

Salt Timber Harvest and Hazard Fuel Reduction Project

Social-Economic Report

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Abstract

Two alternatives to achieve the project objectives were analyzed. The analysis included an economic viability assessment for timber sales within each alternative, a financial efficiency analysis, and calculations of jobs and personal income supported, and a return to the county of a portion of the stumpage receipts.

Alternative 2, the proposed action, has an economically viable timber component. The timber sale portion of the project will pay for all sale related costs. These costs include slash treatment and disposal, site preparation and planting, and erosion control measures. The other imbedded projects will have to be funded through appropriated dollars. The estimated cost of implementation of this alternative is \$573,948.

Alternative 3, the modified action, does not have an economically viable timber sale. While the commercial timber being removed under this alternative has value, the costs of removing the timber far outweigh the value. This alternative can be implemented using an integrated resource contract, where the timber value is used to offset the treatment costs. The estimated cost of implementation of this alternative is \$748,515.

Introduction

This report will detail the social impacts and the economic costs and benefits of the Salt Timber Sale project. The Salt Timber Sale is located entirely within Trinity County. Trinity County has local loggers capable of harvesting the timber, and has one large mill with the capacity to utilize the timber from the project. The social effects are the direct and indirect impacts of the project on the residents of Trinity. The economic costs and benefits include an estimate of the sales economic viability (return to the government), and estimates of the associated costs to the government for the planning and implementation of the project.

Regulatory Framework

A financial efficiency analysis is required at Gate 2 (project analysis, design and decision notice) (FSH 2409.18). The financial efficiency analysis of the proposed timber harvest, vegetation management, and transportation management activities is disclosed in this section. A comparison of the effects between the alternatives in regard to the following measures is also disclosed: harvest volume, estimated jobs supported and estimated 25 Percent Fund payment to county government. Although the values estimated are not absolute, they do provide a relative comparison of the alternatives and their associated economic values.

Issues Addressed

The following economic issues were identified during public scoping. They are considered in this analysis.

- Helicopter yarding can make a unit financially unfeasible.
- Completing all of the work planned for including mitigations may exceed the cost of the timber products.

Methodology for Analysis

Social Impacts

The analysis will focus on the direct and indirect economic impacts of the Salt Timber Sale Project on the citizens of Trinity County. The impacts will be measured in terms of the number of logging and sawmill jobs supported by the project, and the economic value of these jobs as compared to the overall economy of the county. It is recognized that the potential exists for entities outside of these counties to benefit from the project. However, restricting the analysis area to Trinity County does not detract from understanding or recognizing these benefits.

The data sources for this analysis include local, county, state and federal economic databases and reports. The limitations of these data sources are primarily due to the relative small size of Trinity County's population and economy. In many cases, there is not enough data available to be able to quantify the actual importance of an industry sector to the overall economy, making the affect of the economic impacts difficult to judge.

Economic Costs and Benefits

This analysis consists of two separate analyses. First is calculating the economic viability of the proposed timber sale, or simply stated the anticipated stumpage value of the timber. The economic viability model is Region 5's Timber Sale Economic Evaluation spreadsheet which generates unit specific estimated stumpage values. Data sources for this model include logging

cost inputs from LogCost8.0, estimated road reconstruction and maintenance cost from the Forest, and estimated timber volumes, species distribution, and product sizes from the silvicultural information available.

The second analysis is a calculation of the Present Net Value of the project. This calculation includes all monetary costs and benefits for the project. Future costs and benefits will be discounted back to 2008 dollars using a 4 percent discount rate. The monetary benefits are the estimated stumpage value for the timber sale. The monetary costs include the costs of planning, preparing, and administering the project, and the costs associated with the pre-commercial thinning portion of the project. The model used for this analysis is the Quicksilver Economic Analysis program. Data sources will include costs provided by the forest for each type of activity.

The timeframes used for both the social and economic analysis is four years, beginning in 2009. It is anticipated that this period of time will be sufficient to complete both the timber sale and the pre-commercial thinning operations.

Affected Environment

Existing Condition

The Salt Timber Sale Project is located entirely within Trinity County. Trinity County is a large remote county located in Northeastern California. The geography is rugged and heavily forested mountains. The county has a population of 14,313 (2006) over an area of 3,197 square miles. Most of the population lives in small towns, or on ranches or farms. Weaverville is the county seat and the largest city with a population of approximately 3,500.

The local economy in Trinity County has historically been based on government, forestry, light manufacturing, and tourism. The economic data available for Trinity County is limited due to the small size of the economy. Much of the gross revenue data is not available at the county level to maintain confidentially for businesses; however, the jobs and income data provide a reasonable overview of the economy. The economy of Trinity County is moderately diversified, it is more dependent on the service and government sectors than the production sector (79% by jobs, 61% by income).

