NORTH COAST RESOURCE PARTNERSHIP

EXHIBIT A
PROPOSAL COVER PAGE

Proposal Type

[x] Concept Proposal for Demonstration Projects and Processes

Organization Name (Lead Applicant)

Humboldt Redwood Company, LLC

Organization Type

[ ] Federally recognized Indian Tribe

[ ] California State Indian Tribe

[ ] Public agency

[ ] Local or state agency/special district

[ ] Resource Conservation District

[ ] Non-profit organization

[ ] Public utility

[x] Other: Private Business (Timberland Owner)

Contact Name/Title

Name: Hayley Ross

Title: Natural Resources Writer

Email: HRoss@mendoco.com

Phone Number (include area code): 707-962-2814

Organization Address (City, County, State, Zip Code):

169 Main St, Scotia, CA 95565

Authorized Representative (if different from the contact name)

Name: Dennis Thibeault

Title: Executive Vice President, Forestry

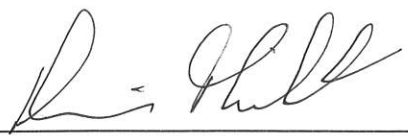
Email: DThibeault@mendoco.com

Phone Number (include area code): 707-463-5112

Certification of Authority

By signing below, the person executing the certificate on behalf of the proposer affirmatively represents that s/he has the requisite legal authority to do so on behalf of the proposer. Both the person executing this proposal on behalf of the proposer and proposer understand that the NCRP is relying on this representation in receiving and considering this proposal. The person signing below hereby acknowledges that s/he has read the entire Request for Proposals document and has complied with all requirements listed therein.

Official Authorized to Sign for Proposal



Signature

3-13-20

Date

Description of organization

Humboldt Redwood Company (HRC) owns and manages over 200,000 acres of timberlands in Humboldt County. HRC is in the business of planning and implementing timber harvesting plans, employing over 60 people to accomplish this task, in addition to scientific monitoring and protection of wildlife habitat. In recent years, HRC has harvested approximately 56,000 million annually on average.

Planning and implementation of the proposed fire and oak woodland exemption projects is completely within the expertise of HRC staff. Operating in conjunction with experienced licensed timber operators, HRC has the expertise and capacity to conduct large scale logging operations efficiently and with a high degree of environmental stewardship.

Key personnel

Mike Miles
RPF; Director, Forest Operations
Formerly on the Board of Forestry, Experienced in Harvesting Systems, Layout, Permitting, and Administration
Position: Head of HRC Forest Lands
BS Environmental Science – UC Santa Cruz

Brian Broznitsky
RPF; Manager, Silviculture
Position: Head of Silviculture at MFP
ME from Advanced Silviculture Institute of B.C.

Mark Distefano
RPF
Position: Head of HRC Forestry – North
BS Forest Management from HSU

Deakon Duey
RPF
Position: Head of HRC Forestry – South

Connor Kennedy
Position: Reforestation Forester
BS Forestry from HSU

Contractors (Licensed Timber Operators)

Miller Timber Services
https://www.millertimber.com/our-services/logging-harvesting/
Preferred contractor (advanced harvest system availability)

Local Licensed Timber Operators
Other potential contractors (lacking advanced harvest systems) include Dave Walters, Steve Wills Truck & Logging, Leonardo Logging & Construction, Jesus Munoz Logging

Contributing consultants for harvest considerations/model development:

Yana Valachovic
RPF
County Director- Forest Advisor University of California Cooperative Extension
Helped create special prescription/oak woodland regulatory playbook
Collaborated on Mountain View Burn

Chris Ramey
RPF, Cal Fire, Battalion Chief
Head of burning
Collaborated on Mountain View, led burn under same permitting structure as this proposal

Lathrop Leonard
Head of State Parks in Humboldt/Del Norte
10 Years of experience in prairie recovery and small diameter timber treatments
Contributing Consultant to help model approach for future collaboration with the parks, e.g. replicability, scalability

Jay Harris
Senior Environmental Scientist for State Parks
10 Years of experience in prairie recovery and small diameter timber treatments
Contributing Consultant to help model approach for future collaboration with the parks, e.g. replicability, scalability

Dr. Lucy Kerhoulas
HSU Forestry Professor
Mountain View Researcher
Collaborating consultant to ensure project is conducted with maximum future research value/apply findings of mountain view research to this treatment.

