DRAFT - 09/08/08

Preliminary PURPOSE and NEED and PROPOSED ACTION

Approved 09-02-08

Project Name: Westside Plantation Project
Forest: Shasta-Trinity National Forest
Forest Units: South Fork Management Unit, Trinity River Management Unit and the Trinity Unit of the Whiskeytown Shasta-Trinity National Recreation Area
IDT Leader: Cindy Whelan

I. Background

The Shasta-Trinity National Forest manages approximately 75,000 acres of plantations within the Trinity River Basin on the Weaverville, Big Bar, Yolla Bolla, Hayfork, and Mount Shasta Ranger Districts. There are a small number of plantations that are located on the Shasta-Trinity National Recreation Area (NRA) within the Trinity River Basin. Approximately 33,000 acres of these plantations are outside of designated wilderness and inventoried roadless areas and are in need of thinning, see vicinity map. These plantations, or managed stands, are a byproduct of previous timber harvest activities and stand replacing wildfires which were reforested. The plantations proposed for treatment range in age from 21 to 55 years and most originated when regeneration units were planted after harvesting within the last 40 years. The majority of the plantations are considered overly dense (300-1500 or more trees per acre) because they either have never been thinned, or were thinned years ago and are once again showing signs of excessive tree density. Tree growth has slowed and these stands are considered “at risk” to various forest pathogens and catastrophic fire. The plantations are located on lands allocated to Adaptive Management Areas, Matrix, Riparian Reserves, and Late-Successional Reserves, as designated by the Shasta-Trinity National Forest Land and Resource Management Plan (Forest Plan). Many of the plantations in Riparian Reserves, and Late-Successional are not developing the structure and complexity that is desirable for wildlife species dependent on late-successional or riparian forests.

II. Purpose and Need for Action

The overall purpose for this project is to develop and maintain vigorous and healthy forest stands that will be resilient to natural disturbances, the most influential of which is wildfire. The plantations identified in this proposal have been identified as having high fire risk in the Shasta-Trinity National Forest fuels strategy and treatment prioritization hazard and risk map (2008). Without management action, the probability of stand-replacing wildfire in the assessment area will continue to increase, jeopardizing development of mature forest stands and the habitat they provide.

Currently, overgrown plantations provide only poor to marginal habitat for the majority of Forest Service Sensitive or Federally-listed species on the forest. Those species that may occur in these plantations tend to be habitat generalists, such as deer and rodents, and would benefit from increased stand vigor. Once thinned, the positioning and occurrence of multiple plantations relative to older stands can offer a mosaic of habitat types. This can be of particular importance to species such as Pacific fisher and spotted owl whose prey will utilize these younger stands for foraging and nesting. Once opened up, these stands can also provide foraging habitat for a wide variety of bird species, such as owls, raptors and passerines.

Table 1. Comparison of the existing and desired conditions associated with managed stands on the Shasta-Trinity National Forest.

Existing Condition	Plantations in the project area are overcrowded and my not reflect the diversity of conifer and hardwood species necessary to achieve desired stand objectives. Too many trees are competing for a limited amount of growing space. There are not enough resources on site (water, sunlight, nutrients) to support a healthy forest at existing densities. Tree vigor has decreased to a range that is considered minimal to maintain tree growth and health. Further decline in health and vigor will occur in these areas if stand densities are not reduced.
Desired Condition	Forest plantation densities are managed at levels to maintain and enhance growth, to improve and protect forest health and vigor recognizing the natural role of fire, insects and disease and other components that have a key role in the ecosystem.

The existing conditions vary from the desired conditions (Table 1). Specific stand management objectives associated with the Purpose and Need for this proposal include:

1. Minimize or reduce the potential for high severity stand replacing wildfires -- Create the conditions necessary for safely re-introducing fire through reducing existing tree density, creating a

discontinuity of fuels, minimizing activity created fuels, integrating plantation treatment contribution to fuel management zone effectiveness where applicable (along roads and ridges) to serve as defensible areas in managing wildfire and prescribed burning, and provide links with existing and planned defensible fuel profile zones on adjacent private and National Forest land.

2. Maintain or improve overall stand health to increase the resiliency of stands to insect and disease infestations – Promote the vigor of individual trees and overall stand health by thinning trees to reduce the competition for limited site resources and development of diverse and irregular stand conditions (including small openings).

