG&E Corridors				variable
USFS South Fork Mountain Veg Management Project	2026-2026	Unknown	Roadside thinning	7,856

Table 2. Completed or in process Forest Health and/or Wildfire resilience projects in the AOI

Through interviews, it was determined that the primary two Wildfire Prevention and Forest Health Treatment incentive programs utilized by small private forest landowners in the MVD AOI include the National Resource Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) Program mentioned above and the Humboldt County FLASH Program (Fuels Reduction Assistance for Safe Homes). The NRCS EQIP program provides financial and technical assistance to landowners for implementing conservation practices, such as forest thinning and fuels reduction. Fuels removed under EQIP are typically treated or disposed of on-site through burning or mulching. The Humboldt County FLASH Program was a local initiative that supported landowners in creating defensible space around homes and structures to mitigate wildfire risks. Fuels harvested under the FLASH program are generally managed through local treatment options, including chipping days or pile burns. Commercialization of harvested material is not allowed as a component of either of these incentive programs. Without clear opportunities to integrate harvested fuels into broader markets or innovative biomass management strategies, these incentives fail to facilitate the economic viability of forest treatments for participating landowners.

Large-acreage grassland and forest landowners in the region also use conservation easements issued through agencies such as California Rangeland Land Trust and North Coast Regional Land Trust, or National Resource Conservation Service (NRCS) to facilitate sustainable forest management and leverage merchantable timber and other forest treatment residues when possible.

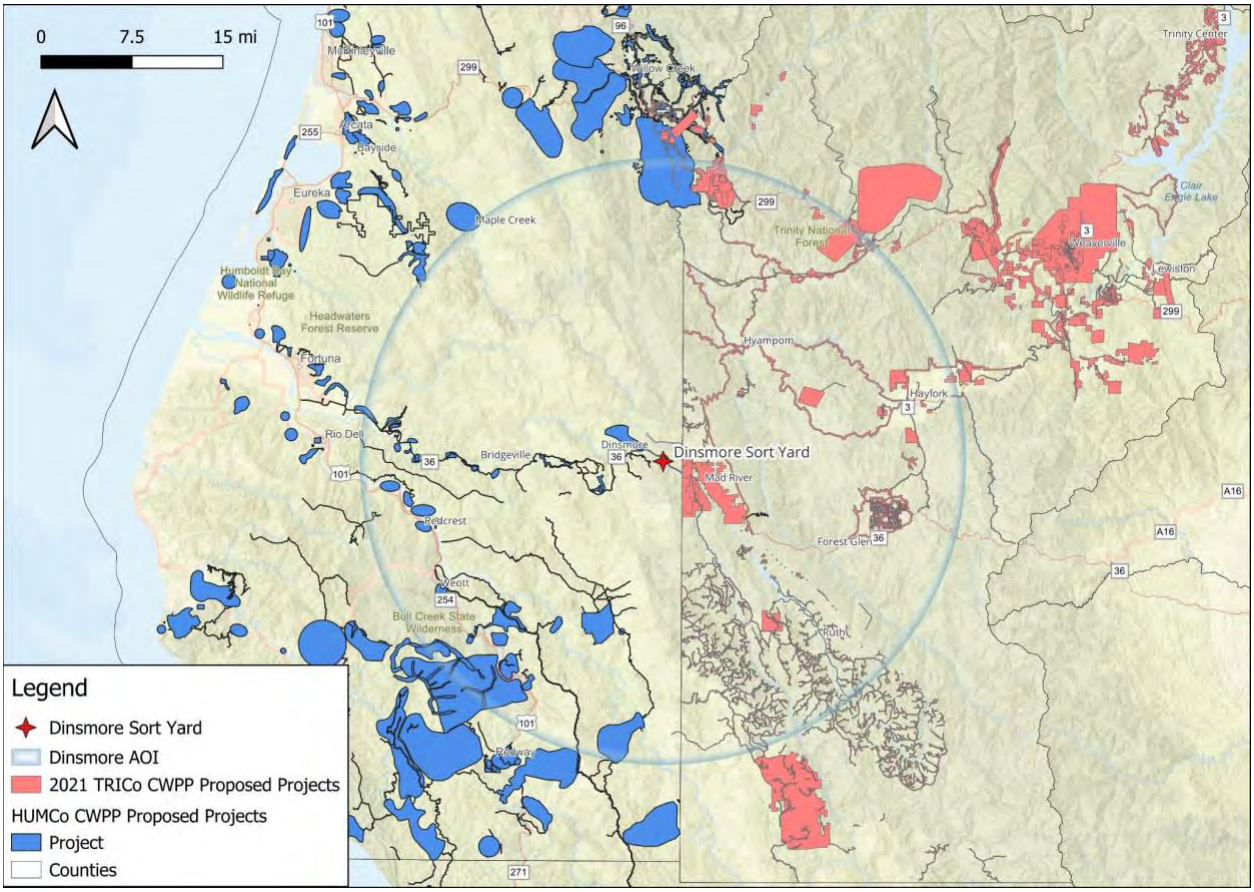

Figure 4. Humboldt and Trinity County CWPP treatment map.

III. Community Capacity

Similar to many rural areas, existing community organizations have limited capacity to facilitate community-wide collaboration to support wildfire resilience objectives. Securing funding for ongoing operations is difficult for all the local-based groups without the added pressure of designing, funding, and implementing new projects. The Boards of the BCC, VDWFSC, BVFD, and BFPD have all seen executive director turnover, were actively soliciting new board members during study development, and have struggled to meet quorum requirements at board meetings. This issue has only been getting worse as the MVD AOI population dwindles. As noted earlier, Bridgeville and Hydesville lost their Firewise Certification, while Mad River has recently begun renewing theirs.

Unlike other regions of Humboldt, the MVD AOI has no regional restoration-based nonprofit working to secure funding for prioritized wildfire prevention and/or forest health treatments on private forest lands. No organization exists to develop project ideas and secure funding for forest treatment work, woody biomass aggregation, or any organized community-wide increase in the pace and scale of fuels reduction efforts. The BCC has identified an interest in building capacity to meet this need.

The US Forest Service has also expressed interest and commitment to implement projects in coordination with adjoining properties throughout their land ownership. However, due to the remote nature of the project treatments, operation costs to cut, deck, skid, and haul material to market far outpace published

estimates in academic sources (sources). One operator estimates the full cost of timber harvest or service contract implementation in the Six Rivers Mad River Ranger District to be between $4,000-$6,000 per acre (personal comm. with local operator).

IV. Community-Identified Wildfire Resilience Needs

The authors of this report believe that a comprehensive community wildfire resilience strategy must be considered as part of a larger grassroots watershed and forest health resilience initiative. Bringing together community members to build capacity toward large-scale forest health and fire resilience projects is essential for planning, implementing, and scaling successful landscape-wide and multi-year projects.

This strategy must facilitate collaboration between private landowners and public agencies. It must focus on developing regional priorities to meet a comprehensive menu of local wildfire resilience, community economic benefit, and watershed health needs.

The community-based woody feedstock aggregation business model must be situated within a robust wildfire resilience ecosystem supported by a regional restoration-based non-profit staffed with a grant writer to secure funding for previously identified priority projects such as:

1. Creating a new fire station for the Bridgeville Volunteer Fire Department,
2. Workforce Development Initiatives: providing technical assistance to existing local operators as well as developing forest health career opportunities for local youth
3. Wood innovation research, in partnership with CalPoly Humboldt or the UCANR/Cooperative Extensions.
4. Establishing a local Prescribed Burn group

Local, regional, and national nonindustrial forest landowner support organizations and public and private entities must work together to promote sustainable forestry, wildfire resilience, and land stewardship by offering technical assistance, funding opportunities, training programs, and community engagement and education.

3. Woody Feedstock Aggregation Business Model

b) Wood Buyers, Sellers, and Potential Markets

Developing the infrastructure to provide reliable biomass outlets to private, non-industrial forest landowners in the MVD AOI involves engaging with existing stakeholders in the region, specifically forest landowners and managers and local heavy equipment operators, hand crews, and truck drivers. These existing actors in the region currently have the highest level of interest and knowledge related to wood selling and procurement to help develop community visions for sustainable land management, community wildfire safety, and forest resilience. While the stakeholder groups listed below in section 3.d.III below are the primary existing players in the region whose collaboration will be necessary to

provide the foundational infrastructure for a woody products marketplace, the next section (3.a.I.) of this report describes the current and potential low-value wood products markets in the region.

I. Existing and Potential Biomass Markets

Markets for low-quality biomass can be divided into two categories: existing and potential markets. Existing markets include markets with consistent local purchasers. Potential markets are those where no pricing or volume information exists. Both market categories can be volatile, and these categories do not represent any position or assessment of the risks involved in the markets. Shipping raw materials and end products is the most significant factor, with shipping costs generally consuming all potential margins.

Existing Markets

Research was conducted exploring existing markets for this Feasibility Study. **Table 3** below is a list of existing markets the authors identified.

Feedstock type	Buyer	Market	Viability notes
Firewood	Local community	Local wood heat	Limited market size and competitive marketplace
Wood Chips	Humboldt Redwood Company; Wheelebrader	Bioenergy markets (steam power generation)	Viable if shipping costs are low or covered
Wood Chips	Green Diamond	Export to China	Market subject to political impact and trade tariffs
Small Diameter logs	Schmidbauer	Electrical Co-generation	Further work is required to determine the volume needed and the pricing

Table 3. Existing markets for lower-quality woody biomass

Potential Markets

A list of potential markets and value-added opportunities for biomass was assembled as part of the document "Feasibility Study For a Value Added Wood Products Campus Within the Central Sierra Region of California," completed in June 2024[9]. A "Value-Added Opportunities Matrix" was developed to demonstrate the feedstock specifications, equipment required, and market potential of 16 different woody products that were or could be commercially deployed in the region. These potential markets are consistent with what is possible in the Dinsmore area. A copy of this comprehensive list is located in Appendix 1.

[9] TSS Consultants. (2024). Feasibility Study for a Value-Added Wood Products Campus within the Central Sierra region of California.

c) Similar Models

To learn from others' successes and failures, the authors searched for cooperative projects with a similar scope to that of the Dinsmore Project. In our search, we found that successful, operating forestry cooperative models are rare and challenging to find. Our search found only one cooperative entity doing similar work, but their geography and scope are different. We found another entity in a similar geography whose scope is as diverse as that of the Dinsmore Project; they are, however, utilizing a non-profit (charitable) entity. When we broadened our search to include more varied entity types and projects that address some but not all aspects of the Dinsmore project's objectives, we found more examples. The more common entities that operate endeavors similar to the Dinsmore model are nonprofits, B corps, and LLCs (limited liability companies). What is common among the existing models described below is that they operate in rural communities, they aim to market wood products in niche markets, they support local sustainable forestry practices, and there is often a capacity-building or education and skill-development aspect to their work.

The best example of an operating forestry cooperative in the US is the Partners in Forestry Cooperative Wisconsin. This cooperative organization assists forest landowners with ongoing conservation and sustainable forestry projects. They help their members navigate the permitting and other required tasks to complete timber harvests, forest management plans, and education. However, the forestry rules and regulations and the ecology in Wisconsin are significantly different from those in California.

Closer to home, some examples in the Pacific Northwest of entities performing a few of the elements that the Dinsmore model seeks to accomplish. Here are a few of those examples.

Local Forest Products to Niche Market, Skill Development: Whitethorn Construction, LLC. Located in Whitethorn in the headwaters of the Mattole watershed, Whitethorn Construction provides locally milled hardwoods for furniture and construction projects. They also offer training in traditional woodworking skills and employ local residents in the mill. However, they don't have a wood sort yard or a direct relationship to conservation or fuels reduction activities, nor is there a cooperative structure or explicit mission of improving community wildfire safety.

Wood Sort Yard, Fuels Reduction, Value-Added, Niche Market Wood Products, Support for Sustainable Forests: Sierra Institute is a 501(c)(3) nonprofit organization founded in 1997 in Taylorsville, CA. They operate a wood sort yard, deliver firewood, and build a wood-to-hydrogen production facility by procuring post-fire salvage timber from the Dixie Fire (Plumas County). They also aim to promote healthy and sustainable forests and watersheds by investing in the well-being of diverse rural communities and strengthening their participation in natural resource decision-making and programs. This example demonstrates creative collaboration between a cooperative model and public agencies, projects to promote public benefit, increase fire safety, and promote a marketable product that contributes to a sustainable future.

Sustainable Forestry Mission, Support Small Landowners with Sustainable Timber Harvest for Forest Health: Northwest Natural Resource Group (NNRG) is a 501(c)(3) nonprofit organization in Washington state established to support sustainable and economic forest health and logging practices for

small landowners. NNRG offers equipment rental and planning support on a not-for-profit basis to support sustainable forestry. This organization primarily supports private forestry practices. This aspect could be a way to make fuels reduction projects more accessible for small, private landowners.

Marketing Niche Wood Products, Sustainable Forestry, Fuels Reduction: Sustainable Northwest Wood (SNW) is a certified B corporation based in Portland, Oregon. Their mission is *to foster a wood products community where each purchase for the built environment ensures resilience in the natural one.* They host a marketplace for consumers to access sustainable and locally sourced wood and wood products. One of their primary source materials is the semi-invasive juniper that monopolizes forest when the regular burning regime is suppressed. This project is primarily a model for creating value-added wood products out of a forestry waste product. SNW is a Schedule C corporation where the only shareholder is their "parent" nonprofit.

Aggregated Permitting for Small Landowners: The Mattole Restoration Council's PTEIR (Programmatic Timber Environmental Impact Report) - In 2010, the Mattole Restoration Council, a 501(c)(3) organization, set out to reduce the need for expensive timber harvest plans and to incentivize sustainable forestry for residents of the Mattole Watershed. They built a PTEIR to minimize cost and incentivize landowners to develop sustainable timber harvest plans. This is one more example of using the capacity of a larger regional organization to make fuels reduction activities more accessible for small landowners.

Fuels Reduction Activities, Sustainable Forestry, Wildfire Risk Reduction: Humboldt County and other areas throughout the state of California have many regional restoration-based non-profit organizations performing fuels reduction and fire safety projects in collaboration or partnership with their local Fire Safe Councils. In this process, nonprofits acquire earmarked funding to perform fuels reduction activities on private landholdings to enhance watershed resilience, forest health, and wildfire prevention. For example, the Mattole Restoration Council has partnered with the Lower Mattole Fire Safe Council to complete many such projects, as have the Mid-Klamath Watershed Council, the Orleans-Somes Bar Fire Safe Council, and the Willow Creek Fire Safe Council. Accessing state or Federal funding via non-profits for fuels reduction work remains one of the most accessible pathways for rural areas to complete needed wildfire risk reduction work.

Conclusion

The above examples represent several approaches to collectivizing risk, minimizing costs, and collaborative marketing for fuels reduction and forestry. However, the Sierra Institute is the closest example to the Dinsmore Project vision. Further conversation and collaboration with the Sierra Institute staff is recommended to learn from their successes and failures and to assess how the Dinsmore region might be able to emulate their model.

However, none of the above examples offer the full suite of services we would like the Dinsmore project to provide for its community. Though each of these examples provides pieces of the puzzle, significant obstacles remain to materialize the comprehensive vision required for sustainable and long-term operations. Some of the barriers to full realization of this project include:

- Lack of clearly developed markets for either niche or premium wood products at the scale needed to use all available fuels reduction wood products efficiently.
- Physical distance to markets.
- Currently, there is limited local management and project development capacity due to the status of Fire Safe Councils.
- Time-consuming and, therefore, expensive collaboration between public and private landowners is needed to manifest a cooperative solution.

d) Entity and Governance Suggestions

I. Cooperative Vision

The project team's original plan was to develop a working group to build a cooperative entity supporting forest landowners and individuals involved in, or wanting to be involved in, forest resilience-related industries such as heavy equipment operators, loggers, hand crews, and truck drivers. With a background in agricultural production systems and cooperative development, the project team leads understood cooperatives as a viable model for a community-based aggregation facility. As described in Harry Groot et al.'s "The Role of Cooperatives in Forestry," "Cooperatives provide a business structure that facilitates the ability of farmers and foresters to generate the volume of materials necessary to economically create value-added products, increase market access, lower cost to individuals for goods and services, and ultimately better manage [forest resources]."[10]

II. Cooperative Purpose

The purpose of a Dinsmore region woody feedstock aggregation cooperative would be to facilitate collaborative efforts to execute forest health projects and create the most economic value by both developing markets to utilize otherwise pile-burned (low or no value) woody biomass and provide employment opportunities for the generally disenfranchised local community. This cooperative would limit the obstacles to entry for forest health work, providing a community-owned aggregation facility, community-owned heavy equipment and tools, shared access to knowledge, shared marketing, workforce training, and contract acquisition and management. While it is not believed there would be profits for cooperative members to share, the cooperative efforts would facilitate an increase in the pace and scale of forest health treatments, providing opportunities for forest landowners and forest workers.