Dr. Jeff Kane
HSU Forestry Professor
Mountain View Researcher
Collaborating consultant to ensure project is conducted with maximum future research value/apply findings of mountain view research to this treatment.

Dr. Hunter Harrill
HSU Forestry Professor
Collaborating consultant to ensure project is conducted with optimal use of modern equipment and that the time study is structured to be scalable and replicable across future projects for comparative data.

Work Examples and Links

Extensive information about Humboldt Redwood Company can be found at https://www.hrcllc.com/

NCRP DEMONSTRATION PROJECT AND PROCESSES CONCEPT PROPOSAL BUDGET AND SCHEDULE

Project Name: Dual Exemption Fire Security and Oak Woodland Restoration

Major Tasks	Task Description	NCRP Task Budget	Funding Match *	Total Task Budget	Scaled NCRP Budget **	Start Date	End Date
Project Administration	In cooperation with the County of Humboldt sign a sub-grantee agreement for work to be completed on this project. Develop invoices with support documentation.	$0.00	$3,200.00	$3,200.00	$0.00	4/1/20	5/15/20
Reporting: Data Collection	Operational Time Study, Inventory Anaysis	$0.00	$3,800.00	$3,800.00	$0.00	6/1/20	11/1/20
Reporting: Project Results Summary	Project Analysis and Results document, figures, tables, maps	$0.00	$2,400.00	$2,400.00	$0.00	11/1/20	1/1/21
Thinning operation	Rate for advanced mechanized harvest sytem over 190 acre proposed area	$250,000.00	$96,800.00	$346,800.00	$346,800.00	6/1/20	10/1/20
Site Prep for Broadcast Burn	Additional site prep work for control lines and fuel prep	$0.00	$24,300.00	$24,300.00	$24,300.00	9/1/20	10/1/20
Oak Savannah non-commercial	Restoration components of the oak savannah pertaining to sub merchantable encroachment	$0.00	$8,800.00	$8,800.00	$8,800.00	6/1/20	10/1/20
Hauling	Rate for hauling using local contractor	$0.00	$45,000.00	$45,000.00	$0.00	6/1/20	10/1/20
Project closeout	Notice of completion to CalfFire	$0.00	$1,200.00	$1,200.00	$0.00	10/30/21	11/30/21
Total NCRP 2020 Demonstration Project Request		**$250,000.00**	**$185,500.00**	**$435,500.00**	**$379,900.00**		

*** List the sources and status of matching funds:**
Humboldt Redwood Company

**** Is Requested Budget scalable? If yes, indicate scaled totals; if no leave as $0.**

Project scalability information for the reviewers (optional):

Project Name: Dual Exemption Fire Security and Oak Woodland Restoration

1. Project Description

Intended purpose of the project

This project is intended to create and refine a sustainable approach to managing high-density stands of young Douglas fir that are at severe risk of stand-replacing fire, disease, and senescence, and which negatively impact oak woodland. The proposed project is a stand-level experiment that will inform larger projects by providing data with which to develop site suitability and scheduling models.

The fundamental obstacle standing between the mitigation of fire, disease, and Douglas fir encroachment is cost. Many of these harvests, such as this one, would be a net loss in our present conditions. We aim to develop a model with cost recovery efficiency capable of breaking even in these treatment areas, thus creating an approach that is carefully quantified, replicable, scalable, and governed by a site suitability and scheduling system to be developed from an operational time study, inventory analysis, and cost model. Technology can solve this, but we need try it to know.