3. **Protect and enhance conditions that serve as habitat for wildlife and fish** – Increase the vegetative and structural diversity within managed stands to improve stream shade, large wood retention and recruitment, provide snags, and develop late -successional and/or riparian forest characteristics.

III. Proposed Action

The Shasta-Trinity National Forest proposes to treat approximately 33,000 acres of plantations that are currently overstocked, losing vigor, and at increased risk of loss due to wildfire. Treatments consist of thinning, pruning, sectioning and scattering, hand piling and burning, chipping and/or yarding. Collectively, these activities are designed to maintain plantation health, reduce the risk of adverse effects from insect and disease, and minimize or reduce the potential for stand-replacing wildfires. The project area is located throughout the westside of the Shasta-Trinity National Forest on Adaptive Management Area, Matrix, Riparian Reserve and Late-Successional Reserve land management allocations (Table 2).

Table 2. Westside Plantation Project Land Allocation Acres

Ranger District	LSR Acres	Matrix Acres	Adaptive Management Acres	RR Acres	Total Acres
Hayfork	5,225	4,120	4,644	2,456	**16,445**
Big Bar	5,619	1	2,177	1,699	**9,496**
Yolla Bolla	2,190	1,005	1,163	744	**5,102**
Weaverville	1,070	158	0	239	**1,467**
Mt Shasta	0	343	0	45	**388**
NRA	0	0	0	190	**190**
McCloud	0	0	0	0	**0**
Shasta Lake	0	0	0	0	**0**
Total Acres	**14,104**	**5,627**	**7,984**	**5,373**	**33,088**

The project proposes density management treatment on managed stands that are currently between 21 and 55 years of age. This class and age criteria, and this project would involve removal of conifers of commercial value. Other commodities are also anticipated to be made available, including biomass (chips), and firewood.

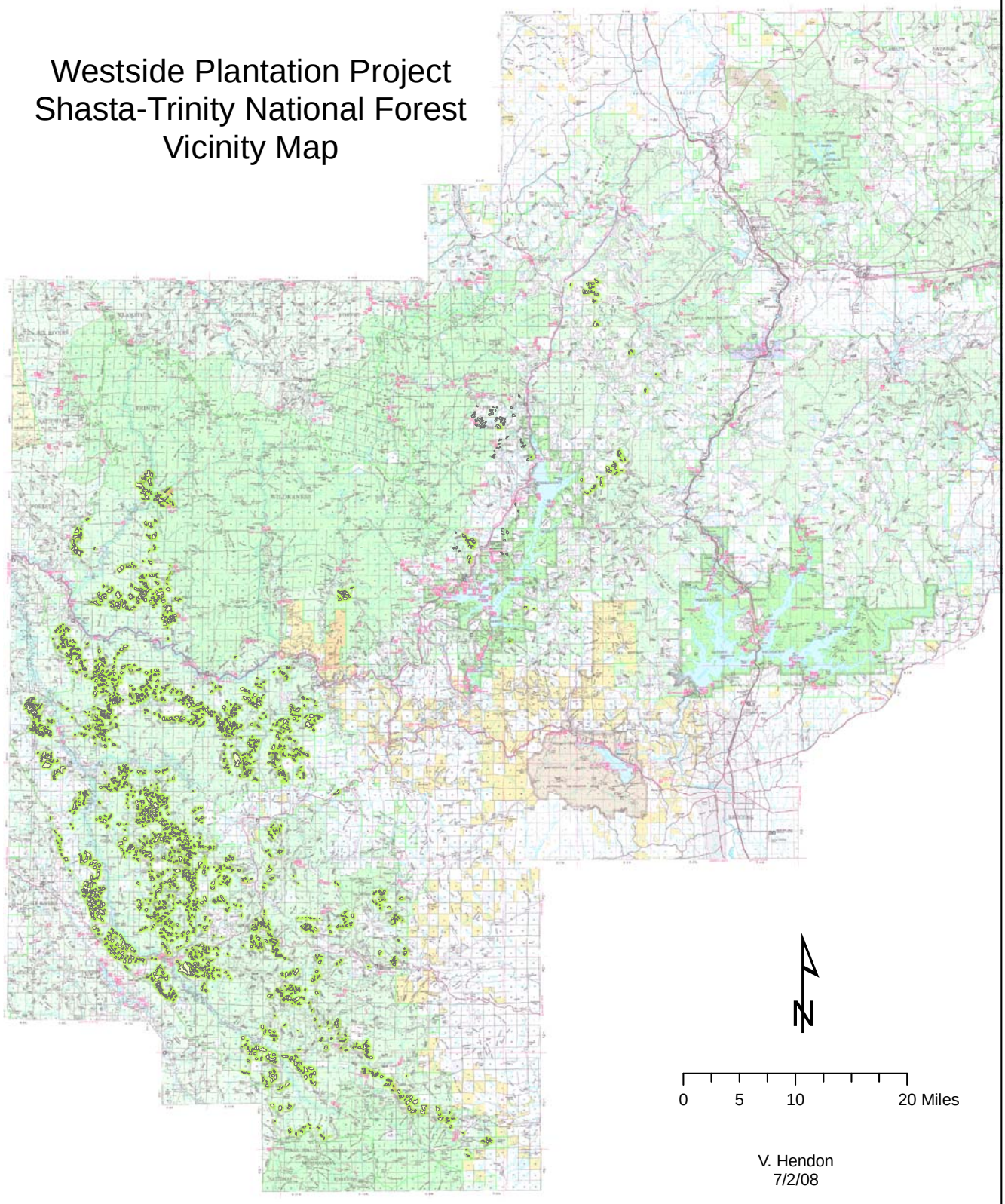
Treatment prescriptions would differ between Adaptive Management Area, Matrix, Riparian Reserve and Late-Successional Reserve, in accordance with the overall management objectives of these allocations. Variable density management treatments (thinning) would be accomplished in order to improve forest health, reduce potential fire risk, and improve fish and wildlife habitat. Treatment of existing and activity-generated fuels, when required, would be designed to reduce the risk of crown fires through reducing fuel loading, increasing the height to the base of the tree crown, and decreasing crown bulk density. Potential fuels treatments include pruning, sectioning and scattering, handpiling/burning, chipping, and/or whole tree yarding. Under the Proposed Action, thinning and associated treatments would also include variable spacing and the creation of small openings depending on land allocation.

