



## Request for Proposal for Redwoods Rising

### Carbon Sequestration and Storage Impact Study for Restoration Activities within Redwoods National State Parks

#### INTRODUCTION

In collaboration with the National Park Service (NPS), the California Department of Parks and Recreation (CDPR), and the Redwood Parks Conservancy (RPC), Save the Redwoods League (the League) is seeking proposals for services to conduct a carbon sequestration and storage impact study for restoration activities led by the partners listed above within Humboldt and Del Norte Counties. These activities include the Redwoods Rising restoration activities in Redwood National and State Parks (RNSP). This is phase one of a two-phase study examining the impact of restoration activities in Redwoods Rising on carbon sequestration and storage in coast redwood forests. The intent of phase one is to develop a technical report and carbon project feasibility study using existing data, growth models and other available research. This report/study will describe anticipated carbon sequestration and storage impacts of Redwoods Rising across a range of restoration treatments and stand conditions. The focus of this contract is for **a carbon storage and sequestration study**. The contract can be extended only if necessary and deemed appropriate to complete the scope of work. Competitive, cost-effective proposals will assure high quality and timely work, transparency in practices and accounting, employ local labor where possible, and demonstration of similar work.

#### SECTION 1. PROJECT DESCRIPTIONS

##### Overview

The geographical footprint for this carbon storage and sequestration will be within RNSP boundaries in Humboldt and Del Norte counties including Redwood National Park, Del Norte Coast Redwoods State Park, Jedediah Smith Redwoods State Park, and Prairie Creek Redwoods State Parks. RNSP is home to 45 percent of the world's remaining protected old-growth redwoods. Alongside these remaining redwood stands are areas of forest that bear the scars of logging, including eroding roads, degraded streams, and unnaturally dense forest stands. These forests support a wide variety of habitats and ecosystems (e.g., coastal dune/scrub, forests, woodlands, grasslands) and essential habitat for threatened, endangered, and special status species such as marbled murrelet, northern spotted owl, marten, and salmonids such as coho salmon, chinook salmon, and steelhead trout. The region also has a rich history of land use and active stewardship by local Native American tribes, including the Tolowa, Yurok, and Chilula.

Redwoods Rising is a landscape-scale restoration collaborative between the National Park Service, California State Parks and Save the Redwoods League to restore 70,000 acres of degraded second-growth forests in Redwood National and State Parks (RNSP). The

collaborative is now in its fifth year of implementation with over 3,000 acres treated and over 25 miles of abandoned logging roads removed. Restoration efforts within Humboldt and Del Norte Counties build upon decades of efforts to protect and improve the health of these redwood ecosystems. The collaboration is currently focused on restoring redwood forest ecosystems via forest stand management, road system management, and aquatic habitat restoration.

Old-growth coast redwood forests contain more above-ground biomass than any other forest type on the planet. These forests have been documented to hold up to 890 metric tons of carbon (or 3,263 metric tons of CO<sub>2</sub>e) per acre, which far exceeds any other forest on the globe (Sillett et al. 2020). Much of this carbon is stored in highly stable, rot-resistant biomass called heartwood. Second-growth forests also have extraordinary carbon potential, accumulating 30% as much above-ground carbon in as little as 150 years. Restoration thinning, as practiced in Redwoods Rising, is intended to accelerate the recovery of forest conditions that resemble old-growth redwood forest. Within Redwoods Rising, thinning is accomplished via two primary methods: lop-and-scatter and biomass removal. While thinning (particularly biomass removal) results in a short-term reduction in carbon storage as biomass is removed from the forest, long term benefits in the form of prolonged, stabilized, and accelerated carbon sequestration and storage are expected as these stands more rapidly approach late seral conditions.

Redwoods Rising focuses its restoration activities within two project areas: Greater Prairie Creek and Greater Mill Creek.

#### Greater Prairie Creek Project Area

The Greater Prairie Creek (GPC) watershed includes land within Prairie Creek Redwoods State Park and Redwood National Park (Figure 1). The lower Prairie Creek watershed was extensively logged from the 1930s until the expansion of Redwood National Park in the late-1970s. Until recently, these stands were unmanaged since the 1970s and consist of unnaturally dense forests where growth is hindered, species composition has been shifted, and habitat quality is low – especially for threatened fish and wildlife species. Restoration efforts in this area include forest thinning, road removal, and aquatics habitat improvement. The work is completed via contractual agreement and internal staff time.

#### Greater Mill Creek Project Area

The Greater Mill Creek (GMC) watershed restoration project will include land within Del Norte Coast Redwoods State Park and Redwood National Park (Figure 1). The project area is located approximately 6 miles to the southeast of Crescent City, California, and links Jedediah Smith Redwoods State Park to the north, the original portion of Del Norte Coast Redwoods State Park to the west, and smaller parcels managed by the National Park Service. The current forest conditions across the project area are the result of decades of timber harvest. Most of the stands are even aged and have either regenerated or were planted at high densities. Furthermore, the species composition has shifted, resulting in an underrepresentation of coast redwoods or hardwoods in many areas. Restoration efforts in this area include forest thinning, road removal, and aquatics habitat improvement. The work is complete via contractual agreement and internal staff time.