Problem statement: why the project is needed

Thousands of acres of overly dense stands of Douglas fir resulting from past forest management occur in high-fire-risk locations and need to be managed to increase fire security. In the face of climate change-related increased fire danger, the process of managing these stands in an efficient, economical and sustainable manner needs to be explored and modelled in order to apply successful treatments at a larger scale. Where such stands are adjacent to oak woodland, management activities can efficiently address threats to the sensitive natural community by releasing suppressed oaks and reducing Douglas fir encroachment.

Setting and background

The proposed project is located near the southern extent of Humboldt Redwood Company (HRC) timberlands, on the ridge that separates Eel River from its tributary, Larabee Creek, approximately three miles east of US-101/Redcrest and 4 miles south of CA-36/Bridgeville. The area has been identified as a high fire risk zone by the HRC Fire Risk Assessment, as well as being in a position of strategic importance in preventing spread of fire between watersheds.

Past forest management, including improperly managed clear cuts and attempts to aforest oak savannah into conifer forest with plantations have resulted in overly dense (approximately 600 trees per acre), even-aged stands of young Douglas fir over thousands of acres on HRC property. The relatively small tree diameter and intermingling crowns in the stands are a conduit for the spread of fire and subject to high severity burn that typically result in stand replacing mortality. Stand-replacing fires in these stands would reverse years of growth and carbon storage and set back the process of moving the stands toward the uneven-age conditions desired under current forest management goals. It would also be certain death for the oaks, whose legacy extends centuries.

Trees in these types of stands have only in recent years grown to a diameter at which their timber would be merchantable, which presents offsets the cost of thinning operations to some extent; however, it is still not possible to harvest without a loss, given the current technology in the area. The gap between

the cost of logging and the recoverable value must be closed by subsidy or loss if treatments are to be executed before disease, fire, and mortality risk consuming the stands. We believe that the more advanced cut-to-length equipment (currently available in Southern Oregon) is capable of a break-even harvest in these conditions because they are optimized for this exact structure. Utilizing available grants would allow HRC to test this hypothesis and uncover valuable operational data that will be shared with the broader community in order to inform other managers of our model and findings.

Also relevant to the project area, and other areas similar to it, is that many of these ridgetop stands border oak woodland and oak savannah – communities to which the encroachment of Douglas fir forest is a documented threat. The proximity of these communities to the target stands presents an opportunity to accomplish ecological enhancement as a component of treatment operations.

Major components of the project

The proposed stand treatment involves thinning a strategically located fire-prone Douglas fir plantation, using a mechanized harvesting system, to a density that precludes the possibility of crown fire spread. Our budget covers 80 acres of plantation, and 40 acres of oak woodland. Thinning will simultaneously release suppressed trees, including true oaks at the margins of the treatment area. The operational plan will also include provisions for site preparation of subsequent broadcast burning treatments aimed at controlling Douglas fir seedlings. Additionally, our proposal includes provisions for treatment of the sub-merchantable diameter fir encroachment beneath the oaks that is beyond the size that can be safely managed with fire, or efficiently removed with harvesting equipment.

Description of how the project will be implemented

The project area will be divided into separate units and filed under two exemption permits, respectively: the oak woodland restoration and the Fuel Reduction Program.

The pre-treatment density will be reduced from 600 trees per acre to a fire-safe 140 trees per acre on the fire exemption units and to 0 trees per acre of conifers within 200’ of true oaks (maximum allowance under the oak woodland exemption). The current density in the plantation portions of the project area is an 8’ by 8’ grid, which will be thinned to 16’ spacing. This spacing will release the firs whose crowns have not yet receded beyond 40%. A double removal in every fourth row will create 24’ spacing on 25% of the acreage, which combined with strategic removal of defect is expected to produce 32’ pockets of crown discontinuity for fire security. Stand conditions and density are similar in the non-plantation portions of the project area, though the tree spacing is not as regular.

Removal of the sub merchantable fir encroaching the oak will require addition treatment in the form of either manual saw work, or mastication.

Abatement of Douglas fir encroachment may be maintained through broadcast burn, which is outside of the scope of this project due to time constraints, but which will be efficiently incorporated by doing site preparation, including dozer lines and slash pile distribution as part of harvest operations. Part of what this project aims to quantify is the efficiency gained from burn site prep at the time of harvest versus a separate additional project cost.