III. Cooperative Stakeholders

The primary stakeholders, or those community members with the highest potential to benefit from a cooperative of this nature, primarily belong to one of two groups: forest landowners in need of forest health treatments and (2) individuals/small businesses engaged in (or looking to be involved in) forest health work such as heavy equipment operators, loggers, hand crews and truck drivers. Cooperation

[10] Groot, H., Bowyer, J., BratKovich, S., Fernholz, K., Frank, M., Howe, J., Pepke, E., & Dovetail Partners, Inc. (2015). The role of cooperatives in forestry. In Dovetail Partners (pp. 2–4). https://www.dovetailinc.org

between these two groups of individuals is essential for ensuring efficient forest health treatment activities performed at a larger scale.

Local Heavy Equipment Operating Small Businesses

Through interviews and information shared by the local USFS, 13 local small business contractors were identified as operating in the region. These contractors own/operate a combined 51 pieces of heavy equipment. This includes seven chippers/masticators, four backhoes, 16 excavators, 22 dozers/skidders, and two graders. In addition, there are seven water trucks, eight dump trucks, a dozen licensed timber fallers, and 29 other miscellaneous transport vehicles, maintenance vehicles, and miscellaneous heavy equipment (forklifts, loaders, feller bunchers, etc.) possessed between the 13 identified local operators. In addition, the USFS Mad River possesses a curtain burner, which is currently centrally located within the MVD AOI.

Privately Maintained Forest Road Networks

The most significant network of small privately owned forest parcels and landowners exists between neighbors on private roads, both as members of established road maintenance associations and informal networks of property owners sharing a common private access road. These existing networks present themselves as the most promising existing collaborations where fuels treatment projects generating biomass for a future facility would originate.

The table attached illustrates a non-comprehensive list of 17 privately maintained forest roads in the Humboldt County side of the MVD AOI. These roads, some of which have established road maintenance associations, as described in the table below, represent groups of landowners that are/should be working together to maintain shared access roads and also have the potential to collaborate to achieve forest health treatment goals beyond property boundaries. 4 established Road Maintenance Associations were identified among the 17 Roads analyzed, representing approximately 83 miles of road and 224 distinct parcels totaling over 15,000 acres.

RMA name (if applicable)	Road Name	Est. miles	Est. # land owners	Est. total acres
Little Larabee Creek RMA	Little Larabee Creek Road	4	18	1688
	Larabee Buttes Road	6	12	1138
	McClellan Mountain Road	4	12	1201
	China Mine Road	2.5	10	567
	Butte Creek Road	4	7	2089
Burr Valley RMA	Burr Valley Road	7	17	1560.5
	Buck Mountain Road	7.5	0	0
Bear Creek RMA	Bear Creek Road	10	15	846.6

	Dinsmore Road	0.61	4	147.6
	Coyote Flat Road	14.2	7	307.7
	Anderson Ford Road	5.15	5	2259
	Larabee Valley Road (feeding into Hidden Valley and Coyote Ridge Roads)	3.5	17	850
	Rattlesnake Ridge Road	1.9	10	412.8
Cobb RMA	Cobb Road	2.5	13	741.7
	Eight Mile Ridge Rd	3.62	14	516.8
	Little Burr Creek Road	4	10	640
	(Little) Golden Gate Drive	0.87	53	123.77
TOTALS		**81.35**	**224**	

Table 4. Roads and RMAs in the AOI.

Recreation

There are 2 Recreational organizations interested in maintaining healthy and aesthetic forests to attract tourism and support the local economy, as well as over a dozen private campgrounds in the MVD AOI. The woody feedstock aggregation facility would serve these organizations effectively: Humboldt Trinity Recreation Alliance and the Ruth Lake Community Services District.

IV. Potential Legal Entity Structures

The following section describes potential legal structures for the Dinsmore Pilot. The authors of this study believe there are likely to be advantages in structuring parts of the Pilot's operations as a cooperative. Cooperatives generally tend to increase efficiency, market access, and sustainability for stakeholders. In general, a cooperative carries on business activities for the benefit of its members, often to meet a need that is not otherwise provided in the market. Agricultural cooperatives help their members find a market for their products. Worker cooperatives are worker-owned businesses that are democratically governed by the workers and pay out net income to workers in proportion to work done, in addition to wages. These legal structures tend to drive member engagement and return economic benefits to participants. This section discusses how an agricultural cooperative, a worker cooperative, or a combination of both models might work for the Dinsmore Pilot. We also describe a non-cooperative, simplified legal structure designed for faster start-up.

i. Agricultural Cooperative

In this model, an agricultural cooperative would aggregate woody material provided by members. Members would be landowners who have fuels reduction treatments performed on their land resulting in excess woody material as the end product. The Cooperative would collect or receive its members' excess

woody material, likely process it into a value-added product such as fuel, agricultural substrate, firewood, etc., and sell the product(s). If an agricultural cooperative has net income after setting aside a reasonable reserve, it returns that net income to the members in proportion to how much product they provided. In this case, that product is woody raw material for the cooperative's value-added products.

This study contemplates bringing together regional resources to make fire-safe forest treatments more feasible and more widespread. Instead of leaving it to landowners to procure fire treatments separately and transport excess biomass to the aggregation site, the cooperative would hire crews to provide fuel reduction services to all member landowners. The cooperative would also make this work feasible by hiring a staff person to write grants and other work that calls for similar skill sets, such as office management. Acting independently, landowners generally cannot procure grants or pay for forest treatments without outside administrative or technical support. By aggregating landowners' needs across the region, one staff person could support many or all members, enabling services that would not be available without such aggregation and cooperation.

The economic transaction in this model is that members would procure forest treatments for their land from the cooperative, with the help of grant funding obtained by or with the help of cooperative staff. Cooperative staff would work on each landowner's land and transport any valuable byproducts to the aggregation site to be processed and sold by the cooperative. We expect that this operation cannot be profitable and that the cost of performing the fuel reduction and wildfire prevention treatments will always exceed the revenue that could be obtained by selling byproducts. However, this revenue stream will offset the cost of the needed forest treatment. An agricultural cooperative model might pass savings through to members in proportion to the amount of raw materials provided to the cooperative. The effect is that members could access forest treatments at a lower cost than if the byproduct were being pile burned or broadcast scattered.

Agricultural Cooperative Legal Structure

The legal entity for this model would be a nonprofit cooperative association under Chapter 1 of Division 20 of the California Food and Agriculture Code, that is, a California agricultural cooperative. This type of entity requires members to be "engaged in the production of any product,"[11] and "product" includes forestry products.[12] Note that forest products are not considered agricultural products for the purpose of the Capper-Volstead Act, the federal law exempting agricultural cooperatives from antitrust law. This means that if this legal model is pursued, the Pilot may benefit from an antitrust law analysis to ensure its operations would not constitute any antitrust violations.

[11] FAC § 54061, available at https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=FAC&division=20.&title=&part=&chapter=1.&article=3.

[12] FAC § 54004, available at https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=FAC&division=20.&title=&part=&chapter=1.&article=1.

An agricultural cooperative would need to ask members (landowners) to vote for board members at annual meetings. Producer cooperatives and consumer cooperatives often have low quorum requirements because low involvement is expected. Members should not be expected to spend significant time on governance in this model.

Evaluation of Agricultural Cooperative Model for the Pilot

To evaluate whether an agricultural cooperative is a desirable structure for the Dinsmore Pilot, the question is whether it is better for landowners to be members in a cooperative rather than simply customers of an organization providing the same services. If landowners must pay for forest treatments, and if only cooperative members can receive savings from the cooperative's activities, then the agricultural cooperative model may be the best fit, simply because the agricultural cooperative is a well-established structure that would be easy to replicate on paper. On the other hand, if no member would receive any refund, and if the same operations can be accomplished without a membership model–that is, all customers benefit from help with grant funding, and income from sales of byproducts supports the operations–then there may be no advantage to the agricultural cooperative model for the Dinsmore Pilot. Generally, the simplest model is the easiest to administer. If landowners receive the same economic benefit by being a customer of the Pilot as they would by being a member of an agricultural cooperative, then a non-membership model is easiest to administer. Landowners can still feel well served by a community-based service without being legal co-owners of that service.

ii. Worker Cooperative

In this model, the Pilot would be structured as a worker-owned business providing fuels reduction services, aggregating and processing woody biomass, and selling the resulting products. The legal entity for this model would be a cooperative corporation under the California Cooperative Corporation Law,[13] with a worker cooperative election. The owners (called "members") would be workers in the business. Worker cooperatives generally treat workers as employees, and they generally have eligibility requirements for membership, such as a probationary work period. Any employee who is eligible can become an owner. There is usually a buy-in–a dollar amount required to purchase a membership–to show "skin in the game," but the dollar amount is set to be affordable given the wages paid by the cooperative. Any net income can be returned to worker-owners as "patronage dividends," which are in proportion to work done, not ownership percentage. Worker members all participate in governance on a one-member-one-vote basis. Worker cooperatives can use a standard hierarchical management structure for efficiency, but a worker-elected board oversees the management. In this model, the only members would be workers, and landowners would be customers, not members.

Strengths of a Worker Cooperative for the Pilot:

[13] Corporations Code §§ 12200-12704, available at https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=CORP&division=3.&title=1.&part=2.&chapter=&article=.

This model prioritizes legal and financial rights of workers. The workers are the most active participants in the operation, and in a worker cooperative, the people closest to the work are in control. As a result, a worker cooperative tends to maximize job quality. Because decision-makers are workers and/or represent the workers, the company tends to work to make working conditions as good as possible. A worker cooperative structure would tend to maximize pay as well. Because workers are owners, their incentives are all aligned towards sustaining operations and increasing revenue. The company can make business decisions that try to increase revenue; a worker-elected board decides what reserve is needed for the company, and there is no separate owner taking home a profit. Rather, if there is profit, workers receive a "patronage dividend" in proportion to their work. Instead of pressuring wages to be as low as possible, the company tries to maximize pay within the economic reality of the business. Workers are also incentivized to protect the organization's long-term well-being because that protects their job stability. For these reasons, the strength of the worker cooperative model for this Project is that it could help maximize the economic benefit of the jobs the Pilot will bring to the area.

Drawbacks of a Worker Cooperative for the Project:

Legal ownership and democratic governance can be barriers to entry. The standard for employment is to perform the job, not to become responsible for the whole operation. Potential employees may be reluctant to take on what they perceive as potential liability by becoming an owner. Also, the start-up phase would require education about democratic governance, which requires added time and resources. A simple member-elected board structure could make the learning curve very quick. However, potential employees may be more willing to accept employment but may not want to make the commitment to become a business owner despite the fact that ownership would offer control and the ability to share profits.

iii. Multi-Stakeholder Cooperative

In this model, the legal entity would be a cooperative corporation under the Cooperative Corporation Law[14] (without a worker cooperative election). It would have two types of members: landowners and workers. The goal of this model would be to bring together the strengths of the two models discussed above. Landowners receiving the fuels reduction services would be treated as members. They could access member-only services; land-owners would elect some of the members of the board of directors; and if there were savings from revenues off-setting the cost of services, savings could be passed through to landowner members in proportion to their business with the cooperative. Eligible employees would also be members so that the entity has a strong incentive to improve job quality and increase pay whenever possible.

In this model, both classes of members would elect representatives to the board. Those board members would negotiate among the stakeholders' varied interests at board meetings.

Strengths of a Multi-Stakeholder Cooperative for the Pilot:

[14] *Id*.

In a multi-stakeholder legal model, all parties who are economically affected are represented. They have the opportunity to, and they must directly negotiate any tensions, such as lower prices vs. higher pay. The structure benefits worker-owners in this model, but landowners would also have a strong voice in major decisions.

Drawbacks of a Multi-Stakeholder Cooperative for the Pilot:

This model is the most complicated and the most challenging to execute. The time and resources to educate stakeholders could be significant, and this education is a barrier to entry for all participants. That education could be worthwhile if this model were expected to provide substantial economic benefit to the stakeholders or a faster or more efficient path to forest health and wildfire preparedness. However, the authors do not believe that a multi-stakeholder cooperative model would be likely to lead to better outcomes, either economically for participants or for forest health and human well-being.

iv. Simple Model: A Simplified Legal Structure

A simplified legal model would consist of a standard corporation 100% owned by a local charitable organization and contractual relationships with existing parties. This legal structure is designed to be as simple as possible and as easy as possible to adopt. This model looks at creating an entity that can function with fewer leaders and that can hire employees without requiring them to become owners. This model also seeks to leverage existing entities.

In this model, a local charitable organization would apply for and receive grant funding for fire safety projects. This charity would then hire another party to provide fuels reduction and hazardous log removal services. Local fire departments are likely candidates because they are already established, and their firefighters already do this work. Firefighters in the AOI are generally volunteers, but those volunteers are paid for additional work on a contract basis when contracts are available. This pathway for finding fire-safety services for hire has already been established.

A new, standard corporation would be formed to collect or receive, sort, and process the woody biomass waste product. A worker cooperative structure for this entity could provide the advantages discussed above; however, if the high-level goal of the Project is to offset the cost of fire-safety treatments with the sale of new products reclaimed from the waste stream, then the profit from that aggregation and sorting facility should be returned to the charity that paid for the fire-safety treatment. This is why the charity should be positioned as the shareholder and receive dividends.

As discussed above, there is not currently a regional charitable organization with capacity to lead the Pilot. The least-cost approach would be to fund the Bridgeville Community Center to expand capacity. A higher-cost approach would be to establish a new charitable organization.

Strengths of the Simple Model for the Pilot:

Patronage dividends are not going to be relevant. A simpler model may be a better fit than a cooperative for the Pilot, because the strengths of a cooperative model are not needed in this case. No profit is

expected, so there is no need to design for patronage dividends. As discussed above, a cooperative could return savings (patronage refunds) to landowner customers or share profits (patronage dividends) with worker-owners. However, the aggregation facility primarily mitigates the cost of forest health and wildfire prevention forest treatment work. This work, as a whole, is a cost that is not supported by private demand. Therefore, since the Pilot is not expected to be profitable, there is no need for a legal structure designed to pay profits to stakeholders. This means a cooperative would not provide any meaningful economic benefit to the stakeholders, and thus, the complexity of a cooperative is not warranted.

This Model avoids an unnecessary learning curve. Democratic governance is part of starting a cooperative. This requires education, time, and attention. Our observations are that there is already a lack of engaged individuals on boards of directors. Although self-governance may be aligned with democratic ideals, it is likely not in the interest of the Pilot to require education on an uncommon model and more meetings to get started. Instead, our stakeholders have identified the goal of being able to function with fewer leaders. This model would call for only a small number of people to initiate and lead operations, with most employment opportunities being standard non-leadership jobs. The Pilot would benefit the region by adding livelihoods to the area's economy without requiring those workers to become legal owners or to attend board meetings. If there is an interest in self-governance, that can be developed in any legal entity later. To reiterate, organizing as a general corporation owned by a charity does not rule out democratic self-governance by workers, as long as the charity parent supports this goal.

This structure results from and could be further informed by insurance considerations. Many of the activities contemplated by this Pilot are high-risk. Forest treatments involve chainsaws and heavy machinery. Some projects could involve prescribed burns. Transporting woody material is risky, and the aggregation yard would also involve machinery and some risk to the safety of workers and others. We speculate that one entity performing all of these operations would have difficulty insuring against its risks or that the cost of insurance would be high. The simplified model presented here relies on hiring providers who already do fuel reduction work to continue doing that under existing insurance conditions. The simplified model would add grant-writing and administrative work to an existing local charity. This adds very little risk and should minimally impact its insurance costs. The new entity with new operations would only handle aggregation, sorting, processing, and selling of new products. Insurance costs may be reduced by separating these activities from the fuels reduction forestry work.

This structure protects assets from liability. In general, establishing a line of business into a new legal entity is a common practice. Businesses and charities form subsidiaries to house new lines of business or new projects when maintaining a separate legal entity is worthwhile because there is a need to separate potential liability from the new line of business from the assets of the existing company. Here, it appears the potential liability of operating the aggregation facility should be legally separated from the charitable organization that holds charitable assets. This model uses a corporation rather than a limited liability company as the subsidiary to protect the charitable tax status of the parent charity. The activities of a corporate subsidiary are not attributed to a parent charity.

Drawbacks of the Simple Model for the Project.