## **SECTION 2. SCOPE OF WORK**

While previous studies and models have measured the impact of forest thinning on carbon storage and sequestration, the partners seek tailored information and data that describes the forecasted carbon sequestration and storage impacts of the projects. Specific questions to be addressed:

- How much above-ground carbon is stored in untreated second-growth stands across the Redwoods Rising project areas? How does this compare to above-ground carbon stored within more mature second-growth stands and old-growth stands?
- How does thinning as practiced in Redwoods Rising alter the trajectory of carbon storage and sequestration of second-growth stands?
- How much does above-ground carbon storage in Redwoods Rising second-growth stands vary under a range of variables, which may include time since treatment, stand age, trees per acre, site productivity and basal area? How do these factors influence the stand's response (from a carbon sequestration and storage perspective) to thinning treatments as practiced in Redwoods Rising?
- How quickly are thinned vs. unthinned Redwoods Rising second-growth stands sequestering carbon on an annual basis (tons/acre/year)? /How does this compare to old-growth stands within RNSP?
- How quickly do we expect thinned stands to surpass unthinned stands in terms of carbon storage within RNSP? How long may it take for these stands to approach the carbon storage of old-growth stands?
- How much does the use of biomass for wood products negate the initial carbon stock losses that are expected as a result of thinning?
- What is the carbon sequestration and storage impact of road decommissioning activities?

For phase one of this study (which is the focus of this RFP), the contractor will address these questions to the best of their ability using existing and scientifically-sound sources. This will inherently include growth models and data that have been collected in areas outside of RNSP.

The draft and final deliverable for this project will be a summary report and feasibility study that answers the questions described above. The report will include visual representations of the expected carbon impacts of the project that could be adapted for use in a publicly accessible white paper to be developed by the Redwoods Rising partners to summarize the findings of the report. The report should include recommendations regarding the feasibility of establishing a voluntary-market carbon project for Redwoods Rising.

### **Methods**

As described above, this RFP addresses phase one of a two-phase study. Phase 1 consists of a literature review and preparation of a technical report/feasibility study describing anticipated carbon impacts of Redwoods Rising. Using available data and growth models, this white paper would include a forecast of carbon storage and sequestration across a range of scenarios that are consistent with established variable density thinning approaches in Redwoods Rising (e.g.

unthinned, thinned) and stand conditions (e.g. stand age, trees per acre, site productivity). Based on these findings, the selected contractor will evaluate the feasibility of Redwoods Rising for an improved forest management (IFM) voluntary carbon project.

The deliverable for this RFP is a technical report and carbon project feasibility study. A draft report will be delivered to the Redwoods Rising partners for a review period of approximately 30 days. Following receipt of comments from the partners, the contractor will prepare a final draft report for a shorter final review or approximately 10 days. Following receipt of these final comments, the contractor will prepare a final report/feasibility study.

### **SECTION 3. GENERAL RFP INFORMATION**

Data needed for this carbon impact analysis would be made available to the awarded contractor only if it is required to complete the outlined scope of work. These documents will be provided upon request by the contractor.

Background and reference material about the project can be found on academic databases, League, NPS, and CDPR websites, as well as other publicly accessible and scientifically sound sources.

### **SECTION 4. OVERVIEW OF THE CONTRACT STRUCTURE**

The contract structure will take the form of a one-year not to exceed (NTE) agreement between the awarded contractor and Save the Redwoods League that integrates impacts of RNSP Humboldt and Del Norte restoration projects from both a social and economic perspective. The contract's scope of work will be clearly defined in the final contract but will be focused on answering and analyzing questions documented in Section 2 of this RFP. The final deliverable will be a technical report and feasibility study which addresses key questions. All available data needed to answer the questions will be provided to the contractor or will be publicly accessible. It is expected that verified third party data will need to be integrated into the report as well. Work will be invoiced monthly or bi-monthly and be paid upon satisfactory completion of the work.

### **SECTION 5. CONTRACT AND PROPOSAL REQUIREMENTS**

1. Statement of methods and approach, proposed work plan and schedule, description of ability to meet all schedule deadlines and deliverables and deliverables
2. List of qualifications & capacity to complete the scope of work
3. Ability to provide certificate of insurance, W-9 tax documentation, and ACH banking information if awarded the contract
4. Relevant project examples and references
5. Proposed subcontractors (if any) and additional expertise
6. A rate sheet describing all costs associated with the contract

There is no fixed page limit for proposals or technical attachments, but respondents are encouraged to be concise.

## SECTION 6. CONTRACTOR SELECTION

The proposals meeting the minimum qualifications set forth above will be evaluated. All relevant criteria including the following will be used to make the final selection:

- Demonstrated experience in delivering high-quality work that answers all documented questions in Section 2
- Demonstrated experience meeting project timeline and schedule of completion
- Demonstrated experience providing carbon storage and sequestration consulting services in an efficient and cost-effective way
- Demonstrated experience employing a local labor force
- Favorable reference checks

The contractor selected will be provided with a draft contract for review and negotiation prior to finalization by December 11, 2023.

## SECTION 7. TIMING OF SELECTION PROCESS

(Dates subject to change)

September 30, 2023	RFP advertised publicly
October 20, 2023	Questions about RFP must be submitted to Mitchell Hayes at <a href="mailto:mhayes@savetheredwoods.org">mhayes@savetheredwoods.org</a> and Ben Blom at <a href="mailto:bblom@savetheredwoods.org">bblom@savetheredwoods.org</a>
October 25, 2023	A consolidated response to all questions will be emailed to interested firms
October 31, 2023	Proposals submitted to Mitchell Hayes; <a href="mailto:mhayes@savetheredwoods.org">mhayes@savetheredwoods.org</a> and Ben Blom <a href="mailto:bblom@savetheredwood.org">bblom@savetheredwood.org</a>
November 8, 2023	Contractor selected and notified
December 11, 2023	Contract finalized and notice to proceed issued

### Figure 1