Table 1: Trinity County Economy by Sector 2005

Economic Sector	Number of Jobs	% of Jobs	2005 Wages (\$1000)	% of 2005 Wages
Production	863	20%	53,449	38%
Service	2282	52%	22,574	16%
Government	1262	29%	63,437	45%
Totals	4407	-----	139,460	-----

Source: US Department of Commerce, Bureau of Economic Analysis – Reports CA25 and CA06 for Trinity County, 2005

The production sector is defined as the business involved with the extraction or processing of raw materials, and includes agriculture, forestry, mining, and manufacturing industries. In 2005, there were 287 manufacturing jobs. This is a significant change from the 618 manufacturing jobs in 1995. There is only one large production sawmill operating in Trinity County, the Trinity River Lumber Company in Weaverville. According to the Trinity Journal (January 2008), the Trinity River Lumber Mill has a design capacity of 134 MMBF per year, and is the largest non-

government employer in the county, employing 138 people. This is approximately one half of the manufacturing industry portion of the economy, in terms of jobs. The mill jobs are even more important to the local economy of Weaverville.

Table 2: Trinity County Jobs and Wages by Industry, 2005

Industry	Number of Jobs	% of Jobs	2005 Wages (\$1000)	% of Wages
Farm employment	245	5.6%	38,530	27.1%
Forestry, fishing, related activities	(D)	0.0%	988	0.7%
Mining	(D)	0.0%	(D)	0.0%
Utilities	(D)	0.0%	(D)	0.0%
Construction	331	7.5%	3,690	2.6%
Manufacturing	287	6.5%	10,059	7.1%
Wholesale trade	(D)	0.0%	(D)	0.0%
Retail trade	546	12.4%	7,430	5.2%
Transportation and warehousing	80	1.8%	599	0.4%
Information	71	1.6%	1,363	1.0%
Finance and insurance	95	2.2%	1,496	1.1%
Real estate and rental and leasing	257	5.8%	352	0.2%
Professional and technical services	228	5.2%	2,866	2.0%
Management of companies and enterprises	0	0.0%	0	0.0%
Administrative and waste services	94	2.1%	88	0.1%
Educational services	(D)	0.0%	(D)	0.0%
Health care and social assistance	(D)	0.0%	(D)	0.0%
Arts, entertainment, and recreation	137	3.1%	1,047	0.7%
Accommodation and food services	466	10.6%	4,715	3.3%
Other services, except public administration	308	7.0%	3,474	2.4%
Government and government enterprises	1262	28.6%	65,427	46.0%
Total	4407	100.0%	142,124	100.0%

Source: US Department of Commerce, Bureau of Economic Analysis – Reports CA25 and CA06 for Trinity County, 2005
 Note: (D) indicates that these values can not be displayed due to confidentiality of data to protect businesses in these industries due to the small number of business in that sector.

The timber industry in Trinity County currently provides about 50 percent of the manufacturing jobs in Trinity County. Historically, this percentage was higher, but it declined significantly during the late 1990s with the implementation of the Northwest Forest Plan. The reduction in timber harvest from the federal lands reduced the raw material supply for the industry, resulting in the closure of the mill in Hayfork in 1996. Figure 1 shows the general relationship between timber volumes harvested from the Shasta Trinity National Forest, and the number of manufacturing jobs in Trinity County. The trend is relatively clear; less volume harvested means fewer manufacturing jobs. There is 3 to 5 years lag in the effect of volume changes because the timber contracts run for that length of time, and there was timber available from other sources.

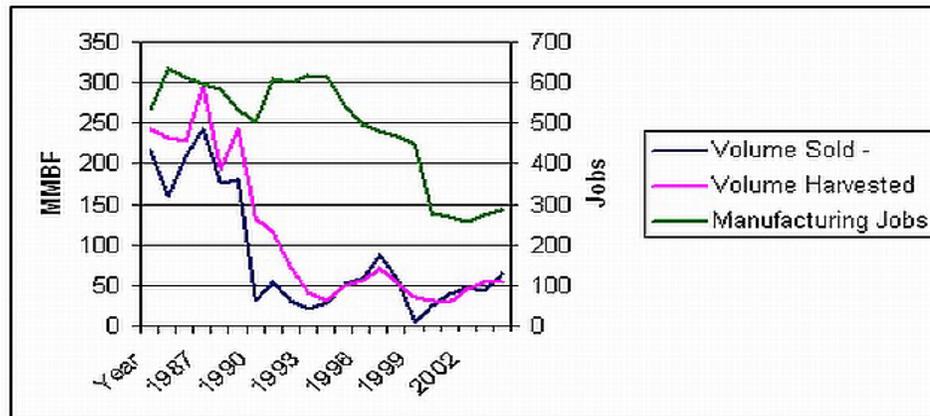


Figure 1: Shasta-Trinity National Forest Volume Harvested and Sold Versus Trinity County Manufacturing Jobs 1985 - 2005

Jobs in the timber industry fall into two general categories, logging and milling. The logging jobs, including trucking, tend to be very seasonal in nature. The logging season is late spring through early fall, depending on the amount of rain and snow. The milling jobs are year round jobs. Both types of jobs pay higher than the average income for Trinity County.