The authors believe there are more strengths than drawbacks because the simple model is designed for ease of adoption, leverage of existing entities, and protection of existing entities. The drawback is that it does not include any stakeholder ownership. The simple model treats cooperative ownership and governance as a hindrance rather than an advantage. The advantages of cooperative forms include longevity and greater stability than standard businesses, and landowner and/or employee membership could provide greater stability and resilience to the operation.

If the aggregation facility begins with 100% of its shares owned by a charity, it would be challenging to change to cooperative ownership later. That is, it would not be possible to remove the charity as an owner without paying fair market value for its shares. On the other hand, additional persons, such as employees, could be added as shareholders.

e) Economics/Financial Viability

I. Case Study on a Local Operator

Concurrently with the development of this feasibility study, a financial analysis was performed assessing two primary productive activities of a local heavy equipment operator to gain a deeper understanding of the logging, wildfire prevention, and forest health contract work landscape. As exhibited by the financial analysis (slides provided in Appendix 3) and further corroborated by in-person interviews, many local operators rely heavily on emergency wildfire response contracts to supplement forest health and other non-emergency wildfire prevention activities, for which there is much market volatility (timber prices, competitive contract negotiations with out-of-state outfits or immigrant laborers). The attached financial analysis shows that forest health work is often not economically viable for operators or landowners. Thus, integrating emergency wildfire response activities into the revenue stream of any scaled forest health operations is advisable.

II. Pro Forma Budget

The following section summarizes the pro forma budget for start-up operations described in **Table 5** below. The budget generated to assess feasibility covers a six-quarter start-up period for the Dinsmore sorting and aggregation facility. These numbers take into consideration an inflation rate of .75% per quarter. During this time, it is assumed that a 1.7 million dollar loan is acquired on day 1 of start-up at 7% interest and that no payments will be made until the end of the six-quarter start-up period. Additionally, we included monthly payments on an estimated mortgage based on a $250,000 purchase price of the facility premises. The facility mortgage payments are structured to pay off over ten years. Once the six-quarter start-up period is complete, payments will begin on the 1.7 million dollar loan for a payback time frame of 10 years. It should be noted that there is a strong possibility of accessing economic development grants and loans, which could offer much lower interest rates. This budget only covers the activities at the sorting yard, including developing offtake agreements and shipping.

To pay off the start-up loan of 1.7 million in 10 years, quarterly payments of $60,791 must be made. Quarterly income must equal expenses + loan repayment. The Dinsmore project would be viable if off-takes could generate approximately $315,754 every quarter. This number represents $264,000 (estimated quarterly expenses) plus $60,791 (loan obligation) after the initial six quarters. This financial target assumes all biomass material inputs to the yard are free of cost (other than shipping). The project becomes feasible if quarterly off-takes can exceed this amount. This exercise highlights the challenges for the business model considering the flood of availability of low-quality biomass and very few established or stable markets for off-takes. It also highlights the import of creative off-take agreements and the need to develop market streams.

Proposed Budget for Dinsmore site start-up and operations

Prepared by WFAP January 2025.

		First Quarter Operation	Second Quarter Operation	Third Quarter Operation	Fourth Quarter Operation	Fifth Quarter Operation	Sixth Quarter Operation	
PERSONEL hours		**Phase 1: Facility Site prep**	**Phase 2: begin receiving material**		**Phase 3 operations : begin processing material**	**Phase 3 Operations: refine operation process, build sales clients**		
On-site equipment operator #1		100	200	390	390	390	390	
On-site equipment operator #2		100	200	390	390	390	390	
Haul Truck Driver #1		100	200	390	390	390	390	
Haul Truck Driver #2		100	200	390	390	390	390	
Project manager		520	520	520	520	520	520	
Bookkeeper		390	390	390	390	390	390	
Security		195	195	195	195	195	195	
Biomass acquisition contract managers		200	390	390	390	390	390	
TOTAL PERSONNEL HOURS		**1705**	**2295**	**3055**	**3055**	**3055**	**3055**	
PERSONEL	**Rate**							**SUBTOTAL**
On-site equipment operator #1	$52	$5,200	$10,400	$20,280	$20,280	$20,280	$20,280	$96,720
On-site equipment operator #2	$52	$5,200	$10,400	$20,280	$20,280	$20,280	$20,280	$96,720
Haul Truck Driver #1	$52	$5,200	$10,400	$20,280	$20,280	$20,280	$20,280	$96,720
Haul Truck Driver #2	$52	$5,200	$10,400	$20,280	$20,280	$20,280	$20,280	$76,440
Project Manager 1 FTE	$60	$31,200	$31,200	$31,200	$31,200	$31,200	$31,200	$187,200
Bookkeeper	$40	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600	$93,600

Security	$40	$7,800	$7,800	$7,800	$7,800	$7,800	$7,800	$46,800
Biomass acquisition contract manager (Private land)	$52	$5,200	$10,140	$10,140	$10,140	$10,140	$10,140	$55,900
Biomass acquisition contract manager (Public land)	$52	$5,200	$10,140	$10,140	$10,140	$10,140	$10,140	$55,900
SUBTOTAL PERSONEL								**$806,000**
Fringe benefits (30%)		$25,740	$34,944	$46,800	$46,800	$46,800	$46,800	**$247,884**
TOTAL PERSONEL COST		**$111,540**	**$151,424**	**$202,800**	**$202,800**	**$202,800**	**$202,800**	**$1,074,164**
TRAVEL ($0.64/per mile)								
Manager, 18 trips per quarter Eureka to Dinsmore (152 mi/trip)		$1,751	$1,751	$1,751	$1,751	$1,751	$1,751	$10,506
Field visits 3 times per quarter, 200 miles per trip		$384	$384	$384	$384	$384	$384	$2,304
TOTAL TRAVEL COST		**$2,135**	**$2,135**	**$2,135**	**$2,135**	**$2,135**	**$2,135**	**$12,810**
EQUIPMENT	**Rate**							
Loader #1 lease	$120	$45,000	$45,000	$45,000	$0	$0	$0	$135,000
Loader #2 lease	$120	$0	$20,000	$20,000	$20,000	$20,000	$20,000	$100,000
Water tender lease	$120	$0	$20,000	$20,000	$20,000	$20,000	$20,000	$100,000
Haul Truck Rental	$120	$0.00	$20,000.00	$20,000.00	$20,000.00	$20,000.00	$2,000.00	$82,000
Bathroom facility lease		$0	$3,000	$3,000	$3,000	$3,000	$3,000	$15,000
Office trailer lease		$0	$5,000	$5,000	$5,000	$5,000	$5,000	$25,000
Whole tree grinder		$0	$5,000	$5,000	$5,000	$5,000	$5,000	$25,000

Mill	$0	$5,000	$5,000	$5,000	$5,000	$5,000	$25,000
TOTAL EQUIPMENT	**$45,000**	**$123,000**	**$123,000**	**$78,000**	**$78,000**	**$60,000**	**$507,000**
SUPPLIES & MATERIALS							
Systems Management Software	$2,000	$2,000	$500	$500	$500	$500	$6,000
Systems Management Hardware	$5,000	$2,000	$0	$0	$0	$0	$7,000
Fuel	$6,300	$5,000	$5,000	$5,000	$5,000	$5,000	$31,300
TOTAL SUPPLIES & MATERIALS	**$13,300**	**$9,000**	**$5,500**	**$5,500**	**$5,500**	**$5,500**	**$44,300**
CONTRACTURAL							
Project start-up bookkeeping & payroll	$4,500	$1,500	$0	$0	$0	$0	$6,000
Accounting	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000
Compliance	$4,500	$1,500	$1,500	$1,500	$1,500	$1,500	$12,000
Legal support	$4,000	$600	$600	$600	$600	$600	$7,000
IT support	$2,000	$2,000	$2,000	$0	$0	$0	$6,000
Security system set up and install	$7,000	$0	$0	$0	$0	$0	$7,000
Set Up and Installation Contractors	$20,000	$0	$0	$0	$0	$0	$20,000
TOTAL CONTRACTURAL	**$43,000**	**$6,600**	**$5,100**	**$3,100**	**$3,100**	**$3,100**	**$64,000**
Site Insurance	$10,000	$5,000	$5,000	$5,000	$5,000	$5,000	$35,000
County Permits	$0	$6,000	$0	$0	$0	$0	$6,000

PG&E - 3 phase power drop	$0	$20,000	$0	$0	$0	$0	$20,000
PG&E operations	$0	$4,000	$4,000	$4,000	$4,000	$4,000	$20,000
Facility ownership loan payments	$8,706	$8,706	$8,706	$8,706	$8,706	$8,706	$52,236
Continued education	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000
TOTAL OTHER	**$20,706**	**$45,706**	**$19,706**	**$19,706**	**$19,706**	**$19,706**	**$145,236**
TOTAL PROJECT BUDGET	$235,681	$337,865	$358,241	$311,241	$311,241	$293,241	**$1,847,510**
INFLATION MULTIPLIER	0.75%	1.50%	2.25%	3.00%	3.75%	4.50%	
TOTAL START-UP COSTS CONSIDERING INFLATION	**$237,449**	**$342,933**	**$366,301**	**$320,578**	**$322,913**	**$306,437**	**$1,896,611**
START-UP LOAN RATE 7% ANNUAL OR 1.75% QUARTERLY	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	
START-UP LOAN VALUE OVER FIRST 6 QUARTERS	1,700,000	1,729,750	1,760,021	1,790,821	1,822,160	1,854,048	

Table 5. Start-up cost estimates for woody feedstock aggregation facility.

4. Relevant Upcoming Projects

a) WRX and RRISE

The Forest WRX is an alliance of private, nonprofit, academic, tribal and government partners formed to create social, economic, and environmental sustainability by removing biomass and smaller diameter trees on all lands. The alliance is growing a complementary, innovative forest product business ecosystem that uses low-value fiber to produce value-added products for market and non-market benefits. Originally designed to serve the Six Rivers National Forest and surrounding communities, the alliance has recently incorporated as a non-profit working to secure funding in the biomass utilization space to help study and establish novel markets and provide career track jobs for community members working to improve forest health in our region.

The Forest WRX Alliance recently submitted a proposal to the RRRise Catalyst Fund, proposing an integrated, multi-faceted approach to forest and community resilience in California's Redwood Coast. The project aims to develop a climate-forward workforce and innovation pipeline by focusing on workforce development, sustainable building solutions, circular economy strategies, and unlocking funding for forest restoration. Specific initiatives include creating career pathways in forest stewardship, advancing climate-tech leadership, expanding mass timber manufacturing for rural housing, and piloting new carbon credit markets to fund wildfire risk reduction. With a budget of $932,500 and additional optional components, the proposal emphasizes collaboration with tribal, public, and private stakeholders to address ecological and economic challenges, ensuring sustainable community and forest management practices.

b) Biomass Utilization on Public Land

As described in **Table 2** above, 2025 and onward there are multiple forest treatment projects planned on public land with permitting pathways established to remove merchantable timber and other biomass for beneficial uses. These include the Rattail - Trinity Forest Health and Fire-Resilient Rural Communities Project, the Buck Mountain Vegetation and Fuel Management Project, South Fork Mountain Vegetation Management Project, and the Bureau of Land Management's Larabee Valley Forest Health and Resiliency Project. These projects have the potential to provide a substantial supply of lower quality biomass for a prospective woody feedstock aggregation facility and employment opportunities for the local workforce, bolstering regional capacity to perform important forest health work and local small business capacity to execute.

c) Dinsmore Facility

While a preliminary site was identified as suitable for a Woody Feedstock Aggregation Facility in Dinsmore, CA, no formal site control pathways have, at this time, been established. This site was previously utilized as a mill but was decommissioned multiple decades ago. The zoning is Unclassified with 20 acres of flat land where logs and biomass could be sorted, stored, and plenty of room for large trucks to load and unload material. This site was previously used for indoor Cannabis cultivation and licensed for such activities. The Humboldt County Planning Department has confirmed that a woody feedstock aggregation facility would be a permissible use on this parcel. Funding would need to be secured, the result of the development of an extensive business plan, to secure site control of this parcel. The completed appraisal is attached as Appendix 4.

5. Recommendations & Summary

In order to successfully operate a sorting and aggregation facility in Dinsmore, a consistent supply of local feedstock must first be established. Due to high operational costs of an aggregation and sorting facility, the authors recommend first developing a steady feedstock supply chain. In order to develop the feedstock supply chain, the community must first plan and prioritize fuels reduction needs and integrate these needs into the Humboldt County Fire Safe Councils Community Wildfire Protection Plan (CWPP). Once the community's priorities are generated and projects are included in the CWPP, the next sequential steps can be taken to build community capacity and secure grants to provide a consistent supply of feedstock for the prospective woody feedstock aggregation facility.

a) Potential Funding Pathways

The below series of steps describes one potential pathway towards achieving these objectives:

Step 1: Support the BCC as the existing and established community based nonprofit doing important work to support the community, having built trust since 2005 among the dispersed local population, and also conveniently located on the campus of the Bridgeville school. This entity has historically served as the fiscal sponsor of the VDWFSC, hosting multiple full-time staff members.

Potential Funding Pathways:

- Volunteer time with representatives from the BCC, BVFD and BFPD and support from the Humboldt County RCD and NCRP.

Step 2: Bolster the VDWFSC as a program of the BCC with a specific focus on wildfire prevention and forest restoration within the MVD AOI. Re-establish Firewise status for the area. Establish all priority fuels reduction projects in the wood basket and include them in the CWPP. Curating a partnership between the VDWFSC and Mad River/Southern Trinity Fire Safe Council would be prudent to bolster regional capacity to secure funding and implement needed fire health projects.

Potential Funding Pathways:

- Volunteer time with representatives from the BCC, BVFD and BFPD and support from the Humboldt County RCD, the Humboldt County Coordinator Team (CCT) and/or NCRP.

Step 3: Develop, submit, and secure funding for a proposal for prioritized forest health and wildfire resilience prevention treatments that are included in the CWPP.

Potential Funding Pathway(s):

- CalFire Wildfire Prevention
- CalFire Forest Health
- C-FIP

Step 4: Once site specific funding for forest health treatments is secured, develop quantitative feedstock supply projections.

Potential Funding Pathways

- NCRP TA for assistance developing proposals for grant opportunities listed below in step 4.

Step 5: Develop preliminary facility design around known woody biomass inputs and secure a start-up loan and or an economic development grant proposal and/or series of grant proposals to subsidize facility start-up operations based on known feedstock supply volumes and quantities.

Potential Funding Pathway(s):

- CalFire Business and Workforce Development
- USFS Wood Innovations Program (Wood Innovations Grant and/or the Wood Products Infrastructure Assistance Grant)

Step 6: Expand startup operations through securing increased off-take agreements and continued investment in novel wood product research and development and workforce development, supporting local capacity building, both providing career track opportunities for the youth and technical assistance and other support for local forest contractors and existing small business.

Potential Funding Pathway(s):

- RRRise
- CalFire Business and Workforce Development
- Rural Cooperative Development Grant Program in California (USDA)

Step 7: Operations phase for facility includes continued marketing and operations. This step is concurrent with step 5, managers will continue to secure forest health and/or wildfire prevention treatment funding for groups of private landowners through pathways identified in step 2, continue to build relationships with public agencies performing public projects that will be (environmentally and/or economically) enhanced by the start-up of a regional woody biomass aggregation facility.

Potential Funding Pathway(s):

- CalFire Wildfire Prevention
- CalFire Forest Health
- C-FIP

b) Conclusions

The Wood Feedstock Aggregation Feasibility Study for the Mad River-Van Duzen-Dinsmore Region has identified key opportunities and challenges for establishing a biomass sorting and aggregation facility. The study underscores the importance of creating a sustainable supply chain for woody biomass, emphasizing the need for organized and scaled fuels reduction efforts, community engagement, and regional collaboration. Through extensive analysis of market dynamics, landowner and operator capacity, and governance structures, the study highlights the feasibility of a cooperative or nonprofit-driven approach to biomass aggregation. However, it also identifies significant financial, logistical, and organizational barriers that must be addressed to ensure the long-term viability of such an enterprise. Given the high costs associated with sorting and processing low-value biomass, a phased approach—beginning with community wildfire resilience planning and culminating in the development of an operational aggregation facility—is recommended.

Moving forward, the successful implementation of a wood feedstock aggregation facility will depend on securing dedicated funding, developing robust partnerships, and ensuring that a steady supply of feedstock is available to sustain operations. Key recommendations include strengthening local fire-safe councils, integrating biomass supply planning into community wildfire protection plans, and securing grants to support initial forest health treatments. Additionally, leveraging existing workforce development programs and economic incentives will be critical for establishing a viable operational model. By taking a strategic, step-by-step approach—prioritizing community capacity-building, securing financial support, and fostering market development—this initiative has the potential to enhance wildfire resilience, create economic opportunities, and support sustainable forest management across the region.