The managed stands in this proposal are dispersed across the Forest landscape on the westside ranger districts and are generally accessed by existing roads. No new permanent system roads would be

constructed as part of this project. Temporary road construction, reconstruction of unclassified roads, and classified (system) road reconstruction and maintenance are included. This project excludes Inventoried Roadless and Wilderness Areas. Ground-based and skyline logging systems may be considered, appropriate to site and ground conditions.

Tree harvest would be a byproduct of this project in Late-Successional Reserve and Riparian Reserve. The need for tree removal on Late-Successional Reserve lands is for fish and wildlife habitat enhancement and fuels reduction; where appropriate, commercial tree removal would help facilitate these needs.

Westside Plantation Project
Shasta-Trinity National Forest
Vicinity Map



IV. Project Design Features

All activities associated with this proposed action will be in conformance with the following project design features:

A. Silviculture Prescriptions

Thinning prescriptions identifying tree spacing, species preference, and fuels treatment would be developed for plantations within each land allocation. Tree spacing would be variable and would not have a rigid or grid-like appearance. Tree species diversity would be maintained or increased by managing for mixed conifer and hardwoods. The largest trees in each stand would be retained. No old or large legacy trees within managed stands would be removed. Potential fuels treatments include pruning, sectioning and scattering, hand piling/burning, chipping and yarding. Pruning in high fire risk areas would reduce ladder fuels, reducing the risk of ground fire becoming crown fire. The plantations are grouped into three size classes and would receive different treatments.

Size Class 1*.* Plantations 10-20 years old; no plantations in this size class proposed for treatment in this project..
Size Class 2*.* Plantations are 20-30 years old and dominant trees are approximately 3-6" dbh. Fuel accumulation after thinning will be in the <5" category.
Size Class 3*.* Plantations are more than 30 years old and dominant trees are approximately 6-12" dbh. Fuel accumulation after thinning will be in the <8" category.