Table 3: Estimated Annual Income by Job Type in Trinity County, 2005

Job Type	Estimated Annual Income
Logging ¹	\$38,620
Manufacturing ²	\$36,631
Average ³	\$27,846

¹May 2005 State Occupational Employment and Wage Estimates – USDOL – California state weighted average for fallers and logging equipment operators. No local or regional data available.

²Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce – all manufacturing jobs including sawmilling. Sawmilling level data not available.

³Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce

The current state of the timber industry in Trinity County can be described as stable. The infrastructure (milling, trucking, and logging businesses) is sized proportionately to the supply of timber available from all sources, including federal lands. It is highly dependant on the federal timber to continue operating at the current levels. Large programmatic changes in timber volumes from the federal lands will have a direct affect on the size of the industry. The existing industry is very important to federal land managers. Without an existing infrastructure, implementing land management activities such as hazardous fuels reduction under the National Fire Plan, and the Healthy Forest Restoration Act will be much more difficult and expensive.

Environmental Consequences

Alternative 1-No Action

Direct Effects

Under this alternative, no timber would be harvested, no pre-commercial thinning or fuel break maintenance would occur.

Indirect Effects

Under the no action alternative, 103 acres of existing shaded fuel break would not be maintained. This decreases the effectiveness of the fuel break in the event of a wildfire. Approximately 481 acres of plantations would not receive pre-commercial thinning, leaving them more susceptible to damage due to insects and wildfire.

With no timber harvest, no timber related jobs will be supported, nor any 25% stumpage sharing with Trinity County.

Cumulative Effects

There are no foreseeable cumulative effects for the no action alternative.

Alternative 2 – Proposed Action

Alternative 2 proposes to treat 1619 acres within the project area. Treatments include commercial thinning of overstocked stands, regeneration of declining stands via shelterwood and green tree retention prescriptions, thinning an existing shaded fuel break, pre-commercial thinning of high risk plantations, and hand treatment of fuels in a visually sensitive area.

Table 4: Alternative 2 Proposed Activities.

Harvest Activity	Timber Sale Related Acres	Non-Commercial Acres
Intermediate Thinning	963	0
Shelterwood – Green Tree Retention	31	0
Regeneration Harvest – GTR	27	0
Fuel Break Maintenance	103	0
Totals	1124	0
Slash Treatment Activity	Timber Sale Related Acres	Non-Commercial Acres
Hand Pile and Burn	138	14
Treat Slash On Site	1,306	0
Tractor Site Prep, Burn Piles	58	0
Tractor Jackpot Pile, Burn Piles	0	103
Total	1,502	117
Other Activities	Timber Sale Related	Non-Commercial
Pre-commercial Thinning	0	481 Acres
Decommission Roads	0	13.8 Miles

Direct and Indirect Effects

Commodity Production

The proposed action will result in the production of timber commodities. In addition to sawlogs, this project could also produce fuel for the biomass industry. However, the closest facility capable of utilizing the fuel is in Anderson, California, and the cost of removing, processing, and transporting the fuel exceeds the current delivered fuel price.

The proposed harvest removal methods include ground based and helicopter yarding. The ground based system used for this analysis is mechanized falling (feller buncher) and tractor skidding. The analysis assumed that the tops would be left attached, skidded to the landing for processing and disposal. If no biomass market exists at the time of harvest, the tops and slash would be piled and burned at the landing. The helicopter yarding analysis showed that it is less expensive to hand pile and burn the slash in the unit then to fly the tops out with the sawlogs.

Table 5: Alternative 2 - Acres, Volumes, and Harvest Costs by Logging System

Harvest System	Acres	Sawlog Volume MBF ¹	Sawlog Volume CCF ²	Biomass Volume BDT ³	Stump to Mill Costs per CCF
Ground Based	986	8,137	15,886	12,945	\$141.04
Helicopter	138	1,228	2,417	0	\$293.01
Totals	1124	9,365	18,303	12,295	---

¹MBF = Thousand Board Feet

²CCF = Hundred Cubic Feet

³BDT = Bone Dry Ton

⁴Stump to Mill Cost: Source Salt Alt2 R5_sale_eval_V1_02_02_09.xls. Costs include all cost centers including harvest, load, trucking, road construction, reconstruction, slash disposal, and erosion control.