To minimize the monetary loss of logging small diameter trees, the harvest is to be performed by an advanced mechanized harvest system, an efficient logging method for stands in an even-age condition below a certain diameter threshold that is extremely common in Southern Oregon. We believe the efficiency of this technology is underappreciated in this area and seek to demonstrate its viability in solving these challenges.

Summary of the expected benefits

The immediate benefits of the proposed stand thinning treatment are that the decreased tree density will 1) prevent severe crown fire spread, 2) release remaining trees to accelerate growth, thereby improving carbon storage capacity and fire resilience, and 3) release suppressed oaks, contributing to the enhancement of ecological values associated natural oak communities.

Preparing the site for intended broadcast burn allows for an efficient incorporation of the practice which is beneficial both for its express purpose of preventing Douglas fir re-establishment, and for the positive effects of low-intensity fire on the health of ecosystems that have evolved with periodic fire. Furthermore, the use of prescribed burning as a management tool is a recognized but currently underutilized practice supported by traditional ecological knowledge.

Ultimately, the benefit of conducting this stand-level demonstration treatment will be to show how the appropriate equipment can be utilized with minimal subsidization compared to alternative options. Once complete, the project will serve as a template for similar treatments. This should readily facilitate replication on a landscape scale.

2. Specific Project Goals/Objectives

The objectives of the proposed stand thinning and subsequent maintenance are to 1) increase fire security by reducing stand density and contiguous plantation canopy, introducing clearings along a ridge that serves as a strategic intervention point for the Eel River and Larabee drainages, 2) release suppressed oaks on the precipice of mortality from conifer competition, enhancing or restoring the historical oak woodland/oak savannah structure, 3) improve ridge top forage and sheltering habitat while improving native grass and forb associations, 4) reduce high elevation water stress from additional evapotranspiration from the Douglas fir plantation (an effect that was a major finding of the Mountain View research.

A longer-term goal is that this project serves a stand-level experiment aimed at developing a restoration model that includes a site suitability selection metric to be used in a scheduling system. This model would evaluate a combination of projected mortality dates for the oaks, net present value of the merchantable timber at different harvest dates, and a habitat adjacency/geographic value metric that models the non-commodity values of the resource. Non-commodity values may include habitat placement, fire security, disease resilience, viewshed and cultural heritage value. Development of this site selection and scheduling model would be accomplished by collaborating with research partners at Humboldt State University (HSU). This work would build on research currently being conducted by Dr. Lucy Kerhoulas, Dr. Jeff Kane, and Gabe Goff on HRC property on Mountain View Road (Kneeland Ridge, Freshwater Creek drainage). Note* This work is not yet published, but we have received the broad conclusions in order that these operations be informed by the data from the study.

3. How the project addresses the NCRP Goals and Objectives and the intent of the NCRP Regional Forest and Fire Capacity Program Block Grant

The proposed stand treatment exemplifies the RFFC's goal of implementing projects that improve forest health and fire resistance. Focusing on treating stands that are both ecologically compromised via past management practice (e.g. converting oak woodland to Douglas fir plantation) and identified as high fire risk represents multi-benefit forest management. The wide applicability across thousands of acres in a similar condition contributes to the objective of increasing the pace and scale of forest improvements – a mandate of the Forest Carbon Plan – by providing a scalable example. As a timber company that

manages a large ownership (over 200,000 acres), HRC is a well-positioned and highly motivated partner in further improving the fire resiliency, ecological value, and carbon storage capacity of its forest at the watershed scale and beyond.

4. How the project is scalable, replicable, measurable, innovative and results in outcomes that will increase the scope and scale of multi-benefit forest management in the North Coast

On HRC property, there are thousands of acres of potential treatment stands of nearly identical structural compositions; thus, the successful system developed here can be replicated and scaled up in an operationally fluid manner across the ownership. The proposed operations would be benefitted by an economy of scale effect – the larger the project, the lower the proportion of fixed costs to variable cost recovery.