B. Resource Protection Measures

- Aquatic Conservation Strategy Objectives (ACS) (as detailed in the Northwest Forest Plan pgs B-9 to B34);
- No new road construction, vehicle access limited to existing roads, skid trails, landings;
- Other legislative mandates for the Forest Service to manage lands and resources such as the Clean Water Act, National Environmental Policy Act, Federal Land Policy and Management Act (FLPMA), and the Endangered Species Act;
- Best Management Practices for management of water quality;
- Requirements to seed and mulch disturbed ground prior to winter weather;
- Requirement to clean vehicles and large equipment of soil by steam cleaning or use of a high-pressure hose. Cleaning shall be inspected and approved by the Forest Service;
- Wet Weather Operations Guidelines;
- Dispose of unsuitable slide and waste material in stable, non-floodplain sites. Disposal of suitable slide, fill and waste material may be used to restore natural or near-natural contours, as approved by geotechnical engineer or other qualified personnel;
- Minimize disturbance of existing vegetation within the road clearing limits, at stream crossings, and approved disposal sites to the extent necessary to restore the hydrologic function of the subject road;
- Limited Operating Periods will be implemented as designated within project-specific Biological Assessments and Biological Evaluations. Limited Operating Periods (LOPs) would be implemented to avoid direct adverse impacts to the northern spotted owls, northern goshawks, bald eagles and sensitive bat species and are as follows:
    - From February 1 through July 10, all noise- and smoke-generating activities will be prohibited within ¼ mile of suitable nesting/roosting habitat. In addition, all vegetation removal/cutting/burning will be prohibited through September 15 directly within suitable nesting/roosting habitat. These LOPs may be lifted if surveys using currently accepted protocols indicate specific areas are not occupied by breeding owls or with the mutual consent of the U.S. Fish and Wildlife Service and the U.S. Forest Service.
    - Exclude management activities and avoid loud and continuous noise disturbance within ¼ mile of active goshawk nest sites (or within an area designated by the project wildlife biologist) from February 1 through August 15. These dates may change if the young are known to have fledged and nest is no longer being used, as determined by surveys conducted by a wildlife biologist.

  - o No activities and no harvest will take place within 250 feet from known Townsend's big-eared bat or Pallid bat roost sites (caves, mines, and mine adits).
  - o No operations will take place within ¼ mile of active bald eagle nests from January 1 through July 31, or until it has been determined that nesting is complete.
- For Southern Oregon/Northern California Coasts (SONCC) coho salmon, there will be no operation between October 15 and April 15, unless agreed upon by the district fisheries biologist and the National Marine Fisheries Service. Examples of conditions that may warrant an extension are 1) an extended dry weather forecast or 2) a greater risk of environmental harm by leaving a site to over winter in its current condition versus finishing the work;
- Historic Properties will be recorded, flagged, and avoided; and
- Protect soil stability on steeper slopes; protect soils productivity by using harvesting systems and equipment appropriate to thinning prescriptions, and matching such systems to the conditions in the project area.

V. Project Implementation Plan

A. Environmental Compliance

Under the National Environmental Policy Act (NEPA) process there is a need to estimate the maximum extent of treatments, their locations, and the degree of environmental effect. The planning process for the Westside Plantation Project will predict the consequences of thinning activities at the landscape scale and ensure that the alternatives considered are consistent with the Forest Plan. Proposed treatments could be authorized within design features or limitations established in the analysis and associated decision. Concurrent monitoring would ensure that the effects of the decision do not exceed those documented in the NEPA planning analysis and decision.

B. Assumptions Regarding Implementation

The Westside Plantation Project could authorize treatment on managed stands that are currently 21-55 years of age. Over the duration of this decision (10 or more years), treatments could eventually occur on stands that are over 60 years old. The exact timing of treatments for stands covered by this analysis would be determined by available funding, expression of stand conditions that warrant treatment, compliance with design features or limitations identified in the analysis, and compatibility with other Forest objectives. It is the expectation that an implementation schedule for the roughly 33,000 acres of plantations identified in the proposal would be developed to facilitate the NEPA analysis and subsequent on-the ground implementation. In any case, on-the-ground treatments would not be initiated prior to compliance with project design features. This project is not expected to include: (a) evaluation of treatment financing, (b) packaging of implementation contracts or agreements, or (c) design criteria to fully offset treatment costs by sale of commercial products. The implementation of this plantation project may include the sale of commercial wood by-products of thinning.

VI. Management Direction

The Forest Plan issued in 1995 provides programmatic management direction for site-specific projects. Directions from the Forest Plan along with results of data collection/analysis and field review in the assessment area were used to develop the proposed action.

Management direction provided in the Forest Plan states that plantations in the assessment area should be managed to maintain or improve growth, and create healthy and vigorous trees through release and thinning (Forest Plan page 4-27).