Appendix

Appendix 1:

Value Added Opportunities Matrix for a Wood Campus within the Central Sierra (TSS Consultants)

Process or Product	Development Status	Feedstock Specifications	Jobs (FTE) Low	Jobs (FTE) High	Main Equipment	Market Potential	Comments
Wood fuel pellets	Commercially deployed	Clean, dry (<10% mc) chip, needs to be <1% ash.	8	40	Pellet mill, dryer, cooler, hammermill, packaging.	Residential and commercial users, animal bedding, potential for thermal heating and niche barbeque pellets.	Use of biomass from forest possible (e.g., small logs or chips low in bark) - key issue and expense is drying system for the feedstock. Gaining market share for domestic stoves is dependent upon propane and natural gas pricing.
Fuel bricks	Commercially deployed	Chip, dry (<15% mc), needles, bark okay.	3	6	Brick machine, dryer, cooler, hammermill, packaging.	Substitute as firewood for residential or commercial facilities.	Use of biomass from forest possible (e.g., small logs or chips low in bark) - key issue and expense is feedstock drying system.
Fire logs	Commercially deployed	Clean, dry (<10% mc) chip, needs to be <1% ash.	3	9	Log machine, dryer, cooler, hammermill, packaging.	Substitute as firewood for residential or commercial facilities.	Use of biomass from forest possible (e.g., small logs or chips low in bark) - key issue and expense is feedstock drying system.
Decorative bark	Commercially deployed	Small roundwood that is easily de-barked. Raw bark from sawmills is common feedstock source.	2	6	Typically sourced as byproduct from sawmill operation. Screening equipment.	High value in urban areas. Deco bark market can be seasonal. Spring and summer is typically peak demand period. Sold bulk and/or bagged.	As sawmill residuals become scarce, value of bark for landscape cover increases. Alternative use is hog fuel.
Decorative chip	Commercially deployed	Bark free and sized (no fines) wood chip.	2	6	Debarker (flail, ring or rosser head), screen (trommel or flat).	Colorized landscape cover sold in bulk and/or bagged.	Colored landscape cover requires additional equipment (colorizer). Feedstock is bark free chip

Process or Product	Development Status	Feedstock Specifications	Jobs (FTE) Low	Jobs (FTE) High	Main Equipment	Market Potential	Comments
Hog Fuel	Commercially deployed	Woody biomass chipped to 3"minus, 50% mc, 3% ash.	2	3	Log loader and chipper. Walking floor trailer or chip van to deliver hog fuel to market.	Biomass power generation facilities.	Biomass power markets are mature and likely to continue considering current power purchase agreements.
Firewood	Commercially deployed	Roundwood (hardwood is preferred) logs that can be processed using automated firewood processor.	2	8	Log splitter or firewood processor.	Could be marketed to urban centers or campgrounds in boxes or bundles. Hardwood worth more. Higher prices for firewood near to affluent urban areas.	Numerous firewood contractors already in place. Some large contractors have significant market share.
Post and pole	Commercially deployed	Straight, low taper softwood (lodgepole, ponderosa, white fir) is preferred.	5	15	Rosser head peeler and/or doweller. Sorting line. Bucking saw.	Sold to treating facilities. Market treated posts for landscape timbers, vineyards (used to suspend vine wires) fences, furniture.	Need to treat - nearest facility is in Riverbank, CA.
Small-scale sawmill	Commercially deployed	Medium to large size roundwood.	2	10	Debarker, head rig, resaw, edger.	May need to target specialty markets to secure optimal value for products.	Tough to compete with large-scale sawmills for logs and lumber sales. Niche markets for lumber is important. Most lumber is low-value commodity product.
Lumber kiln	Commercially deployed	Lumber products or firewood.	1	2	Kiln (steam or dehumidifier).	Kiln dried lumber has added value in the market place. Transport of dried lumber products is more cost effective (due to lower weight).	Could also dry firewood or heat treat lumber and packaging to meet ISPM15. Could use waste wood as a fuel source.
Biochar (Slow pyrolysis)	Commercially deployed	Wood pieces (flexible spec).	2	4	Biochar kiln.	Soil amendment, activated carbon (water filtration).	Very few biochar production facilities deployed. Most biochar is currently sourced from existing biomass power plants.

Process or Product	Development Status	Feedstock Specifications	Jobs (FTE) Low	Jobs (FTE) High	Main Equipment	Market Potential	Comments
Mild pyrolysis (torrefaction)	Pilot projects/R&D	Wood pieces (spec is vendor specific).	0	0	Reaction unit.	Co-firing in coal power plants (no modifications required to coal handling systems) or as fuel supplement for biomass power plants.	Torrefied fuel could be highly marketable due to BTU/pound and impervious to water. Coal is a key solid fuel in the marketplace and tends to set the price point.
Compost	Commercially deployed	Green waste (tree trimmings/grass clippings) is optimal.	2	6	Grinder, screen and windrow turner.	Soil amendment market is seasonal. Compost and mulch operations work best on same site. Typically sold in bulk or bagged.	There may be opportunities to source green waste from transfer stations and landfills. Operation could take in biochar as a compost blend.
Mulch	Commercially deployed	Green waste (tree trimmings/grass clippings) are optimal.	2	6	Grinder and screen.	Soil amendment market is seasonal. Compost and mulch operations work best on same site.	Very similar to compost operation. In fact, compost/mulch operations typically share the same site.
Chip for pulp/paper or composite panel furnish	Commercially deployed	Woody biomass chipped to 3"minus, 50% mc, bark free with few fines.	3	6	Debarking equipment (e.g., chain flail) chipper and screen.	No pulp/paper or composite panel facilities currently operating in CA. One composite panel is in development at Marysville (West Forest, LLC)	Currently very limited markets (no pulp mills or composite panel operations) in CA. Chip export market is volatile.
Animal bedding (shavings)	Commercially deployed	Small roundwood (ponderosa pine preferred).	2	6	Shaver, screens, drying, packaging.	Can be sold in bulk and/or in bales or bags.	One commercial operation within the region (American Wood Fiber at Keystone).

TSS utilized the Value-Added Opportunities Matrix to conduct outreach to SA stakeholders for a discussion regarding which of the opportunities best aligned with the local community. When querying local contractors involved in forestry services (including loggers and tree service businesses), a clear thread emerged: these businesses handle steady volumes of timber, some of which they sell to the local sawmill, but inevitably they end up with decks of logs sitting in their

Appendix 2:

Local US Forest Service Contractors and Resources with the MVD AOI

CONTRACTOR	CHIPPER / MASTICATOR	BACKHOE	EXCAVATOR	DOZER / SKIDDER	GRADER	WATER TRUCK (gallons)	DUMP TRUCK (yards) / DUMP BED TRAILER	OTHER
	1	1	3	2	0	1	1	2
Adams, Steve Adams Construction	Mast head for Cat 316	John Deere 310 loader, extend-a-hoe 4.1 bucket	Cat 316 19-ton w/ bucket, thumb	Komatsu D61 dozer 19-ton w/ 6-way blade, winch, brush rake		3500-gal water truck	10 yd dump truck w/ 30-ton equipment trailer	2019 Peterbilt lowboy truck/trailer
			Kobelco 140 15.8-ton w/ bucket, thumb push blade	Komatsu D39 dozer 11-ton w/ 6-way blade, winch				Skid Steer TL 130 4.5-ton w/ bucket, brush grapple
			John Deere 85D 9.4-ton w/ bucket, thumb, push blade					
	1	1	0	0	0	0	0	2
Albee, David and Heaton, Chad DC Falling & Construction	FAE Forestry Masticating head UMM/EX/HP Sonic for Tigercat buncher	JCB 214E - 2 - wheel drive						Tigercat 830D Feller-buncher
								John Deere 2054 logging shovel with tong tosseer
								See Falling Modules and Crews below
	2	0	3	2	1	1	2	3
Berry, Lance Steven Berry Trucking	(1) Mast head for the Kobelco (1) Mast head for the Gehl		(2) Kobelco Bladerunners with buckets, 1 grade bucket, thumbs	John Deere 750K dozer w/ grapples	Cat 120 grader	4000-gal water truck	20 yd end-dump	Cat 325Heelboom shovel
				John Deere 650J w/ rippers			12 yd dump truck	225 Cat Stroker-Delimber
			Gehl Z-70 w/ bucket, 1 blade bucket, thumb	John Deere 700 H w/ winch				Log truck and lowbed
	0	0	1	0	0	0	0	1
Bray, Jason			Kubota KX 121-3 Super Series w/ angle blade, custom thumb width of bucket					Kubota skid steer 75-2 wide track w/ brush rake (double top grapples), 4 in 1 bucket
	0	0	0	1	0	0	0	1
Casacca, Garth				Cat D-5 dozer w/ grapples, 6-way blade, brush rake				Bobcat skid steer w/brush grapple, 4 in 1 bucket, post hole digger
	0	0	1	1	0	1	1	1
Dillon, Lynn Dillon Construction			Cat EL 200 w/ bucket, thumb, grapple	Case 850 K, 99 HP, 6-way blade		4,500-gal water truck	10 yd dump truck	Short-log trailer
			Kubota KX080-4 Super w/ 2 buckets (24", 48"), thumb, 4-way blade	Cat D-7 dozer straight blade, winch				
	0	1	1	4	1	2	1	2
Heaton, Tom South Fork Mountain Timber Cutters		Cat 416 C w/ bucket and blade (no thumb)	Cat 225 Excavator	Cat D-7 dozer w/ straight blade, rippers or winch	Cat 120G grader	4,000-gal water truck	10 yd dump truck	Cat 966C Front-end loader
				Cat D-6D dozer w/ straight blade, winch		500-gal water tender		Forklift
				Cat 528 rubber-tired skidder w/grapple, winch				

				Skidder w/water tank (skigger)				
	1	0	4	4		1	2	7
Kiser, Kyle Kiser Construction	(1) 36-inch Fecon masticator head for the Kobelco Blade Runners		(3) Kobelco ED160 Blade Runners (2013, 2017, 2022) w/ 6-way blades and hydraulic thumbs plus masticator head, 12, 36, 60-inch buckets	2012 Case 1650L dozer w/ 6-way blade and winch		1998 Freightliner water truck 3,500 gallon	1989 Freightliner 10-yard dump truck w/ rock box	(2) Freightliner truck tractors (2012, 2017)
			2011 Kubota KX057-4 w/ 36” flail mower, 12”,18”,24”, 36” buckets, auger attachment	1988 Case 1450B dozer w/ straight blade and winch			28-foot end dump trailer and belly dump trailer	(2) 25-ton lowbed trailers
				2011 Case 850L dozer w/ 6-way blade and winch				2016 Cat M325D LMH Heel Boom Log Loader on 4X4 Rubber Tire Carrier
				2016 Cat 535D skidder w/ grapple and winch				2003 Bomag BW177D-3 smooth drum vibratory roller
								2014 JCB 320T rubber tracked skid steer w/ 4 in 1 bucket, 6-way dozer blade, brush rake/grapple, pallet forks
	0	0	0	2	0	0	0	2
Moore, Bill B&L Enterprises				D-6 Cat dozer				(2) Cat log loaders
				(2) Cat skidders				Cat de-limber
								Feller Buncher
	0	0	1	3	0	1	1	3
Moore, Jake Iaqua Construction & Logging			Cat 320 w/ thumb	Cat 517 dozer w/ swing grapple		3600-gal water truck	10 yd dump truck	Cat 950B wheel loader w/ log forks, bucket
				Cat 6M dozer w/ winch				Log truck
				Cat 518C skidder				Lowbed
	1	0	1	0	0	0	0	2
Morss, Jerrad J&M Fire	1 Mast head for Takeuchi		Takeuchi TB 290 18,620 lbs w 12” and 24” buckets					Transport, Chevy 3500HD w/ 30k Snake River gooseneck equipment trailer
								Service truck, ford F-250 diesel w/ 100-gal fuel cell and air compressor
								Chainsaws: Stihl 500i, 462c, 362c
	1	0	0	0	0	0	0	1
Watershed Research and Training Center	Cat 299 D3 skid steer w/ mast head							Vermeer BC 1000 gas chipper
	0	1	1	3	0	0	0	2
Willburn, Jason, Willburn Logging & Construction		Case 580D 2WD w/ Extenda-hoe	Cat 225 w/ 36” bucket and thumb	John Deere 550 G w/ 6-way blade and rippers				Cat 231 Heelboom loader
				Cat D6C w/ straight blade, winch, arch				Cat 950 front-end loader w/ forks, bucket
				Cat 518 skidder w/ grapples				**See Falling Modules and Crews below**
FALLING MODULES AND CREWS								

CONTRACTOR	Number and Type of Resources		COMMENTS
Albee, David and Heaton, Chad DC Falling & Construction	4+ Timber Fallers		
Watershed Research and Training Center	3 Crews – 5 person		Chainsaw qualified and certified thru S-212 program. 10-inch DBH or less for falling
Willburn, Jason, Willburn Logging & Construction	2 Timber Fallers		w/ Silvy Jacks

Appendix 3:

Green Value Tool Financial Analysis of Local Contractor in MVD AOI Slides

ANALYSIS OF A HUMBOLDT COUNTY FORESTRY CONTRACTOR WITH THE GREEN VALUE TOOL

The Green Value Tool for Simplified Financial Analysis

Brief Overview

Dr. Shoana Humphries, Green Value
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What is the Green Value Tool?

The Green Value Tool guides users through a simplified financial analysis of annual costs and income using 6 steps.

The Tool is comprised of
- User's Guide
- pre-formatted worksheets for each step.

The Tool generates/facilitates
- results for several financial indicators (e.g., average cost, net income, rate of return)
- graphics
- sensitivity analysis.

Who is the Tool for?

Designed for forest-based initiatives (FIs), including:
- Small to medium scale forest owners (families, communities, tribes, land trusts, municipalities)
- small to medium scale forest products & services enterprises
- cooperatives
- other private businesses (consultants, contractors, etc.)
- ** can be at different points in value chains.

Users include:
- forest owners / farmers
- enterprise administrators
- collaborators (e.g., from companies, non-profit partners, government agencies, extensionists)
- service providers (e.g., consultants, contractors)
- researchers.

How does the Tool work?

The worksheets are used to organize financial information by

- Cost:
  - activity: 3 – 5 main productive activities + administrative activities
  - types of inputs: labor, materials/services, and machinery/equipment
  - full cost accounting
- Income: sales and other sources of income.

Photos: Shoana Humphries

How does the Tool work?

Options for analysis

- 1 product or service
- Up to 3 different products/services
  - e.g., logs, carbon credits, ecotourism
- Up to 3 related products (raw material, 2 derivatives) *NEW*
  - e.g., logs, boards, flooring
- The Net Present Value worksheet can be used to analyze results for multiple productive periods.

Photos: Fundación Futuro Latinoamericano

When should the Tool be used?

Planning	Analyze potential management plans or changes to existing plans/systems
Continuous	• Yr 1: Establish **baseline** information • Compare results to previous year • Identify **problems/opportunities** • Identify socio-economic benefits (e.g., wages, funds to local businesses) • Analyze **scenarios** for future growth
Before & after interventions	• Identify **impacts on viability** (cost/unit, profit, rate of return) • Identify **socio-economic impacts**
As needed	**Improve forest management** and rural enterprise development programs and policies based on results

Diverse products/services analyzed to date

Timber products:

- Standing trees
- Logs
- Lumber
- Finished products

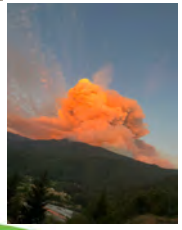
NTFPs and services:

- Restoration activities
- Greenhouse seedlings
- Ecosystem services
- Silvopastoral system
- Tourism
- Freshwater fishery
- Bamboo
- Tree nuts, leaves & oils
- Agricultural crops
- Artisan crafts

CASE: Steven Berry Trucking & Logging

Mika Cook
Ryan Kochendarfer

Pacific SW BPA Stewardship - Hotlum Bradley: **FH**



CA-USFS-Boise Fire: **WF**

DESCRIPTION

Basic information about the case analyzed:

Name of the case	Steven Berry Trucking & Logging
Location	Bridgeville, California
Product(s) or service(s) analyzed	Forest Health & Rehabilitation / Wildland Fire Emergency Response
Unit of sale	Acres Treated / Days Worked
Period of analysis	9/1/2023-10/1/2024
Size of production area, if applicable	(FH) - Acres Treated / (WF) - Days Worked 597 acres 173 days

DESCRIPTION

Basic information about the case analyzed:

Principle productive activities

FH - Forest Health & Rehabilitation / WF - Wildland Fire Emergency Response
FH) 1. Planning / Prep / Mobilization
FH) 2. Acre treatment
FH) 3. Support/Maintenance/Repairs
FH) 4. Demobilization
WF) 1. Planning / Prep / Mobilization
WF) 2. Support/Maintenance/Repairs
WF) 3. Operate Equip. / Vehicle
WF) 4. Demobilization
Administration

Sources of data for this analysis:

- FH - Mika Cook / Records & Finance.
- WF - Mika Cook / Finance - Ryan Kochendarfer / Records and field notes/observation

FINAL RESULTS

Most important assumptions used for this analysis

Labor

- (FH) All personnel worked as subcontractors. Because of the close family ties, many of these subcontractors were not working under formal subcontracts.
- (FH) Labor (prod) workers in this section were sub contractors for the listed activities and not employees, thus no workers comp was paid.
- (FH) Labor/Prod (Activity 3 Support/Maintenance/Repairs is all included as a component of subcontractor per acre payments)
- (FH) 1 day (unit) = 8 hours.
- (FH) Labor-Production for activity 2 (Acres Treated) was generated using a combination of data reported at the time of the contract (text, email, Avenza polygons), subcontractor invoices, and interviews with managing staff to create estimates to account for all 597 treated acres. There is an estimated 20% margin of error for this information.
- (WF) Labor (Time) Activity 2 all daily wages were represented at $500, although some people we paid a little more and some a little less.
- (WF) 1 day (unit) = 10-16hrs

Materials & services

- Average Fuel Costs = $4.70-$6.00…machines use dyed diesel (tax exempt) where log trucks use regular diesel.
- (WF) Activity 1 - workmen's comp was estimated at 50% for the wages for these tasks performed not on the job site.
- (WF) Activities 3 and 4 - workmen's comp was estimated at 100% the labor costs for these tasks performed on the job site.
- (FH) Labor (prod) workers in this section were sub contractors for the listed activities and not employees, thus no workers comp was paid.

