



Forest Project Submittal Form

Instructions:

*This project form must be submitted to the Reserve and to the verifier in the first year of reporting at the time of verification. In some cases, it may be necessary to update parts of the Project Submittal Form in subsequent years. **All information in this Form will be made publicly available.***

This form is to be used for reporting Forestry Project information to the California Climate Action Registry in order to initiate the project listing process. All fields must be completed as thoroughly as is possible. If the project in question is still in the planning/development phase, all fields must be completed using best available data and estimations based on the proposed project. Upon receipt of completed submittal forms, Registry staff will perform a general eligibility screen in accordance with the most current version of the California Climate Action Registry Forestry Protocols. Project Developers can expect an Invoice for the \$500 project listing fee within 15 days of receipt of the completed forms, and a letter regarding the status of project within 15 days of the receipt of the project listing fee. If a project passes the eligibility screen, it will be officially "listed" with the Climate Action Reserve

This is an interactive PDF form that can be filled out and saved as a PDF. All fields must be completed, if a field is not applicable insert an N/A in the space provided. The completed form must be saved and uploaded to your Climate Action Reserve Account. Submit all questions regarding the submittal form to: reserve@climatereserve.org.

Please provide contact information for invoicing purposes:

Name: Paul Chapman

Email: _____

Address: _____

Phone: _____

Fax: _____

Version 2.0
July 2008



Section I. General Information

Name of Entity:	McCloud River
Name of person completing summary:	Jon Remucal, Pacific Forest Trust as consultant for the project developer
Telephone:	
Email:	
Address:	
Initial reporting year:	2008
Date Forest Entity Description submitted to Registry:	December 29, 2008
Project start date (month/year)	1/2009
Project end date (month/year) (expected)*	1/2108
<i>If different than above:</i>	
Project Developer Name:	Paul Chapman
Title:	Area Manager
Telephone number:	
Email:	
Project Mailing address:	
Relationship to Entity:	Property Manager
Geographic scope of your report:	California

**For consistency with entity reporting requirements a 100-year project lifetime is recommended.*



Section II. Ownership and Organization Summary

1. Ownership Summary		
a. List the fee title owners of this land:		
Names on Fee Title Record	% of timber ownership*	Management role
Pondosa Forest, LLC	100	100% Management control
*If ownership < 100%, list other owners and their respective ownership (%)		
b. If more than one name is listed on the fee title, what is the ownership structure?		
Individual	☐	
Corporation	☒	
Partnership	☐ Identify each partner, its equity share, and role in the forest management below.	
c. Who has legal right to the timber on this land? <u>Pondosa Forest, LLC</u>		
Note: In order to report this information, you must have legal ownership of the timber.		
2. Organizational Boundaries		
Are you reporting by:		
a. Equity Share	☒ It is strongly recommended that you report according to your equity share.	
b. Management control	☐ If you do not have management control, you cannot report emissions from your biological inventory.	
c. If you are reporting by Management Control, under what financial or operational control criteria can your organization establish Management control?		
☐	Your organization wholly owns the forest operation, forest lands or timber	
☐	Your organization considers the forest land to be, for the purposes of financial accounting, a group company or subsidiary, and consolidates its financial accounts in your organization's financial statements	
☐	The financial policies of this forest operation are governed by your organization through a statute, agreement or contract	
☐	Your organization retains the rights to the majority of the economic benefits and/or financial risks from this forest operation or facility that is part of a joint venture or partnership (incorporated or unincorporated), however these rights are conveyed.	
☐	Your organization has the full authority to introduce and implement operational and health, safety and environmental policies	
☐	Your organization casts the majority of votes at a meeting of the board of directors	
☐	Your organization has the right to appoint/remove a majority of the members of the board	



Section III. Project Description

1. Specify your forest project type

- a. ☒ Conservation-based forest management
- b. ☐ Reforestation
- c. ☐ Conservation (Avoided conversion)

2. Location of forest project area

Provide a description of the location of the project, include approximate Lat/Lon and county :

The Pondosa Forest is located along the border between Siskiyou and Shasta counties in northern California. Two forest tracts of comparable size comprise the project, covering approximately 9,200 acres in total. Both tracts are located southeast of Mount Shasta, generally south of Highway 89 to the east of the town of McCloud. The McCloud River tract is adjacent to Shasta National Forest near the McCloud Falls, at approximately 41.2° N, 122.0° W. The Bear Creek tract is made up of number of sections and partial sections within a checkerboard of privately-owned lands that encompass virtually all of the upper Bear Creek watershed, at approximately 41.2° N, 121.7° W.