Multiple aspects of this project can be quantified through monitoring protocols. Ecological components, including monitoring of the encroachment and mortality of Douglas fir seedlings, and pre- and post-treatment understory species associations will be directly informed by the Mountain View research mentioned above. HRC will conduct a utilization time study, which can be used to develop a scheduling model, in conjunction with researchers at HSU.

The innovations introduced by the proposed project lie mainly in the way lessons learned from it are applied more broadly: the vision is to use cutting edge GIS technology and growth modeling tools for the site selection and scheduling models. This will provide new tools for forest planners looking to reverse Douglas fir encroachment while optimizing cost recovery and efficacy per dollar.

Mechanized harvesters, which are not new, are not widely used across HRC ownership but may be the most efficient method for accelerating fuel-reduction treatments on a large scale in a shorter time frame. With the increasing availability of more advanced systems, coupled with the coming of age of the target stands, a nexus may be presently available to test cost and expand use of these systems.

Finally, burning as a management tool, a practice that predates European settlement in California, is gaining popularity but is still underutilized. This component of the stand treatment presents an opportunity to partner with local native tribes and incorporate traditional ecological knowledge.

5. Need for the project and how it addresses forest health and climate change/extreme event resiliency

The proposed project directly addresses fire security by reducing stand density to levels that prevent the spread of crown fire in in a strategic ridgetop location. Repeated on a larger scale, these treatments reduce risk of large-scale stand-replacing fire, ensuring the long-term carbon storage capacity of our forests, thus contributing to combating climate change. The specific focus of this project on Douglas fir-planted oak woodland provides the additional benefit of enhancing natural communities and improving biodiversity, which is critical for ecosystem resiliency in the face of changing climate.

6. Location and size of the project and the communities served

The proposed project area is an approximately 284-acre stand located in the southeastern portion of HRC timberlands, on the ridge that separates Eel River from its tributary, Larabee Creek, approximately three miles east of US-101 and 4 miles south of CA-36. The communities of Redcrest, Holmes, Bridgeville as well as ranch inholdings near the project area would benefit from increased fire security. Efforts are

being made to contact descendants of the Wailaki, Lassik, Nongalt, and Sinkyone groups who were the original land managers.

7. Local support for the project

Support for the project has been communicated by California State Parks, including Humboldt Redwood State Park, HSU Forestry Department, HSU Native American Studies department, Shayne Green (local Land Trust and restoration consultant), and UC Cooperative Extension.

8. List of quantifiable, measurable benefits expected to result from the proposed project

Acreage of enhanced oak woodland; linear distance of strategic fire break; effectiveness of treatment variations (including timing and interval of burns); efficiency of variations in harvesting systems to optimize utilization and cost recovery.

The greatest result, however, will be a cost model that predicts when this system can break even, and attempts to quantify the marginal gap of projects operating at a loss.

9. Scientific studies relevant to the project

Thinning treatment response research currently being conducted on HRC property on Mountain View Road, located on Kneeland Ridge in the Freshwater Creek drainage by Dr. Lucy Kerhoulas, Dr. Jeff Kane, and Gabe Goff will provide templates for monitoring protocols.

10. Approach to data collection, performance measures, and project reporting of outcomes/lessons learned

HRC will create a cost model of the harvesting systems in order to guide managers using the model toward maximum cost recovery.

Longer-term data collection opportunities will be considered in collaboration with HSU researchers. Though the results of this research will not fit within the scope of this proposal, we believe this a valuable result to expect in the future. HRC staff, HSU faculty and students will use the monitoring protocols developed for the Mountain View research. Future monitoring and analysis topics for additional projects could include: 1) post-broadcast burn mortality of Douglas fir, 2) oak growth response monitoring (fiber production via diameter measurements, fluid conductance via electromagnetic monitoring bands, leaf area and crown volume increase), and 3) development of site selection and scheduling models to produce a toolkit for local managers looking replicate the proposed treatments.