Most important assumptions used for this analysis

Machinery & equipment

- Several pieces of equipment were purchased with loans; for these items (see lines 52-56 of the Admin Worksheet) we included interest payments; we depreciated these items of machinery and equipment with the other machinery and equipment in the Machinery and equipment worksheets
- Some equipment is valued at market price rather than actual purchase price

Administration

- While the owner does take owner draw's regularly, he is not paid a formal salary. We estimated a reasonable formal salary to be $7,000 per month.
- 750k JD Grapple dozer received the most resource order calls for all equipment.
- All but two months of the year was work performed, per this analysis, so data is provided for 10 months of the 12 month period of analysis
- All vehicle/equipment interests amounts estimated based on estimating a 30% interest to Principal (70%) ratio.

Sales

- Income from contracts for services for FH and WF were included here.

FH: Materials & Service is by far were the most expensive input. The cost of workmen's comp (service) is very significant and threatens the ability of this company to cover its costs. Though the chart reflects administration being high, a lot of our admin costs included many costs that the company does not actually incur, but would generally have to, if a family member was not volunteering.

WF: The same as the former can be stated for this. It seems the cost of workman's comp is an unavoidable imbalance of the scales.

Activity	Labor	Materials and Services	Machinery and Equipment	Subtotal Cost ($)	Percent
↓					
1FH) 1. Planning / Prep / Mobilization	990	7 200	3 833	**12,023**	1%
1FH) 2. Acre treatment	55 675	142 841	23 906	**222,422**	20%
1FH) 3. Support/Maintenance/Repairs	13 022	14 522	6 545	**34,089**	3%
1FH) 4. Demobilization	480	1 266	2 275	**4,021**	0%
2WF) 1. Planning / Prep / Mobilization	2 080	2 915	3 346	**8,341**	1%
2WF) 2. Support/Maintenance/Repairs	16 800	16 800	6 806	**40,406**	4%
2WF) 3. Operate Equip. / Vehicle	103 350	249 512	56 547	**409,409)**	37%
2WF) 4. Demobilization	1 960	5 970	3 426	**11,356**	1%
Administration	130 000	239 152	1 135	**370,287**	33%
Subtotal Cost	**$ 324,357**	**$ 680,178**	**$ 107,818**	**$ 1,112,353**	**100%**
Percent	**29%**	**61%**	**10%**		

Figure 3. Proportion of Total Cost by Activity

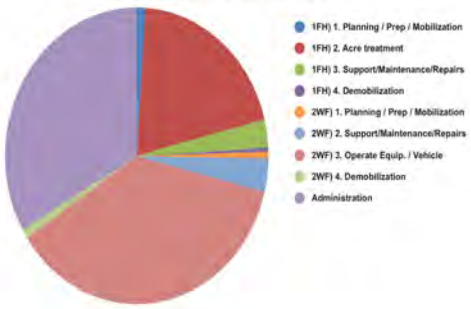
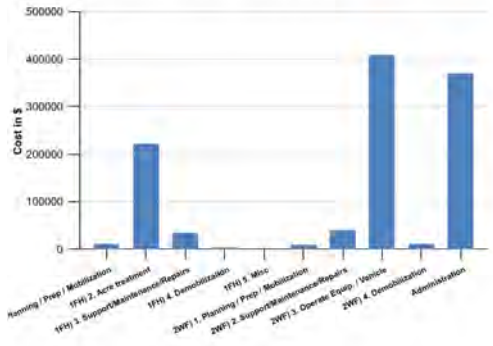


Figure 1. Total Cost by Activity



Financial Indicator	Total	1 - FH	2 - WF
		↓	↓
Total Productive Activity Cost	742,065.78	272,553.86	469,511.93
Total Admin Cost	370,286.90	136,002.93	234,283.97
Total Cost	1,112,352.68	408,556.79	703,795.89
Total Income	1,238,215.03	374,336.00	863,879.03
Net Income (Profit)	125,862.35	- 34,220.79	160,083.14
Rate of Return	**11%**	**-8%**	**23%**

What's interesting to see here is the actual metrics of loss in 1-FH. Going through the events that lead to this loss it is a great way to see what went wrong and where. Hopefully this insight will allow us to improve on certain critical procedures such as productivity and developing bids.

DISCUSSION

Are any of the results of the analysis surprising?

- Total cost of operations was very surprising.
- Just a 5%-10% in operations efficiency could make the difference this company is looking for.

What factors are believed to have affected the results? These may be external as well as internal factors, e.g., internal organization of work, public policies, markets, the scale of production.

- Public policies ie workman's comp is definitely a crippling factor of these operations.
- Internal management is definitely the main factor in profit loss.

DISCUSSION

What changes could be made for the case analyzed, in terms of labor, materials and services, machinery and equipment, and administration, and/or sales to improve the results and/or reach the FI's goals in the future.

- Incorporate procedures and protocols that would insure efficient operations, perhaps research larger companies to copy a base model for such practices. Better communication between all members of the company.
- Also a more refined hiring process which would be coupled by a better and more consistent pay structure for employees. This would create an incentive for more skilled workers to be apart of the team.

How useful do you think the Green Value Tool is for this case and/or for others?

- This tool for the receptive owner and team would be extremely useful. It allows for transparency in day to day operations and overall company health. For the right companies the Green Value Tool could be what is needed to observe the stark realities of decisions made that inevitably affect the company as a whole.

Contact name: Mika Cook, Ryan Kochendarfer

Email: Mika.wfap@gmail.com,
Ryan.wfap@gmail.com

Appendix 4:

Appraisal of Potential Woody Feedstock Aggregation Facility Location

Paul Leslie Appraisals
1480 Riverbar Rd
Fortuna, CA 95540-9596
(707)599-7973
paulleslie707@gmail.com

05/14/2024

Mika Cook
Mika Cook

Re: Property: 46068 State Highway 36
Bridgeville, CA 96025
Borrower:
File No.: 46068hwy36043024

Opinion of Value: $ 157,000
Effective Date: 04/30/2024

In accordance with your request, we have appraised the above referenced property. The report of that appraisal is attached.

The purpose of the appraisal is to develop an opinion of market value for the property described in this appraisal report, as improved, in unencumbered fee simple title of ownership.

This report is based on a physical analysis of the site and improvements, a locational analysis of the neighborhood and city, and an economic analysis of the market for properties such as the subject. The appraisal was developed and the report was prepared in accordance with the Uniform Standards of Professional Appraisal Practice.

The opinion of value reported above is as of the stated effective date and is contingent upon the certification and limiting conditions attached.

It has been a pleasure to assist you. Please do not hesitate to contact me or any of my staff if we can be of additional service to you.

Sincerely, esign.alamode.com/verify Serial:18416E98

Paul Leslie
License or Certification #: AL029453
State: CA Expires: 08/25/2025
paulleslie707@gmail.com

APPRAISAL OF REAL PROPERTY

Paul A. Leslie
Paul Leslie Appraisals

LOCATED AT

46068 State Highway 36
Bridgeville, CA 96025
See Addenda

FOR

Mika Cook

OPINION OF VALUE

157,000

AS OF

04/30/2024

BY

Paul Leslie
Paul Leslie Appraisals
1480 Riverbar Rd
Fortuna, CA 95540-9596
(707)599-7973
paulleslie707@gmail.com
paulleslie707@gmail.com

USPAP Compliance Addendum

Loan #
File # 46068hwy36043024

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						

APPRAISAL AND REPORT IDENTIFICATION

This Appraisal Report is one of the following types:

☐ Appraisal Report — This report was prepared in accordance with the requirements of the Appraisal Report option of USPAP Standards Rule 2-2(a).

☐ Restricted Appraisal Report — This report was prepared in accordance with the requirements of the Restricted Appraisal Report option of USPAP Standards Rule 2-2(b). The intended user of this report is limited to the identified client. This is a Restricted Appraisal Report and the rationale for how the appraiser arrived at the opinions and conclusions set forth in the report may not be understood properly without the additional information in the appraiser's workfile.

ADDITIONAL CERTIFICATIONS

I certify that, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The report analyses, opinions, and conclusions are limited only by the reported assumptions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no (or the specified) present or prospective interest in the property that is the subject of this report and no (or specified) personal interest with respect to the parties involved.
- I have no bias with respect to the property that is the subject of this report or the parties involved with this assignment.
- My engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- My analyses, opinions, and conclusions were developed and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
- This appraisal report was prepared in accordance with the requirements of Title XI of FIRREA and any implementing regulations.

PRIOR SERVICES

☐ I have NOT performed services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.

☐ I HAVE performed services, as an appraiser or in another capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment. Those services are described in the comments below.

PROPERTY INSPECTION

☐ I have NOT made a personal inspection of the property that is the subject of this report.

☐ I HAVE made a personal inspection of the property that is the subject of this report.

APPRAISAL ASSISTANCE

Unless otherwise noted, no one provided significant real property appraisal assistance to the person signing this certification. If anyone did provide significant assistance, they are hereby identified along with a summary of the extent of the assistance provided in the report.

ADDITIONAL COMMENTS

Additional USPAP related issues requiring disclosure and/or any state mandated requirements:

MARKETING TIME AND EXPOSURE TIME FOR THE SUBJECT PROPERTY

☐ A reasonable marketing time for the subject property is _____ day(s) utilizing market conditions pertinent to the appraisal assignment.

☐ A reasonable exposure time for the subject property is _____ day(s).

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APPRAISER

Signature

Name Paul Leslie

Date of Signature 05/14/2024

State Certification #

or State License # AL029453

State CA

Expiration Date of Certification or License 08/25/2025

Effective Date of Appraisal 04/30/2024

SUPERVISORY APPRAISER (ONLY IF REQUIRED)

Signature

Name

Date of Signature

State Certification #

or State License #

State

Expiration Date of Certification or License

Supervisory Appraiser Inspection of Subject Property

☐ Did Not ☐ Exterior-only from Street ☐ Interior and Exterior

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A14

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xt here

LAND APPRAISAL REPORT

File No.: 46068hwy36043024

SUBJECT

Property Address: 46068 State Highway 36 City: Dunsmuir State: CA Zip Code: 96025
County: Humboldt Legal Description: See Addenda
Assessor's Parcel #: 208-071-032-000 Tax Year: 2023 R.E. Taxes: $ 2,198.46 Special Assessments: $ 0
Market Area Name: Dinsmore Map Reference: 21700 Census Tract: 0109.02
Current Owner of Record: Robin Mammoo Borrower (if applicable):
Project Type (if applicable): ☐ PUD ☐ De Minimis PUD ☐ Other (describe) HOA: $ 0 ☐ per year ☐ per month
Are there any existing improvements to the property? ☐ No ☒ Yes If Yes, indicate current occupancy: ☐ Owner ☒ Tenant ☐ Vacant ☐ Not habitable
If Yes, give a brief description: Large shop

ASSIGNMENT

The purpose of this appraisal is to develop an opinion of: ☒ Market Value (as defined), or ☐ other type of value (describe)
This report reflects the following value (if not Current, see comments): ☒ Current (the Inspection Date is the Effective Date) ☐ Retrospective ☐ Prospective
Property Rights Appraised: ☒ Fee Simple ☐ Leasehold ☐ Leased Fee ☐ Other (describe)
Intended Use: This appraisal was completed for the client for the potential prive aquisition of the porperty.
Intended User(s) (by name or type): Mika Cook
Client: Mika Cook Address:
Appraiser: Paul Leslie Address: 1480 Riverbar Rd, Fortuna, CA 95540-9596

MARKET AREA DESCRIPTION

Characteristics			
Location:	☐ Urban	☐ Suburban	☒ Rural
Built up:	☐ Over 75%	☐ 25-75%	☒ Under 25%
Growth rate:	☐ Rapid	☐ Stable	☒ Slow
Property values:	☐ Increasing	☐ Stable	☒ Declining
Demand/supply:	☐ Shortage	☐ In Balance	☒ Over Supply
Marketing time:	☐ Under 3 Mos.	☐ 3-6 Mos.	☒ Over 6 Mos.

Predominant Occupancy	
☒ Owner	75
☐ Tenant	25
☐ Vacant (0-5%)	
☒ Vacant (>5%)	

One-Unit Housing	PRICE $(000)		AGE (yrs)
	65	Low	1
	895	High	125
	325	Pred	65

Present Land Use	
One-Unit	50 %
2-4 Unit	5 %
Multi-Unit	1 %
Comm'l	10 %
Vacant	34 %
	%

Change in Land Use: ☒ Not Likely ☐ Likely * ☐ In Process * * To:

Factors Affecting Marketability

Item	Good	Average	Fair	Poor	N/A	Item	Good	Average	Fair	Poor	N/A
Employment Stability	☐	☒	☐	☐	☐	Adequacy of Utilities	☐	☒	☐	☐	☐
Convenience to Employment	☐	☐	☒	☐	☐	Property Compatibility	☐	☒	☐	☐	☐
Convenience to Shopping	☐	☐	☒	☐	☐	Protection from Detrimental Conditions	☐	☒	☐	☐	☐
Convenience to Schools	☐	☐	☒	☐	☐	Police and Fire Protection	☐	☐	☒	☐	☐
Adequacy of Public Transportation	☐	☐	☐	☒	☐	General Appearance of Properties	☐	☐	☒	☐	☐
Recreational Facilities	☒	☐	☐	☐	☐	Appeal to Market	☐	☐	☒	☐	☐

Market Area Comments: See Addenda

SITE DESCRIPTION

Dimensions: See plat map Site Area: 20 Acres
Zoning Classification: RA-20 Description: Rural Residential agriculture
Do present improvements comply with existing zoning requirements? ☒ Yes ☐ No ☐ No Improvements
Uses allowed under current zoning: Single family residential and agricultural use
Are CC&Rs applicable? ☐ Yes ☒ No ☐ Unknown Have the documents been reviewed? ☐ Yes ☐ No Ground Rent (if applicable) $ ____ / ____
Comments:
Highest & Best Use as improved: ☐ Present use, or ☒ Other use (explain) The site is currently used for the storage of equipment. The highest and best use has been determined to be residential with agricultural use
Actual Use as of Effective Date: Storage of equipment Use as appraised in this report: Vacant land
Summary of Highest & Best Use: Currently the demand for commercial facilities and equipment storage is low. The use as a residential property with agricultural use would meet the principle of maximum productivity.

Utilities	Public	Other	Provider/Description
Electricity	☒	☐	PG&E
Gas	☐	☐	
Water	☐	☒	Well
Sanitary Sewer	☐	☐	None noted
Storm Sewer	☐	☐	None Noted
Telephone	☐	☐	None Noted
Multimedia	☐	☐	None Noted

Off-site Improvements	Type	Public	Private
Street	Asphalt	☒	☐
Width	28ft		
Surface	Inspection		
Curb/Gutter	None Noted	☐	☐
Sidewalk	None Noted	☐	☐
Street Lights	None Noted	☐	☐
Alley	None Noted	☐	☐

Frontage	657 feet approximate
Topography	Flat to slight slope
Size	Typical
Shape	irregular
Drainage	Appears adequate
View	Woods,Mountain,River

Other site elements: ☐ Inside Lot ☐ Corner Lot ☐ Cul de Sac ☐ Underground Utilities ☐ Other (describe)
FEMA Spec'l Flood Hazard Area ☐ Yes ☒ No FEMA Flood Zone D FEMA Map # 06023C1550F FEMA Map Date 11/04/2016
Site Comments: The subject is level to slight sloped with adequate vehicle access.