3. Co-benefits

- a. Provide a description of the project's local environmental benefits (e.g. water quality, biodiversity, habitat etc.).

The project is designed to produce multiple benefits to the local environment. By increasing overall timber stocking and retaining trees from all size classes present at the start of each harvest, the project will foster a broadened distribution of age classes throughout the property that includes larger, more mature trees than are currently present, thus allowing the project site to support a greater variety of wildlife. Across the property, the intent is to further enhance habitat quality by increasing densities of snags and coarse woody debris across the property. The project site runs along approximately 8 miles of the McCloud River and contains 9 tributaries of the McCloud River (two of which are refugia for the McCloud Redband Trout), the headwaters of Bear Creek, and portions of the sole spawning grounds for the Fall River rainbow trout. Both tracts have stream buffers that exceed state-mandated buffer widths. Although activities within each buffer generally will vary by stream class, examples of activities include maintaining a minimum of 65% canopy cover, excluding the use of equipment, and promoting conifer trees >30" in diameter. This will help to maintain important riparian habitat, such as shade and thermal cover. Such stream buffers also protect local water quality by maintaining vegetative cover that filters any potential sediment runoff from adjacent upslope areas.

- b. Provide a list of the native tree species that comprise the project area currently and how the species mix generally will or will not change over the course of the project.

Upland areas on the project site are generally comprised of ponderosa pine, sugar pine, Douglas fir, incense cedar, white fir, knobcone pine and black oak. Riparian areas are generally comprised of lodgepole pine, aspen, black cottonwood, big-leaf maple, red alder, willow and Pacific dogwood, as well as the species found in upland areas. The species mix is expected to stay the same during the project lifetime. However, under the project activities, the proportional distribution of the species is expected to change. Past management on the project site led to an increase in the prevalence of both white fir and incense cedar relative to ponderosa pine, sugar pine and Douglas fir. The project activities seek to restore higher stocking of ponderosa pine, sugar pine and Douglas fir. Special management areas have also been identified in which aspen stands and wet meadows will likely be restored.



4. Permanence

- a. Specify how permanence is addressed for the project reductions.

-Permanence for the project reductions is secured by the perpetual conservation easement on each tract that limits management activities that are allowed to occur. A conservation easement (CE) is a legally enforceable agreement that becomes a part of the title to the property and, thus, is applicable to any future owners of the property. Each CE is granted to the Pacific Forest Trust which has the right of entry to regularly monitor activities on the property and to enforce the terms of each CE, including, among other provisions, through obtaining injunctive relief in the event of a threatened breach of the CEs. Thus, in addition to CCAR's on-going verification requirements of the project, permanence of the emissions reductions are assured by the CEs with annual monitoring and enforcement rights.

-Each of the Pondosa Forest tracts is restricted by its own conservation easement, although the restrictions in both easements are nearly identical. A number of provisions in each CE help to secure the permanence of the project. Both subdivision and development of each tract is expressly prohibited, which helps to secure the forestland base, thus prevent the emission of existing stocks that would result from the conversion of the site to non-forest cover. The CEs also establish a forest management goal of increasing timber stocking to 25,000 board feet per acre over time, which is more than double the stocking level at the start of the project. They establish a maximum allowable timber harvest that is 80% of timber growth, ensuring that carbon stocks are conserved and grow through time. The CEs also establish stream buffers that extend beyond the current state-mandated stream buffers under the CA Forest Practice Rules and, depending on the stream class, require up to a minimum of 65% canopy cover retention.