Designing the project to be consistent with standards and guidelines in the Forest Plan ensures that silvicultural objectives are achieved in the context of sustainable ecosystem management including compliance with the National Forest Management Act (NFMA).
No plan amendments will be required. Best management practices and all water quality guidelines will be followed. No new permanent roads will be constructed.

Attainment of Forest Plan objectives and outcomes, for most characteristics defined, are wholly dependent on the condition and succession of the stands within the allocation. At the same time, individual stands within a Forest Plan allocation nearly always vary greatly in average tree age, species composition, number of canopy layers, amount of bole or crown defects and basal area (to name just a few key attributes of stand character). Thus, the contribution of each stand to the management goals, outcomes and desired future conditions within an allocation differs because of a stand's individual character. Certainly, too, a stand's contribution may change over time in relation to surrounding or internal conditions.

Proposed activities would occur within Adaptive Management Areas, Matrix, Late-Successional Reserves, and Riparian Reserves land allocations (see table 2).

In **Adaptive Management Area** and **Matrix** lands the needs are:

To change the distribution and relative quantities of size and age classes. The Forest Plan desired ecosystem objectives are to approach regulation through scheduled regeneration harvests over a period of time called the conversion period (Forest Plan Appendix C-3) to obtain an sustained yield of wood fiber products from productive lands and to maintain and enhance habitat for big game, small game, upland game, birds, and species dependent on early seral stages (Forest Plan 4-66 & 67). Sustainability of timber stands is achieved with a more balanced age class distribution than exists currently.

To remove excess tree numbers from young thrifty pole and small sawtimber size stands. The Forest Plan ecosystem objectives are to obtain stocking control (thinning), and minimize mortality (Forest Plan 4-67). These areas are approaching or are beyond the maximum carrying capacity, measured by the density of trees. The live crown ratio (lcr), an indicator of tree vigor, is decreasing and averages about 30-40% (considered minimum to maintain adequate tree growth and vigor). The high density of understory trees in the suppressed and intermediate crown positions are a fuel ladder hazard, posing a threat of stand losses to crown fire. The thinning proposal is intended to maintain suitable stand growth, improve tree vigor over time by providing space for the trees retained to grow.

In **Riparian Reserves** the needs are:

To remove fuel ladders and reduce tree densities. The Forest Plan ecosystem objectives are to provide connecting travel corridors for wildlife species, particularly late-successional dependent species by using Riparian Reserves and applying silvicultural prescriptions (Forest Plan 4-14). Areas proposed for thinning within Riparian Reserves are pole to small sawtimber size classes, not late-successional. These areas are generally overstocked with high densities of understory trees that are a hazard as a fuel ladder for crown fire spread. The purpose of thinning these young stands in Riparian Reserves is to reduce the fire hazard of spreading crown fire by removing some of the understory trees density, and to maintain stand growth toward late-successional conditions by giving individual trees more room to grow.

- To manage selected intermittent Riparian Reserves to maintain and restore conditions described in the nine Aquatic Conservation Strategy objectives, through the application of silvicultural practices, to control stocking and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives in pole-size and medium-size stands.

In **Late-Successional Reserves**, the needs are:

To protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old growth related species. In order to reduce the risks of large-scale disturbance, silvicultural activities aimed at reducing risk should focus on younger stands the Late-Successional Reserves. The objective will be to reduce tree densities, and in turn, accelerate development of late-successional conditions while making the future stand less susceptible to natural disturbances. Treatments should de designed to provide effective fuel breaks wherever possible (Forest Plan 4-37).

This proposed thinning project also meets Forest management goals by hastening the development of mature stand conditions, providing for biological diversity, allowing for long-term productivity by maintaining ecosystem function, developing and maintaining downed woody material, and avoiding adverse soil impacts. This proposed action pursues a balance in resource management that will develop and maintain a healthy forest ecosystem, while helping to meet local, regional, and national social and economic goals.

Several watershed analyses also identified the need to reduce hazardous fuels, and improve stand structure within overstocked plantations. All action alternatives would help achieve these objectives. Also, a forest-wide Road Analysis Plan that includes the Westside Plantation area was completed in July 2002.

VII. Decision Documentation

An Environmental Assessment will be prepared for this project in compliance with the NEPA and other relevant federal and state laws and regulations.