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LAND APPRAISAL REPORT

File No.: 46068hwy36043024

TRANSFER HISTORY

My research ☐ did ☒ did not reveal any prior sales or transfers of the subject property for the three years prior to the effective date of this appraisal.

Data Source(s): Corelogic Public Records

1st Prior Subject Sale/Transfer	Analysis of sale/transfer history and/or any current agreement of sale/listing:
Date:	
Price:	
Source(s):	
2nd Prior Subject Sale/Transfer	
Date:	
Price:	
Source(s):	

SALES COMPARISON APPROACH

FEATURE	SUBJECT PROPERTY	COMPARABLE NO. 1		COMPARABLE NO. 2		COMPARABLE NO. 3	
Address	46068 State Highway 36 Bridgeville, CA 95526	32010 State Highway 36 Bridgeville, CA 95526-9655		3924 Whitlow Rd Myers Flat, CA 95554		31797 State Highway 36 Bridgeville, CA 95526-9626	
Proximity to Subject		7.15 miles W		15.81 miles SW		7.07 miles W	
Sale Price	$ TBD		$ 79,000.00		$ 165,500.00		$ 40,000.00
Price/ Acre	$ TBD	$ 3,955.93		$ 12,730.77		$ 2,399.52	
Data Source(s)	Inspection	HC MLS#264386;DOM 275		HC MLS#265249;DOM 18		HC MLS#264388;DOM 110	
Verification Source(s)	Public records	Public records		Public records		Public records	
VALUE ADJUSTMENT	DESCRIPTION	DESCRIPTION	+(-) $ Adjust	DESCRIPTION	+(-) $ Adjust	DESCRIPTION	+(-) $ Adjust
Sales or Financing Concessions	TBD TBD	ArmLth Cash;0		ArmLth Cash;0		ArmLth Cash;0	
Date of Sale/Time	TBD	s03/24c03/24		s11/23c10/23		s10/23c09/23	
Rights Appraised	Fee Simple	Fee Simple		Fee Simple		Fee Simple	
Location	N;Rural;Riverfrnt	N;Res;Rural		N;Rural;Riverfrnt		N;Res;Rural	
Site Area (in Acres)	20	19.97	0	13.00	+28,000	16.67	+13,320
Utilities	Electric at street	Similar		Off Grid	+20,000	Off Grid	
Landscape	Debris	Typical, Natural	-20,000	Typical, Natural	-20,000	Typical, Natural	-20,000
Structures	Large shop	None Noted	+75,000	Cabin,out building	+25,000	None Noted	+75,000
APN	208-071-032-000	210-051-012-000		217-182-010		210-022-048-000	
Topography	Flat	Flat to sloping		Flat to sloping		Steep	+25,000
Net Adjustment (Total, in $)		☒ + ☐ −	$ 55,000	☒ + ☐ −	$ 53,000	☒ + ☐ −	$ 93,320
Adjusted Sale Price (in $)			$ 134,000		$ 218,500		$ 133,320

Summary of Sales Comparison Approach: The market was thoroughly researched and comparables chosen best represent the subjects current market. Insufficient similar comparable sales were found within the subjects neighborhood to produce credible results. Older sales, distant sales and dissimilar sales were necessary to produce credible results. The comparables selected were chosen to bracket specific features of the subject. Comparables selected best represent the subjects market. Comparables selected bracket the subject in most areas. Comparable #1 is the most recent sale and is most similar in size but is more remote. Comparable #2 required the least gross adjustments of the recent sales.

Most weight is given to Comparable #1-3.

Adjustment value for acreage is @ $4,000 per acre

PUD

PROJECT INFORMATION FOR PUDs (if applicable) ☐ The Subject is part of a Planned Unit Development.

Legal Name of Project:

Describe common elements and recreational facilities:

RECONCILIATION

Indicated Value by: Sales Comparison Approach $ 157,000

Final Reconciliation: See attached addenda.

This appraisal is made ☒ "as is", or ☐ subject to the following conditions:

☐ This report is also subject to other Hypothetical Conditions and/or Extraordinary Assumptions as specified in the attached addenda.

Based upon an inspection of the subject property, defined Scope of Work, Statement of Assumptions and Limiting Conditions, and Appraiser's Certifications, my (our) Opinion of the Market Value (or other specified value type), as defined herein, of the real property that is the subject of this report is: $ 157,000 , as of: 04/30/2024 , which is the effective date of this appraisal.

If indicated above, this Opinion of Value is subject to Hypothetical Conditions and/or Extraordinary Assumptions included in this report. See attached addenda.

ATTACH.

A true and complete copy of this report contains 28 pages, including exhibits which are considered an integral part of the report. This appraisal report may not be properly understood without reference to the information contained in the complete report, which contains the following attached exhibits:

☒ Scope of Work ☒ Limiting cond./Certifications ☒ Narrative Addendum ☒ Location Map(s) ☒ Flood Addendum ☒ Additional Sales ☒ Photo Addenda ☒ Parcel Map ☐ Hypothetical Conditions ☐ Extraordinary Assumptions ☐

SIGNATURES

Client Contact: Mika Cook esign.alamode.com/verify Serial:18416E98 Client Name: Mika Cook

E-Mail: mika.wrap@gmail.com Address:

APPRAISER	SUPERVISORY APPRAISER (if required) or CO-APPRAISER (if applicable)
Appraiser Name: Paul Leslie	Supervisory or Co-Appraiser Name:
Company: Paul Leslie Appraisals	Company:
Phone: (707)599-7973 Fax:	Phone: Fax:
E-Mail: paulleslie707@gmail.com	E-Mail:
Date of Report (Signature): 05/14/2024	Date of Report (Signature):
License or Certification #: AL029453 State: CA	License or Certification #: State:
Designation:	Designation:
Expiration Date of License or Certification: 08/25/2025	Expiration Date of License or Certification:
Inspection of Subject: ☒ Did Inspect ☐ Did Not Inspect (Desktop)	Inspection of Subject: ☐ Did Inspect ☐ Did Not Inspect
Date of Inspection: 04/30/2024	Date of Inspection:

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ADDITIONAL COMPARABLE SALES

File No.: 46068hwy36043024

SALES COMPARISON APPROACH

FEATURE	SUBJECT PROPERTY	COMPARABLE NO. 4		COMPARABLE NO. 5		COMPARABLE NO. 6	
Address	46068 State Highway 36 Bridgeville, CA 95526	280 Van Duzen Rd Mad River, CA 95526-9506		31 Acres Bear Creek Road Bridgeville, CA 95526		30578 State Highway 36 Bridgeville, CA 95526	
Proximity to Subject		4.54 miles SE		5.13 miles NW		7.88 miles W	
Sale Price	$ TBD		$ 110,000.00		$ 140,000.00		$ 215,000
Price/ Acre	$ TBD	$ 10,689.99		$ 4,516.13		$ 5,512.82	
Data Source(s)	Inspection	HC MLS#264190;DOM 16		HC MLS#264145;DOM 16		HC MLS#266637;DOM 16	
Verification Source(s)	Public records	Public records		Public records		Public records	
VALUE ADJUSTMENT	DESCRIPTION	DESCRIPTION	+(-) $ Adjust	DESCRIPTION	+(-) $ Adjust	DESCRIPTION	+(-) $ Adjust
Sales or Financing	TBD	ArmLth		ArmLth		Listing	
Concessions	TBD	Owner Carry;0		Owner Carry;0			
Date of Sale/Time	TBD	s07/23c05/23		s06/23c05/23		Active	
Rights Appraised	Fee Simple	Fee Simple		Fee Simple		Fee Simple	
Location	N;Rural;Riverfrnt	N;Rural;Riverfrnt		N;Rural;Remote		N;Rural;Remote	
Site Area (in Acres)	20	10.29	+38,840	31.00	-44,000	39.00	-76,000
Utilities	Electric at street	Off Grid		Off Grid		Septic	0
Landscape	Debris	Typical, Natural	-20,000	Typical, Natural	-20,000	Typical, Natural	-20,000
Structures	Large shop	3 out buildings	0	None Noted	+75,000	5 out buildings	0
APN	208-071-032-000	018-220-016-000		208-271-017		210-041-008	
Topography	Flat	Flat to sloping		Flat to sloping		Flat to sloping	
Net Adjustment (Total, in $)		☒ + ☐ −	$ 18,840	☒ + ☐ −	$ 11,000	☐ + ☒ −	$ -96,000
Adjusted Sale Price (in $)			$ 128,840		$ 151,000		$ 119,000

Summary of Sales Comparison Approach

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ADDITIONAL COMPARABLE SALES

File No.: 46068hwy36043024

SALES COMPARISON APPROACH

FEATURE	SUBJECT PROPERTY	COMPARABLE NO. 7		COMPARABLE NO. 8		COMPARABLE NO. 9	
Address	46068 State Highway 36 Bridgeville, CA 95526	0 Stagecoach Rd Bridgeville, CA 95526					
Proximity to Subject		4.35 miles W					
Sale Price	$ TBD		$ 120,000		$		$
Price/ Acre	$ TBD	$ 4,143.65		$		$	
Data Source(s)	Inspection	HC MLS#264267;DOM 362					
Verification Source(s)	Public records	Public records					
VALUE ADJUSTMENT	DESCRIPTION	DESCRIPTION	+(-) $ Adjust	DESCRIPTION	+(-) $ Adjust	DESCRIPTION	+(-) $ Adjust
Sales or Financing Concessions	TBD TBD	Listing					
Date of Sale/Time	TBD	Active					
Rights Appraised	Fee Simple	Fee Simple					
Location	N;Rural;Riverfrnt	N;Rural;Riverfrnt					
Site Area (in Acres)	20	28.96	-35,840				
Utilities	Electric at street	Off Grid					
Landscape	Debris	Debris					
Structures	Large shop	Unpermitted cabin	+55,000				
APN	208-071-032-000	210-191-057					
Topography	Flat	Flat to sloping					
Net Adjustment (Total, in $)		☒ + ☐ −	$ 19,160	☐ + ☐ −	$	☐ + ☐ −	$
Adjusted Sale Price (in $)			$ 139,160		$		$

Summary of Sales Comparison Approach

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Supplemental Addendum

File No. 46068hwy36043024

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						

• **GP Land: Reconciliation - Final Reconciliation**
Most weight is given to the Sales approach as this is it best reflects market trends and values for single family residential properties. The cost approach supports the opinion of value but is limited in its reliability due to the lack of recent sales of similar sites in subject market or competing markets. The income approach is not applicable

• **URAR: Neighborhood - Market Conditions**
Neighborhood Market Conditions Humboldt County has a total population of approximately 120,000 people. Eureka, which is the county seat, has a population of approximately 30,000 people. The largest employers of the area are governmental, timber related employment, tourism and small businesses. Governmental and conventional financing with no buyer or seller concessions are typical for this area. Overall market values in the subjects neighborhood are currently stable.

Comment on prior services;
The appraiser has not provided appraisal services or any other services in conjunction with the subject in the last 36 months.

Comment on utilities;
The subjects utilities are common in this market and do not adversely affect the marketability of the property.

Comment on numerous and large adjustments;
The lack or recent similar sales in the subject market required the use of older sale and sales from competing markets. This resulted in numerous and large adjustments. This does not negatively affect the marketability of the subject property.
.

Comment concerning the adjustment values applied for view;
Unlike GLA, Bathroom count or garage space, there is no standard adjustment value associated with view. Adjustment values for view are subjective and are based on the appraisers knowledge of the market and the market reaction to different types of view. A beneficial view can be wooded to panoramic ocean view. There can also be varying degrees of ocean view that would require different adjustments. The adjustments applied to the comparables for their respective views is accurate and correct.

Comment on the use of comparables more than 1 mile from the subject;
The lack of recent similar sales in the subjects neighborhood required the use of comparables from distant but competing neighborhoods. As a result some comparables are greater than 1 mile from the subject. This is common and does not negatively affect the marketability of the subject. The comparables used are the best available comparables in the opinion of the appraiser.

Legal Description;
The legal description is not available through the normal course of business and or with out a fee. To include the legal description, it must be provided by the lender/client.

Comment concerning the subjects address;
The address used in this report is 46086 St Highway 36, Bridgeville CA 95526. Public records also show the address as 46070 State Hwy 36 Dinsmore, CA 96025. See property profile report attached to this appraisal.

UNIFORM APPRAISAL DATASET (UAD) DEFINITIONS ADDENDUM

(Source: Fannie Mae UAD Appendix D: UAD Field-Specific Standardization Requirements)

Condition Ratings and Definitions

C1

The improvements have been recently constructed and have not been previously occupied. The entire structure and all components are new and the dwelling features no physical depreciation.

Note: Newly constructed improvements that feature recycled or previously used materials and/or components can be considered new dwellings provided that the dwelling is placed on a 100 percent new foundation and the recycled materials and the recycled components have been rehabilitated/remanufactured into like-new condition. Improvements that have not been previously occupied are not considered “new” if they have any significant physical depreciation (that is, newly constructed dwellings that have been vacant for an extended period of time without adequate maintenance or upkeep).

C2

The improvements feature no deferred maintenance, little or no physical depreciation, and require no repairs. Virtually all building components are new or have been recently repaired, refinished, or rehabilitated. All outdated components and finishes have been updated and/or replaced with components that meet current standards. Dwellings in this category are either almost new or have been recently completely renovated and are similar in condition to new construction.

Note: The improvements represent a relatively new property that is well maintained with no deferred maintenance and little or no physical depreciation, or an older property that has been recently completely renovated.

C3

The improvements are well maintained and feature limited physical depreciation due to normal wear and tear. Some components, but not every major building component, may be updated or recently rehabilitated. The structure has been well maintained.

Note: The improvement is in its first-cycle of replacing short-lived building components (appliances, floor coverings, HVAC, etc.) and is being well maintained. Its estimated effective age is less than its actual age. It also may reflect a property in which the majority of short-lived building components have been replaced but not to the level of a complete renovation.

C4

The improvements feature some minor deferred maintenance and physical deterioration due to normal wear and tear. The dwelling has been adequately maintained and requires only minimal repairs to building components/mechanical systems and cosmetic repairs. All major building components have been adequately maintained and are functionally adequate.

Note: The estimated effective age may be close to or equal to its actual age. It reflects a property in which some of the short-lived building components have been replaced, and some short-lived building components are at or near the end of their physical life expectancy; however, they still function adequately. Most minor repairs have been addressed on an ongoing basis resulting in an adequately maintained property.

C5

The improvements feature obvious deferred maintenance and are in need of some significant repairs. Some building components need repairs, rehabilitation, or updating. The functional utility and overall livability is somewhat diminished due to condition, but the dwelling remains useable and functional as a residence.

Note: Some significant repairs are needed to the improvements due to the lack of adequate maintenance. It reflects a property in which many of its short-lived building components are at the end of or have exceeded their physical life expectancy but remain functional.

C6

The improvements have substantial damage or deferred maintenance with deficiencies or defects that are severe enough to affect the safety, soundness, or structural integrity of the improvements. The improvements are in need of substantial repairs and rehabilitation, including many or most major components.

Note: Substantial repairs are needed to the improvements due to the lack of adequate maintenance or property damage. It reflects a property with conditions severe enough to affect the safety, soundness, or structural integrity of the improvements.

Quality Ratings and Definitions

Q1

Dwellings with this quality rating are usually unique structures that are individually designed by an architect for a specified user. Such residences typically are constructed from detailed architectural plans and specifications and feature an exceptionally high level of workmanship and exceptionally high-grade materials throughout the interior and exterior of the structure. The design features exceptionally high-quality exterior refinements and ornamentation, and exceptionally high-quality interior refinements. The workmanship, materials, and finishes throughout the dwelling are of exceptionally high quality.

Q2

Dwellings with this quality rating are often custom designed for construction on an individual property owner’s site. However, dwellings in this quality grade are also found in high-quality tract developments featuring residence constructed from individual plans or from highly modified or upgraded plans. The design features detailed, high quality exterior ornamentation, high-quality interior refinements, and detail. The workmanship, materials, and finishes throughout the dwelling are generally of high or very high quality.