-The risk of loss of carbon stocks and sequestration capacity from natural risks such as fire or infestation is mitigated by active management of the property under the project activity (see response to 4c below) to restore historic tree species mix and diversify stand structure, promoting the growth of larger, older trees. This will enhance forest health and resiliency by maintaining the natural diversity of species (including more fire resistant pine), preventing overstocking and incursion of the less resistant white fir that has occurred in much of the mixed conifer region and creating a more varied structural composition within both the overstory and understory of the forest. Management generating such conditions under the project not only seeks to mitigate the potential impacts of wildfire by limiting how well wildfires may spread, but also creates a more complex landscape for pests and diseases to navigate and find hosts. The CE also permits salvage logging and replanting in the event of a catastrophic event.

- b. What is the life of this project?

100 years (2009-2108)



- c. If your project is conservation-based forest management, please describe how your project meets the natural forest management criteria to promote and maintain native forests comprised of multiple ages and mixed native species in the overstory and understory.

The project is guided by the terms of the conservation easements, which have explicit goals aimed at maintaining and enhancing the mixed conifer forests on each tract. These goals include having a structurally complex, multistory forest with a variety of densities and heights throughout the property, composed of the native species currently on the site, including, specifically hardwoods as well as conifers. Another goal is to have a range of age classes and seral stages across each tract, ranging from seedlings and freshly disturbed sites to late seral trees and late seral functionality.

These goals are achieved by a number of actions expected under the project activities. This includes limiting timber harvest levels to ensure that stocking on each tract increases over time until the 25,000 board feet per acre goal is met. Both uneven-age and even age timber harvest operations are likely to occur on the project site. Uneven-age management by definition produces a variety of age classes. If using even-age management, at least 10 trees per acre of harvest opening must be retained (per the conservation easement), with retention trees either aggregated in patches, distributed throughout the opening, or a combination of the two. The retention of such trees helps to create age class diversity as the otherwise cleared stand regrows.

The easements also explicitly prohibit the intentional introduction of non-native species. In addition, rare or sensitive habitats such as wet meadows, riparian areas, and aspen groves are given particular protections.



5. Project Baseline and Additionality Analysis (Refer to Part 1, Sections F-G of the Forest Project Protocol).

Follow the project-specific guidance below to address the qualitative description and scope of legal analysis associated with the baseline approach specific to this project.

- a. Conservation-based forest management projects:
 - i. Baseline characterization. Provide a qualitative description of your baseline characterization including:
 - 1) its duration
 - 2) practices that will occur in the baseline over the baseline duration
 - 3) the assumptions that underlie this baseline characterization

The baseline has a duration of 100 years. The initial carbon stocks on the project site were projected into the future using computer simulations based on growth, harvest and regeneration assumptions consistent with the "Option C" silvicultural standards, even-age harvest adjacency limitations, and watercourse buffer restrictions specified in the California Forest Practice Rules (CFPR). The financial feasibility of the projected treatments was also considered to ensure a reasonable set of practices.

The baseline is characterized by activities that are within the regulatory allowance and are reasonable. A survey of forest management activities in the project vicinity conducted during the development of the recent Timber Harvest Plans that cover portions of the project site indicated that a variety of timber harvest operations have occurred on nearby lands, including both even- and uneven-age timber harvests. The scenario used for the preliminary baseline analysis incorporates an even-aged harvest regime set on a 60-year rotation for each upslope stand. For this analysis, even-age harvests are limited to openings of 40 acres or less, as per allowances provided by the CFPR, and are not allowed to occur on stands adjacent to stands that had been clear-cut within the past 5 years. Harvested sites undergo a pre-commercial thinning at age 7 in order to hasten growth of the young stand by reducing stem density and lowering competition. Each even-age stand also undergoes an intermediate commercial thinning 50 years after an even-age harvest occurs. These commercial thinnings reduce stocking to 75 square feet of basal area for each stand and are intended to foster growth in the residual stand by reducing competition for resources. The stands undergo a second even-age harvest 10 years after thinning, or 60 years after the initial even-age harvest, thus starting the second harvest rotation. The timing of clear-cuts was distributed so that a relatively even flow of timber is harvested each year throughout the 100-year projection.

If a stand had adequate stocking prior to entering the even-age harvest cycle described above, it was thinned using a selection harvest that reduced stocking to 75 square feet of basal area.

Watercourse buffers are based on the minimum buffer widths specified by the CFPR. Selective harvesting occurred within watercourse buffers and reduced stocking to 100 square feet of basal area, allowing for a gradual increase in stand density and volume over time in these stands.



- ii. Scope of legal analysis. Cite any laws, regulations and rules that support your baseline characterization. In addition, list any other laws and regulations that you considered, or describe any legal analysis you conducted, when identifying the statutes and regulations to support your baseline characterization.

The legal basis for the regulations that guide the baseline analysis is the Z'berg-Nejedly Forest Practice Act of 1973. Specific regulations are pursuant to the California Public Resources Code

– Section 4511 et seq., and include:

- Section 913.11(c)(1)
- Section 913.1
- Section 916.5
- Section 919.9

Since there have been no threatened or endangered species identified on the project site, no Endangered Species Act restrictions were considered for the baseline characterization. Additionally, no local regulations were found to be relevant to the baseline characterization.



b. Conservation (Avoided Conversion) Projects:

i. Baseline characterization. Describe:

- 1) the threat to your project areas using either the site-specific immediate threat approach or land use trend table
- 2) the nature of the project's conversion threat (e.g., rezoning, offer to purchase, county conversion rate)
- 3) the type of information you will supply to demonstrate this threat

N/A



- ii. Scope of legal analysis. List any laws and regulations that you considered, or describe any legal analysis you conducted, when determining that statutes and regulations do not require protection of your project area from conversion (*refer to Forest Project Protocol, Section F*). If your baseline is a site-specific, immediate threat (something that would be converted to a non-forest use within five years from the project initiation date), this should include one or more of the following:
- 1) Local baseline conversion rate -- baseline conversion rate consistent with similar conversions that have occurred in the region within the last five years
 - 2) Copy of a bid to purchase the land from a developer
 - 3) Plans to subdivide the project area
 - 4) Request for permission filed with the California Department of Forestry and Fire Protection (CDF) to convert the site from forest to non-forest use
 - 5) Permit from CDF allowing site to be converted from forest to nonforest use
 - 6) Request for rezoning of the site to allow conversion filed with the county

N/A



c. Reforestation Projects

i. Baseline characterization. Describe:

- 1) Any practices that would have occurred in the baseline to keep it out of forest cover
- 2) Information that supports your baseline
- 3) Evidence that your project area was once in forest cover, but has been out of forest cover for at least ten years prior to project initiation (e.g., aerial photos, satellite imagery, historical records, zoning)

N/A



- ii. Scope of legal analysis. Please list any laws and regulations that you considered, or describe any legal analysis you conducted, to determine that reforestation of your project was not otherwise required.

N/A



d. *All Projects*

- i. Project Goals. Describe the management goals of the project activity.

The goal of the project activity is to provide a reasonable return on investment to the owners through sound sustainable forest management. This includes increasing carbon stocks throughout the project lifetime through actions that also improve the health and ecological integrity of the site, while maintaining its significant capacity to produce timber. This goal will be achieved by employing a harvest regime that is more conservative than would otherwise be allowed to occur under the California Forest Practice Rules. The project activity harvest regime limits harvests in both the upslope and watercourse buffer stands, cutting no more than 80% of growth per decade and increasing standing volume to an average of 25,000 board-feet per acre.

- ii. Graph. Provide a graph that compares the carbon dioxide (equivalent) tons for the baseline projection with the project activity projection. Submit this document separately using the “*Upload Documents*” link in the Reserve software.

Has the above graph been uploaded? Yes ☒ No ☐



- iii. Project Additionality. Describe the timing of the additional carbon stocks to the baseline over time.