UNIFORM APPRAISAL DATASET (UAD) DEFINITIONS ADDENDUM

(Source: Fannie Mae UAD Appendix D: UAD Field-Specific Standardization Requirements)

Quality Ratings and Definitions (continued)

Q3

Dwellings with this quality rating are residences of higher quality built from individual or readily available designer plans in above-standard residential tract developments or on an individual property owner's site. The design includes significant exterior ornamentation and interiors that are well finished. The workmanship exceeds acceptable standards and many materials and finishes throughout the dwelling have been upgraded from "stock" standards.

Q4

Dwellings with this quality rating meet or exceed the requirements of applicable building codes. Standard or modified standard building plans are utilized and the design includes adequate fenestration and some exterior ornamentation and interior refinements. Materials, workmanship, finish, and equipment are of stock or builder grade and may feature some upgrades.

Q5

Dwellings with this quality rating feature economy of construction and basic functionality as main considerations. Such dwellings feature a plain design using readily available or basic floor plans featuring minimal fenestration and basic finishes with minimal exterior ornamentation and limited interior detail. These dwellings meet minimum building codes and are constructed with inexpensive, stock materials with limited refinements and upgrades.

Q6

Dwellings with this quality rating are of basic quality and lower cost; some may not be suitable for year-round occupancy. Such dwellings are often built with simple plans or without plans, often utilizing the lowest quality building materials. Such dwellings are often built or expanded by persons who are professionally unskilled or possess only minimal construction skills. Electrical, plumbing, and other mechanical systems and equipment may be minimal or non-existent. Older dwellings may feature one or more substandard or non-conforming additions to the original structure

Definitions of Not Updated, Updated, and Remodeled

Not Updated

Little or no updating or modernization. This description includes, but is not limited to, new homes.

Residential properties of fifteen years of age or less often reflect an original condition with no updating, if no major components have been replaced or updated. Those over fifteen years of age are also considered not updated if the appliances, fixtures, and finishes are predominantly dated. An area that is 'Not Updated' may still be well maintained and fully functional, and this rating does not necessarily imply deferred maintenance or physical/functional deterioration.

Updated

The area of the home has been modified to meet current market expectations. These modifications are limited in terms of both scope and cost.

An updated area of the home should have an improved look and feel, or functional utility. Changes that constitute updates include refurbishment and/or replacing components to meet existing market expectations. Updates do not include significant alterations to the existing structure.

Remodeled

Significant finish and/or structural changes have been made that increase utility and appeal through complete replacement and/or expansion.

A remodeled area reflects fundamental changes that include multiple alterations. These alterations may include some or all of the following: replacement of a major component (cabinet(s), bathtub, or bathroom tile), relocation of plumbing/gas fixtures/appliances, significant structural alterations (relocating walls, and/or the addition of) square footage). This would include a complete gutting and rebuild.

Explanation of Bathroom Count

Three-quarter baths are counted as a full bath in all cases. Quarter baths (baths that feature only a toilet) are not included in the bathroom count. The number of full and half baths is reported by separating the two values using a period, where the full bath count is represented to the left of the period and the half bath count is represented to the right of the period.

Example:
3.2 indicates three full baths and two half baths.

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UNIFORM APPRAISAL DATASET (UAD) DEFINITIONS ADDENDUM

(Source: Fannie Mae UAD Appendix D: UAD Field-Specific Standardization Requirements)

Abbreviations Used in Data Standardization Text

Abbreviation	Full Name	Fields Where This Abbreviation May Appear
A	Adverse	Location & View
ac	Acres	Area, Site
AdjPrk	Adjacent to Park	Location
AdjPwr	Adjacent to Power Lines	Location
ArmLth	Arms Length Sale	Sale or Financing Concessions
AT	Attached Structure	Design (Style)
B	Beneficial	Location & View
ba	Bathroom(s)	Basement & Finished Rooms Below Grade
br	Bedroom	Basement & Finished Rooms Below Grade
BsyRd	Busy Road	Location
c	Contracted Date	Date of Sale/Time
Cash	Cash	Sale or Financing Concessions
Comm	Commercial Influence	Location
Conv	Conventional	Sale or Financing Concessions
cp	Carport	Garage/Carport
CrtOrd	Court Ordered Sale	Sale or Financing Concessions
CtySky	City View Skyline View	View
CtyStr	City Street View	View
cv	Covered	Garage/Carport
DOM	Days On Market	Data Sources
DT	Detached Structure	Design (Style)
dw	Driveway	Garage/Carport
e	Expiration Date	Date of Sale/Time
Estate	Estate Sale	Sale or Financing Concessions
FHA	Federal Housing Authority	Sale or Financing Concessions
g	Garage	Garage/Carport
ga	Attached Garage	Garage/Carport
gbi	Built-in Garage	Garage/Carport
gd	Detached Garage	Garage/Carport
GlfCse	Golf Course	Location
Glfvw	Golf Course View	View
GR	Garden	Design (Style)
HR	High Rise	Design (Style)
in	Interior Only Stairs	Basement & Finished Rooms Below Grade
Ind	Industrial	Location & View
Listing	Listing	Sale or Financing Concessions
Lndfl	Landfill	Location
LtdSght	Limited Sight	View
MR	Mid-rise	Design (Style)
Mtn	Mountain View	View
N	Neutral	Location & View
NonArm	Non-Arms Length Sale	Sale or Financing Concessions
o	Other	Basement & Finished Rooms Below Grade
O	Other	Design (Style)
op	Open	Garage/Carport
Prk	Park View	View
Pstrl	Pastoral View	View
PwrLn	Power Lines	View
PubTrn	Public Transportation	Location
Relo	Relocation Sale	Sale or Financing Concessions
REO	REO Sale	Sale or Financing Concessions
Res	Residential	Location & View
RH	USDA - Rural Housing	Sale or Financing Concessions
rr	Recreational (Rec) Room	Basement & Finished Rooms Below Grade
RT	Row or Townhouse	Design (Style)
s	Settlement Date	Date of Sale/Time
SD	Semi-detached Structure	Design (Style)
Short	Short Sale	Sale or Financing Concessions
sf	Square Feet	Area, Site, Basement
sqm	Square Meters	Area, Site
Unk	Unknown	Date of Sale/Time
VA	Veterans Administration	Sale or Financing Concessions
w	Withdrawn Date	Date of Sale/Time
wo	Walk Out Basement	Basement & Finished Rooms Below Grade
Woods	Woods View	View
Wtr	Water View	View
WtrFr	Water Frontage	Location
wu	Walk Up Basement	Basement & Finished Rooms Below Grade

DEFINITION OF MARKET VALUE: The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby: (1) buyer and seller are typically motivated; (2) both parties are well informed or well advised, and each acting in what he considers his own best interest; (3) a reasonable time is allowed for exposure in the open market; (4) payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and (5) the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions* granted by anyone associated with the sale. (Source: FDIC Interagency Appraisal and Evaluation Guidelines, October 27, 1994.)

* Adjustments to the comparables must be made for special or creative financing or sales concessions. No adjustments are necessary for those costs which are normally paid by sellers as a result of tradition or law in a market area; these costs are readily identifiable since the seller pays these costs in virtually all sales transactions. Special or creative financing adjustments can be made to the comparable property by comparisons to financing terms offered by a third party institutional lender that is not already involved in the property or transaction. Any adjustment should not be calculated on a mechanical dollar for dollar cost of the financing or concession but the dollar amount of any adjustment should approximate the market's reaction to the financing or concessions based on the appraiser's judgement.

STATEMENT OF LIMITING CONDITIONS AND CERTIFICATION

CONTINGENT AND LIMITING CONDITIONS: The appraiser's certification that appears in the appraisal report is subject to the following conditions:

1. The appraiser will not be responsible for matters of a legal nature that affect either the property being appraised or the title to it. The appraiser assumes that the title is good and marketable and, therefore, will not render any opinions about the title. The property is valued on the basis of it being under responsible ownership.

2. Any sketch provided in the appraisal report may show approximate dimensions of the improvements and is included only to assist the reader of the report in visualizing the property. The appraiser has made no survey of the property.

3. The appraiser will not give testimony or appear in court because he or she made an appraisal of the property in question, unless specific arrangements to do so have been made beforehand, or as otherwise required by law.

4. Any distribution of valuation between land and improvements in the report applies only under the existing program of utilization. These separate valuations of the land and improvements must not be used in conjunction with any other appraisal and are invalid if they are so used.

5. The appraiser has no knowledge of any hidden or unapparent conditions of the property or adverse environmental conditions (including the presence of hazardous waste, toxic substances, etc.) that would make the property more or less valuable, and has assumed that there are no such conditions and makes no guarantees or warranties, express or implied, regarding the condition of the property. The appraiser will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. This appraisal report must not be considered an environmental assessment of the subject property.

6. The appraiser obtained the information, estimates, and opinions that were expressed in the appraisal report from sources that he or she considers to be reliable and believes them to be true and correct. The appraiser does not assume responsibility for the accuracy of such items that were furnished by other parties.

7. The appraiser will not disclose the contents of the appraisal report except as provided for in the Uniform Standards of Professional Appraisal Practice, and any applicable federal, state or local laws.

8. The appraiser has based his or her appraisal report and valuation conclusion for an appraisal that is subject to satisfactory completion, repairs, or alterations on the assumption that completion of the improvements will be performed in a workmanlike manner.

9. The appraiser must provide his or her prior written consent before the lender/client specified in the appraisal report can distribute the appraisal report (including conclusions about the property value, the appraiser's identity and professional designations, and references to any professional appraisal organizations or the firm with which the appraiser is associated) to anyone other than the borrower; the mortgagee or its successors and assigns; the mortgage insurer; consultants; professional appraisal organizations; any state or federally approved financial institution; or any department, agency, or instrumentality of the United States or any state or the District of Columbia; except that the lender/client may distribute the property description section of the report only to data collection or reporting service(s) without having to obtain the appraiser's prior written consent. The appraiser's written consent and approval must also be obtained before the appraisal can be conveyed by anyone to the public through advertising, public relations, news, sales, or other media.

10. The appraiser is not an employee of the company or individual(s) ordering this report and compensation is not contingent upon the reporting of a predetermined value or direction of value or upon an action or event resulting from the analysis, opinions, conclusions, or the use of this report. This assignment is not based on a required minimum, specific valuation, or the approval of a loan.

CERTIFICATION: The appraiser certifies and agrees that:

1. The statements of fact contained in this report are true and correct.

2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial and unbiased professional analyses, opinions, and conclusions.

3. Unless otherwise indicated, I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.

4. Unless otherwise indicated, I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.

5. I have no bias with respect to the property that is the subject of this report or the parties involved with this assignment.

6. My engagement in this assignment was not contingent upon developing or reporting predetermined results.

7. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.

8. My analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice that were in effect at the time this report was prepared.

9. Unless otherwise indicated, I have made a personal inspection of the interior and exterior areas of the property that is the subject of this report, and the exteriors of all properties listed as comparables.

10. Unless otherwise indicated, no one provided significant real property appraisal assistance to the person(s) signing this certification (if there are exceptions, the name of each individual providing significant real property appraisal assistance is stated elsewhere in this report).

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ADDRESS OF PROPERTY ANALYZED: 46068 State Highway 36, Bridgeville, CA 96025

APPRAISER:

Signature: 

Name: Paul Leslie

Title:

State Certification #:

or State License #: AL029453

State: CA Expiration Date of Certification or License: 08/25/2025

Date Signed: 05/14/2024

SUPERVISORY or CO-APPRAISER (if applicable):

Signature:

Name:

Title:

State Certification #:

or State License #:

State: Expiration Date of Certification or License:

Date Signed:

☐ Did ☐ Did Not Inspect Property

Serial# 18416E98
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Subject Photo Page

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						

Subject Front

46068 State Highway 36

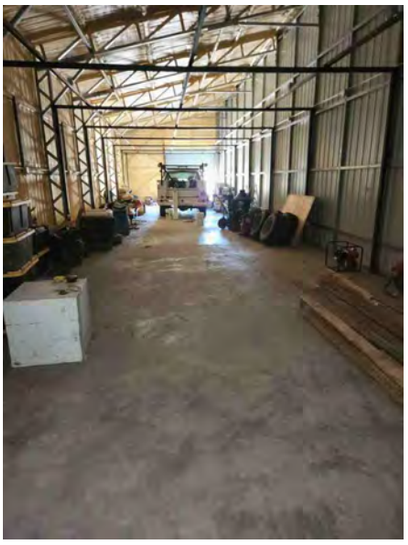
Sales Price	TBD
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	N;Rural;Riverfrnt
View	
Site	20
Quality	
Age	

Subject Rear

Subject Street

Photograph Addendum

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						



Comparable Photo Page

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						

Comparable 1

32010 State Highway 36

Prox. to Subject	7.15 miles W
Sale Price	79,000.00
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	N;Res;Rural
View	
Site	19.97
Quality	
Age	

Comparable 2

3924 Whitlow Rd

Prox. to Subject	15.81 miles SW
Sale Price	165,500.00
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	N;Rural;Riverfrnt
View	
Site	13.00
Quality	
Age	

Comparable 3

31797 State Highway 36

Prox. to Subject	7.07 miles W
Sale Price	40,000.00
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	N;Res;Rural
View	
Site	16.67
Quality	
Age	

Comparable Photo Page

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						

Comparable 4

280 Van Duzen Rd

Prox. to Subject	4.54 miles SE
Sale Price	110,000.00
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	N;Rural;Riverfrnt
View	
Site	10.29
Quality	
Age	

Comparable 5

31 Acres Bear Creek Road

Prox. to Subject	5.13 miles NW
Sale Price	140,000.00
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	N;Rural;Remote
View	
Site	31.00
Quality	
Age	

Comparable 6

30578 State Highway 36

Prox. to Subject	7.88 miles W
Sale Price	215,000
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	N;Rural;Remote
View	
Site	39.00
Quality	
Age	

Comparable Photo Page

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						

Comparable 7

0 Stagecoach Rd

Prox. to Subject	4.35 miles W
Sale Price	120,000
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	N;Rural;Riverfrnt
View	
Site	28.96
Quality	
Age	

Comparable 8

Prox. to Subject	
Sale Price	
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	
View	
Site	
Quality	
Age	

Comparable 9

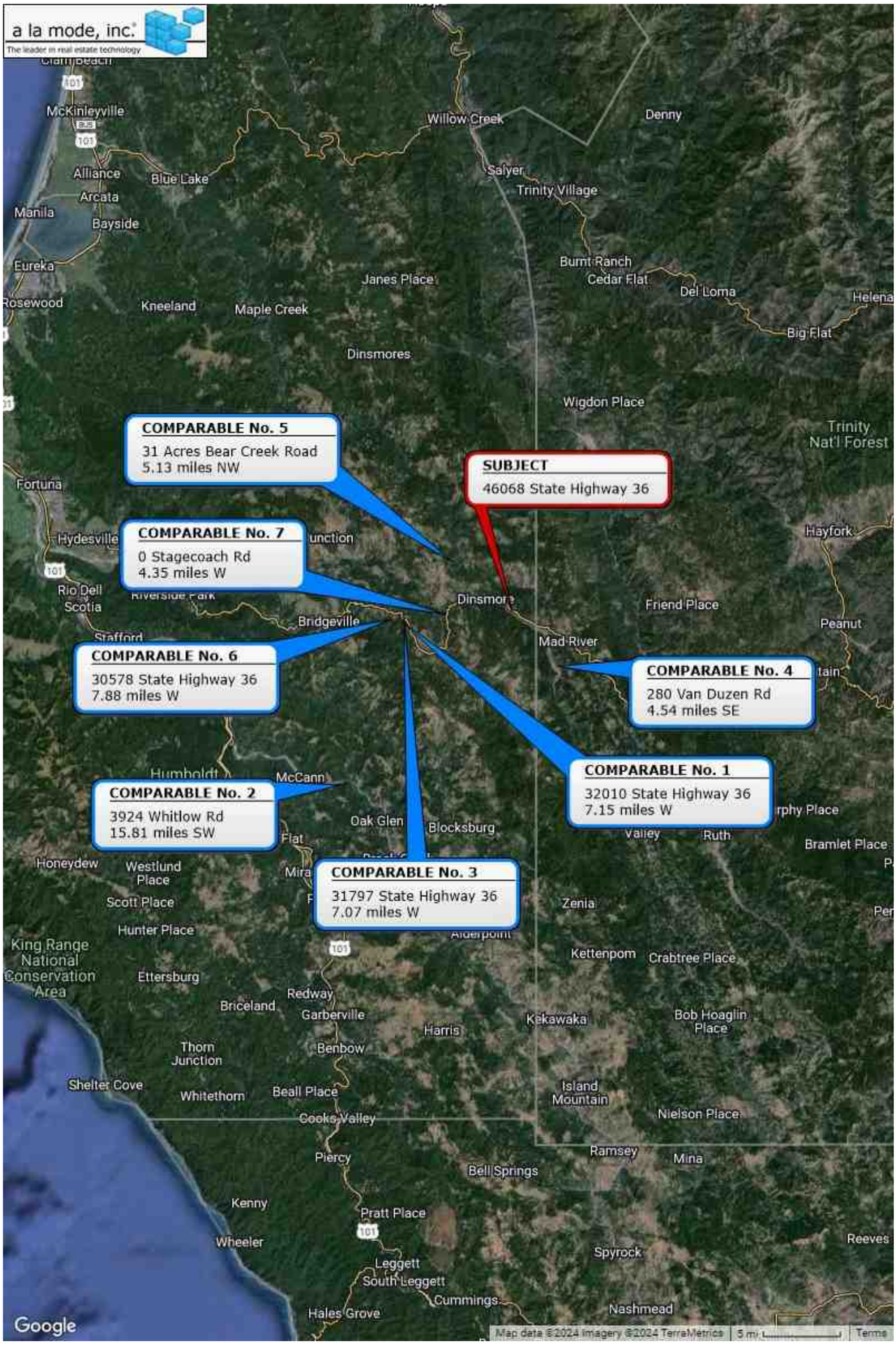
Prox. to Subject	
Sale Price	
Gross Living Area	
Total Rooms	
Total Bedrooms	
Total Bathrooms	
Location	
View	
Site	
Quality	
Age	