The carbon stocks in live trees, standing dead trees and lying dead wood were quantified for the project. Based on analysis to date, the project activity is expected to produce a relatively constant increase in carbon stocks throughout the project. Our analysis also indicates that the baseline carbon stocks show a gradual decrease over the first 40 years of the project lifetime before leveling off and remaining relatively constant for the duration of the 100-year project. A comparison of the project activity stocks to the baseline stocks shows that the project maintains a greater amount of stocks than the baseline throughout the project lifetime. The difference between the project activity stocks and baseline stocks increases rapidly during the first 40 years of the project as the baseline continues to decline, then continues to increase, though at a reduced rate, commensurate with the rate of increase in the project activity stocks. The project is expected to produce approximately 190 tons of CO₂ emissions reductions per acre by the end of the project lifetime.

6. Quantification and Projections of Baseline and Project Activity

- a. Describe the general approach to acquire data for:
- i. Live trees

Both tracts were stratified into stands with relatively homogenous characteristics of species, size and density, based on aerial photographs and on-the-ground knowledge of the site. A grid of sample plots was applied across the project site, using every fifth plot on a 5.0 chain grid. Each plot was assigned to a stratum based on the stand in which it fell. Each plot location consisted of a set of nested plots—a variable radius plot for larger trees and a fixed plot for smaller trees. Trees 4.6" DBH and larger were cruised using a 20 BAF variable plot. DBH to the nearest inch, live crown ratio, and total-stem defect, and decay class were recorded.

A 1/100th acre regeneration plot (radius of 11.78 feet) was used to measure trees less than 4.6" DBH. Trees were tallied by species, DBH class, live crown ratio, total-stem defect, and decay class. The frequency was recorded when a record represented more than one tree.

A subsample of live measure trees 0.6" DBH and larger was taken using a BAF of 54. Total height was measured on these trees, in addition to the measurements listed above.



ii. Standing dead trees

The same measurement approach used for live trees was applied to snags, except that snags were measured for species, condition, DBH and height.

iii. Lying dead wood

Lying dead wood was inventoried using three 22-foot transects radiating on true bearings of 360°, 120° and 240° from the plot-centers used for standing live and dead trees. Pieces were tallied if they crossed the transect on their long axis and if they were greater than 3.0" diameter outside bark where the transect crossed, at least 1 foot long, at least 50% above ground, and not severely decayed. For each piece of lying dead wood that was tallied, the species, decay class, diameter outside bark where the transect crossed and length were recorded.

iv. Wood products (optional)

N/A



v. Litter (optional)

N/A

vi. Soil (optional)

N/A



- b. Describe the general approach to projecting the data for the baseline and the project activity analyses (models used, modeling constraints, general silviculture assumptions)

Growth and yield modeling was conducted using CACTOS and FORSEE. A tree list was assigned to each stand based on the stratified sampling process. The tree lists are then 'grown' and 'harvested' based on their silviculture assignments within CACTOS and FORSEE. Modeling assumptions for the baseline scenario reflect the silvicultural practices required by "Option C" in sections 913.11, 933.11 and 953.11 of article 3 of the California Forest Practice Rules (CFPR). The effects of endangered species laws were also considered in the baseline analysis. The upslope stands on the project site represent about 97% of the project area and watercourse buffers represent about 3% in the baseline scenario. No Northern Spotted Owls were found to be present on the project site, therefore no special mitigation is required. Under the baseline, harvesting assumptions incorporated an even-aged harvesting regime on all upslope stands based on 60-year clearcut rotations, the rotation length specified by Option C for Site Class III lands. Option C also generally limits the size of clearcuts to 20 acres (although openings up to 40 acres are allowed under certain conditions) and prohibits the clearcutting of adjacent stands. However, stands were not necessarily designated by these acreage limits. Thus, multiple clearcut entries could occur in some stands before the entire stand had undergone harvest. The adjacency rule was accounted for by limiting the acreage available to be clearcut within each stand based on how recently it was entered previously for clearcut. All stands that were stocked with trees 60 years or older were to be 'harvested' in the baseline model over a 60-year period, thus establishing an even flow of harvested timber from year to year. Older and better stocked stands were given harvest priority over earlier than younger and less stocked stands. Regeneration in clearcut stands was accomplished by planting 300 trees per acre, with a species composition of 50% Ponderosa pine, 5% Sugar pine, 5% Incense cedar, 25% Douglas-fir, and 15% White fir. Following clearcut treatment, each stand was pre-commercially thinned at age 7 to a stocking of 150 trees per acre and commercially thinned at age 50 to a stocking of 75 square feet of basal area. These stands were clearcut a second time 10 years later, 60 years following the initial clearcut harvesting. Watercourse stands are delineated in a GIS and based on the watercourse buffer widths specified in the CFPR for slopes of 30-50%. Selective harvesting to a stocking of 100 square feet of basal area was modeled within stream zones, allowing a gradual increase in stand density over time. The CE terms that define allowable silviculture activities are the basis for the project activity. The CE allows for uneven age harvest, as well as even-aged harvest that retains up to 10 trees per acre of opening size. Harvest is limited to 80% of net timber growth per decade until an average conifer board foot stocking level of 25,000 board feet per acre has been achieved. Harvest of up to 100% of growth can occur at that time. Watercourse stands (6% of project site) were delineated using buffers designated in the CE (150 ft for Class I, 100 ft for Class II and 25 ft for Class III) and were managed with single tree selection that removed less than 30% of standing volume every 15 years. Management of upslope stands (91% of project site) was generally a combination of even-age and uneven-age harvests. Stands designated for even-age harvest were clearcut using a management regime similar to the baseline scenario, although commercial thinning at age 50 reduced stocking to 100 square feet of basal area. Uneven-aged stands were selected for harvest based on harvest volume per acre. Residual basal area was 85 square feet per acre during the first few modeling periods, but was increased gradually over time to 165 square feet by the end of the project lifetime. In-growth of 25 trees per acre was added to these stands 20 years following uneven-age harvest. Separate stands delineating special habitat (3% of project site) were also included in the project activity and were harvested within the first 15 years of the project. Harvests in these stands removed 95% of conifer volume and stands were re-entered when conifer stocking exceeded 50 square feet of basal area.



7. Non-biological Emissions

Based on your ownership, please identify the types of non-biological emissions that are or would be associated with your project (e.g. logging trucks, harvesting equipment). *For more information, refer to FPP, Part 2 Section H. (These emissions may also be quantified in your entity report but are also provided here for transparency).*

☐ Mobile Combustion (logging trucks, harvesting equipment, etc.)
Please describe:

☐ Stationary Combustion (generators, turbines, etc.)
Please describe:

☐ Indirect Emissions (electricity, heat or steam purchases)
Please describe:

Section IV: Leakage and Other Effects

1. Activity-Shifting Leakage (Required)

- a. Do you expect your organization's biological forest carbon stocks outside of the forest project boundary, but inside your forest entity boundaries, to change as a direct result of the forest project? Yes ☐ No ☒

Comments:

The project and entity boundaries are the same.

- b. Are you planning to establish/have you established an entity baseline? If not, how do you plan to demonstrate that any decrease in stock is not activity-shifting leakage?

Since the project and entity boundaries are the same, the projection for the project activity constitutes the entity baseline. Thus any future decreases in stocks at the entity level will be accounted for by project activities that are both monitored and reported for the project.



- c. Has the forest project caused another entity to change its operations or business activities in a manner that results in increases or decreases in carbon stocks or CO₂ emissions? If so, please explain how and estimate to what extent (refer to FPP Part II Section H). Yes ☐ No ☒

- d. If the answer to (c) is yes, will these potential stock and/or emissions be monitored? If yes, how? Yes ☐ No ☐



2. Market Leakage (Optional)

- a. Will the project activity result in an increase or decrease in the production of commercial products? If yes, please estimate the amount of the increase or decrease in production.

N/A

- b. Will this project result in an increase or decrease in the availability of land and/or timber products (e.g. for development of agriculture or other commercial use)?

N/A

- c. If the answer to either question (a) or (b) is yes, will this change likely result in a change in the market? Please describe the potential market impacts.

- d. Using the table, estimate the foregone market products as a result of this project.

Volume of timber foregone (boardfeet)	
Expected timeframe?	
Break down by wood product type	
	Percentage (%)
Pulp and Paper	
Solid wood products	
Reconstituted wood products	
Chemicals	
Other (describe): _____	