Location Map

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						

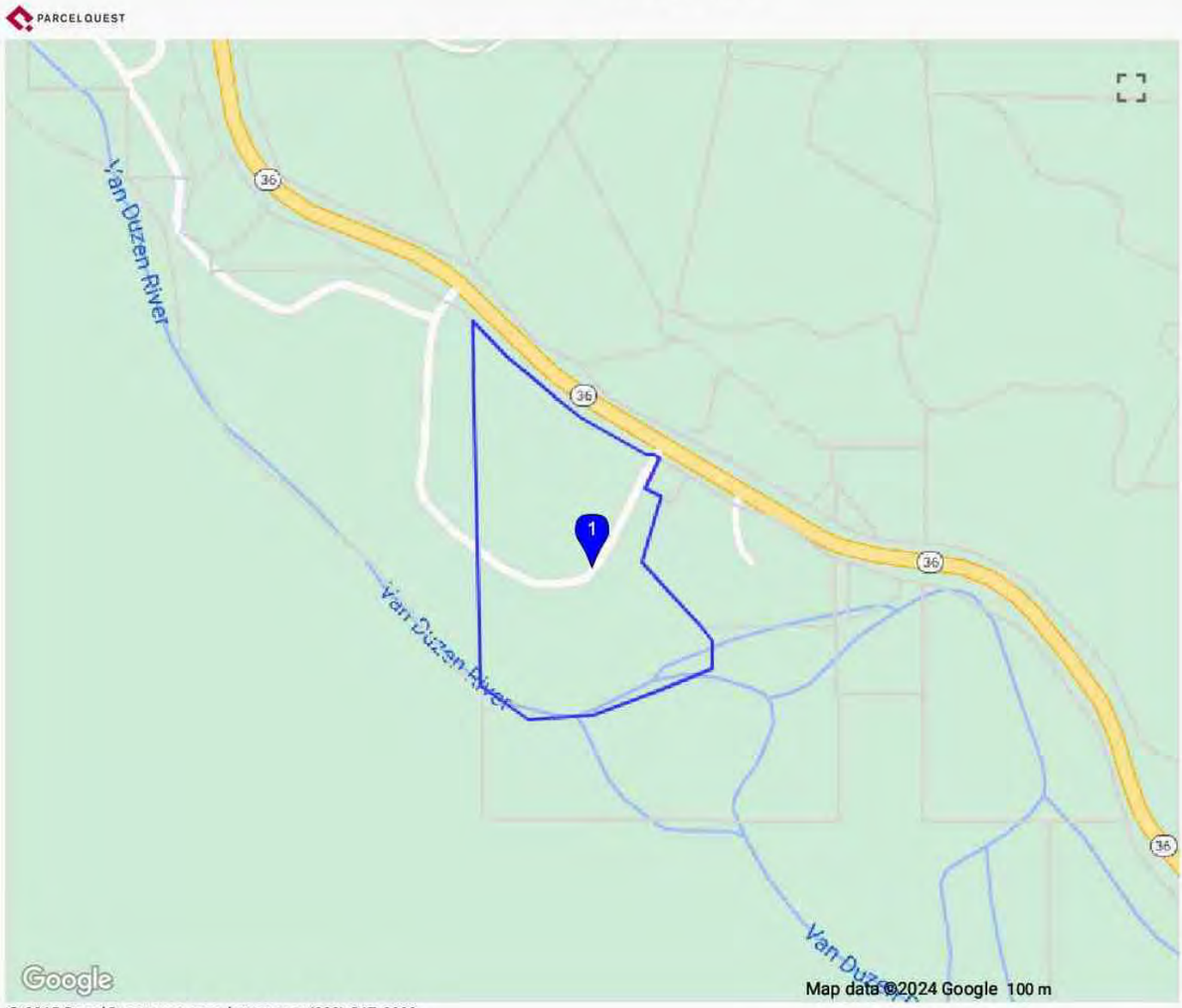
Location Map

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						



Flood Map

Borrower							
Property Address	46068 State Highway 36						
City	Dunsmuir	County	Humboldt	State	CA	Zip Code	96025
Lender/Client	Mika Cook						



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PARCELQUEST

LIST 1
DETAIL

☑ 1 Property Address: 46070 ST HWY 36 DINSMORE CA 96025

Ownership

County:	**HUMBOLDT, CA**
Assessor:	**HOWARD LAHAIE, ASSESSOR**
Parcel # (APN):	**208-071-032-000**
Parcel Status:	**ACTIVE**
Owner Name:	**MAMMOO ROBIN**
Mailing Address:	**705 N STATE ST UKIAH CA 95482**
Legal Description:	

Assessment

Total Value:	**$206,586**	Use Code:	**4100**	Use Type:	**INDUSTRIAL**
Land Value:	**$114,977**	Tax Rate Area:	**158-000**	PQ Zoning Type:	**Unclassified**
Impr Value:	**$91,609**	Year Assd:	**2023**	PQ Zoning Code:	**U**
Other Value:		Property Tax:	**$2,198.46**	Census Tract:	
% Improved:	**44%**	Delinquent Yr:	**2021**	Price/SqFt:	
Exempt Amt:		HO Exempt:	**N**		

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	**12/12/2019**	**01/23/2017**	**06/19/2015**	**12/12/2019**
Document Number:	**2019R22208**	**2017R01439**	**2015R11829**	**2019R22208**
Document Type:	**GRANT DEED**	**GRANT DEED**		
Transfer Amount:	**$125,000**	**$2,000**	**$75,000**	
Seller (Grantor):	**BOWEN TRAVIS & CYNDEE HW**			

Property Characteristics

Bedrooms:		Fireplace:		Units:	
Baths (Full):		A/C:		Stories:	
Baths (Half):		Heating:		Quality:	
Total Rooms:		Pool:		Building Class:	
Bldg/Liv Area:		Park Type:		Condition:	
Lot Acres:	**20.000**	Spaces:		Site Influence:	

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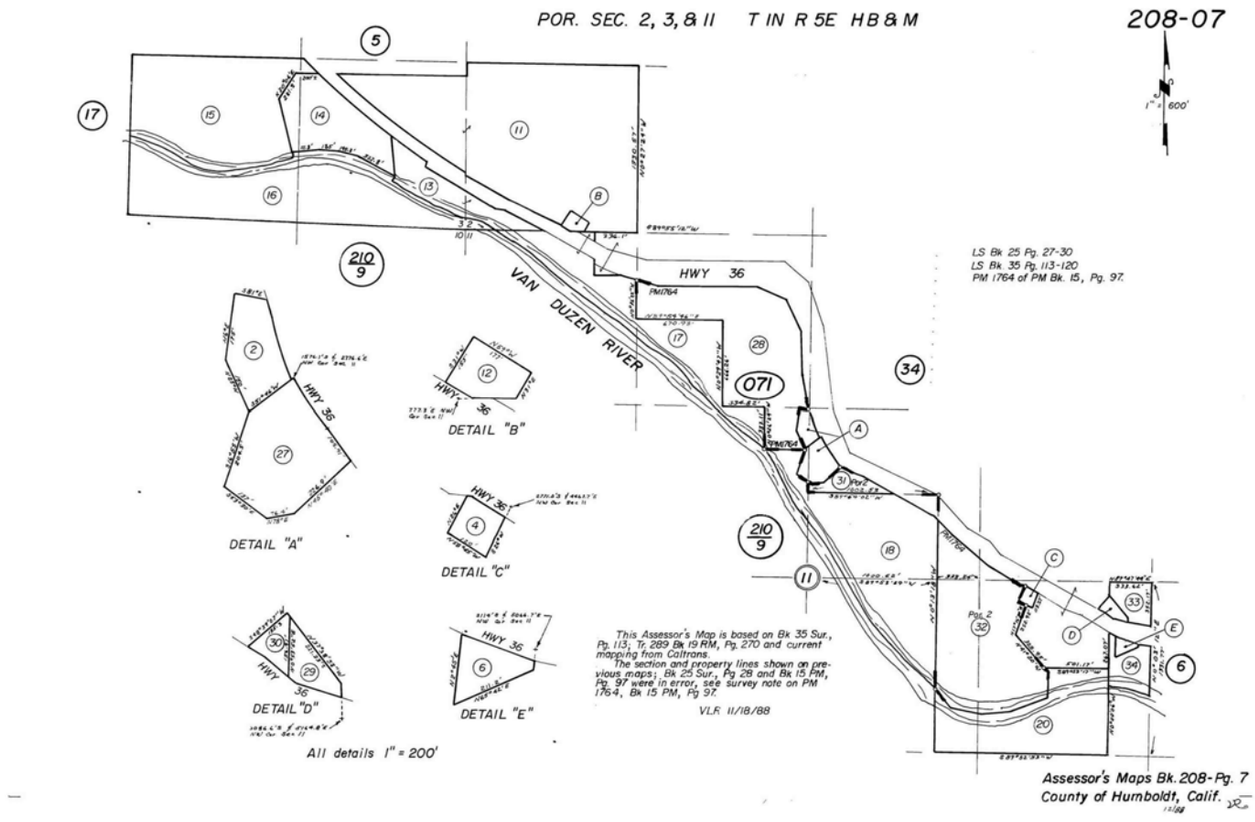
Lot SqFt:	**871,200**	Garage SqFt:	Timber Preserve:
Year Built:			Ag Preserve:
Effective Year:			

Plat Map


POR. SEC. 2, 3, & 11 T IN R 5E HB & M
208-07
HWY 36
VAN DUZEN RIVER
DETAIL "A"
DETAIL "B"
DETAIL "C"
DETAIL "D"
DETAIL "E"
All details 1" = 200'
LS Bk 25 Pg. 27-30
LS Bk 35 Pg. 113-120
PM 1764 of PM Bk. 15, Pg. 97.
This Assessor's Map is based on Bk 35 Sur., Pg. 113; Tr. 289 Bk 19 RM, Pg. 270 and current mapping from Caltrans.
The section and property lines shown on previous maps; Bk 25 Sur., Pg 28 and Bk 15 PM, Pg. 97 were in error, see survey note on PM 1764, Bk 15 PM, Pg 97.
VLR 11/18/88
Assessor's Maps Bk. 208-Pg. 7
County of Humboldt, Calif.

License

Business, Consumer Services & Housing Agency

BUREAU OF REAL ESTATE APPRAISERS

REAL ESTATE APPRAISER LICENSE

Paul A. Leslie

has successfully met the requirements for a license as a residential real estate appraiser in the State of California and is, therefore, entitled to use the title:

"Residential Real Estate Appraiser"

This license has been issued in accordance with the provisions of the Real Estate Appraisers' Licensing and Certification Law.

BREA APPRAISER IDENTIFICATION NUMBER: AL 029453

Effective Date: August 26, 2023
Date Expires: August 25, 2025

Angela Jemmott

Angela Jemmott, Bureau Chief, BREA

3072386

THIS DOCUMENT CONTAINS A TRUE WATERMARK - HOLD UP TO LIGHT TO SEE "CHAIN LINK"

Serial# 18416E98
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HUDSON INSURANCE COMPANY
100 William Street, 5th Floor
New York, NY 10038

HUDSON INSURANCE GROUP®

REAL ESTATE APPRAISERS ERRORS AND OMISSIONS INSURANCE POLICY DECLARATIONS

NOTICE: THIS IS A "CLAIMS MADE AND REPORTED" POLICY. THIS POLICY REQUIRES THAT A CLAIM BE MADE AGAINST THE INSURED DURING THE POLICY PERIOD AND REPORTED TO THE INSURER, IN WRITING, DURING THE POLICY PERIOD OR AUTOMATIC EXTENDED REPORTING PERIOD.

THIS POLICY MAY CONTAIN PROVISIONS WHICH LIMIT THE AMOUNT OF CLAIM EXPENSES THE INSURER IS RESPONSIBLE TO PAY IN CONNECTION WITH CLAIMS. CLAIM EXPENSES SHALL BE SUBJECT TO ANY DEDUCTIBLE AMOUNT. THE PAYMENT OF CLAIM EXPENSES WILL REDUCE THE LIMITS OF LIABILITY STATED IN ITEM 4. OF THE DECLARATIONS. PLEASE READ YOUR POLICY CAREFULLY.

PLEASE READ THIS POLICY CAREFULLY.

Policy Number: PRA-3AX-1000655 **Renewal of:** PRA-3AX-1000453

1. **Named Insured:** Paul Andrew Leslie DBA Paul Leslie Appraisal Services
2. **Address:** 1480 Riverbar Rd Fortuna, CA, 95540
3. **Policy Period:** **From:** 08/29/2023 **To:** 08/29/2024
   12:01 A.M. Standard Time at the address of the **Named Insured** as stated in Number 2 above
4. **Limit of Liability**

	Each **Claim**	Policy Aggregate
Damages Limit of Liability	**A.** $1,000,000	**B.** $1,000,000
Claims Expense Limit of Liability	**C.** $1,000,000	**D.** $1,000,000

5. **Deductible** (Inclusive of **Claims Expenses**):
   5A. $ 500 Each **Claim** **5B.** $ 1,000 Aggregate
6. **Policy Premium:** $716.00 **State Taxes/Surcharges:** $0.00
7. **Retroactive Date:** 08/29/2019
8. **Notice to Company:** Notice of a **Claim** or Potential **Claim** should be sent to:
   Hudson Insurance Group 100 William Street, 5th Floor New York, NY 10038
   Fax: 646-216-3786
   Email: hudsonclaims300@hudsoninsgroup.com
9. **A. Program Administrator:** Riverton Insurance Agency Corp.

   B. Agent/Broker: RCIM
   Phone: (707)934-4214

IN WITNESS WHEREOF, We have caused this policy to be executed by our President and our Corporate Secretary at New York, New York

President Secretary

Form SCNLGL - "TOTAL" appraisal software by a la mode, inc. - 1-800-ALAMODE
Serial# 18416E98
esign.alamode.com/verify

Report Verification

This appraisal report has been electronically signed. It is as valid and legally enforceable as a wet ink signature on paper. In addition, advanced third party identify verification from Equifax has been used to ensure that the appraiser signing this report is really who they say they are. You can also verify that the salient data points of the report have not been altered in any way.

To verify the integrity of this document:

1. Visit esign.alamode.com/verify
2. Enter the Serial Number and Signer Name for this document listed below and click Verify.
3. A verification report will be generated showing the profile of the appraiser(s) who signed the report, the date and time the signature were applied, and the salient data from the report at the time of signing.
4. Verify the salient data matches the data in this report to quickly reveal if any tampering has taken place.
5. Optionally, upload the PDF version of this report to confirm it exactly matches the report when it was signed.

The report below is an example of what you would see when verifying the report.

Salient Data:

Date of Sale: TBD
Borrower:
Lender: Mika Cook
Size (Sq.Ft):
Price Per Square Foot:
Location: N;Rural;Riverfrnt
Age:

Condition:
Total Rooms:
Bedrooms:
Baths:
Appraiser: Paul Leslie
Effective Date of Value ('as of'): 04/30/2024
Final Opinion of Value: 157,000

Signer 1:

Paul Leslie
1480 Riverbar Rd, Fortuna, CA 95540-9596

Signature:
Serial #: 18416E98
Date Signed: 05/14/2024

Signer 2:

Signature:
Serial #:
Date Signed:

Form SDVERIFY2 - "TOTAL" appraisal software by a la mode, inc. - 1-800-ALAMODE