The timber harvested under this alternative consists of small and medium sawtimber. The fuel being harvested consists of the limbs and tops of the merchantable trees. To meet fuel loading objectives, the cost of yarding the tops is included in the cost of removing the sawtimber. The additional biomass costs include chipping, and transportation to the biomass plant.

Table 6: Timber Characteristics and Delivered Product Values

Product	Species	Volume CCF	Pond Log Value ¹
Sawlog	Ponderosa Pine	5,490	\$139.33
Sawlog	Sugar Pine	1,829	\$153.31
Sawlog	Douglas Fir	5,494	\$165.81
Sawlog	White Fir	4,576	\$138.91
Sawlog	Incense Cedar	914	\$312.50
Total/Weighted Average		18,303	\$157.22
Product	Volume CCF	Landing to Plant Cost	Pond Log Value ²
Biomass	4,707	\$61.95	\$43.15

¹Source: Oregon Department of Forestry, Klamath Region, 2nd Quarter 2008 prices. Pond Log Value is the price paid at the mill for delivered logs.

²Source: Region 5 TEA Spreadsheet. Pond Log Value is the price paid at the mill for delivered fuel.

Comparing the average Pond Log Value to the average Stump to Mill cost, it is obvious that while the ground based component is economically viable at this time, the helicopter component is not. The reasons for this include the affect high fuel prices has on helicopter yarding costs, and depressed values for forest products due to the current housing market. The helicopter component is included in this analysis because the project objectives still apply to that unit, and the possibility that during the life of the project a combination of lower fuel prices and an improved forest products market or the combination of this unit with another project in a neighboring area may cause it to become economically viable.

Table 7: Alternative 2 Timber Sale Viability

Logging System	Base Rates (\$ per CCF)	Indicated Advertised Rates (\$ per CCF)	Total Estimated Sale Value
Ground Based Only	\$15.95	\$19.94	\$316,767
Ground Based and Helicopter	\$8.50	-\$0.90	-\$20,682

Table 7 details the economic viability for this alternative. The base rates are the minimum value that the government will accept for the timber, and it includes essential reforestation of the shelterwood and green tree retention units. The advertised rates are the predicted selling value of the timber if it was appraised in today's market. An advertised rate of less than the base rate indicates a deficit sale. It is unlikely that a purchaser would buy a deficit sale.

The biomass component is not economically viable at current market prices. It has been left in the analysis because utilizing this material is preferable to disposing of it, and the possibility that a combination of lower fuel prices and higher electricity prices during the life of the project may cause it to become economically viable.

Under current market conditions, only the ground based component of this project is economically viable. The financial efficiency will be calculated based on all treatments. The indirect effects (jobs, income, and payments to counties) will be calculated using only the ground based component. If the helicopter or biomass components do become viable during the life of the project, the effect will be to increase the financial efficiency by amortizing the fixed project costs over more volume, and will increase the number of jobs, and amount paid to the county.

Financial Efficiency

The financial efficiency of this project is measured by the present net value of the project (PNV). The PNV is calculated by subtracting the present value of future costs from the present value of future benefits. The present value is the 2008 value of costs and benefits earned or spent in future years, discounted back to 2008 dollars.

Table 8: Alternative 2 Benefit and Cost Detail:

Benefit	Quantity and Unit of Measure	Value per Unit	Inflation Rate (%)	Base Year	Estimated Accomplishment Year
Stumpage from Timber Sale	15,886 CCF	19.94	4.00	2008	2009
Cost	Quantity and Unit of Measure	Cost per Unit	Inflation Rate (%)	Base Year	Estimated Accomplishment Year
Handpile (Fuels Treatment)	14. Acres	\$800.00	4.00	2008	2009
TOS – Commercial Acres (Fuels Treatment)	1,306 Acres	\$57.50	4.00	2009	2013
Preparation (Timber Sale)	15,886 CCF	\$17.33	4.00	2008	2009
Administration (Timber Sale)	15,886 CCF	\$8.67	4.00	2008	2010
Pre-commercial Thinning (PCT)	481.00 Acres	\$200.00	4.00	2008	2010
Tractor Pile and Burn (Slash Treatment)	58.00 Acres	\$300.00	4.00	2008	2010
Tractor Pile Fuel Break (Slash Treatment)	103.00 Acre	\$250.00	4.00	2008	2010
Burn Handpiles (Slash Treatment)	117.00 Acres	\$50.00	4.00	2008	2011
Burn Landing Piles (Slash Treatment)	57.00 Each	\$100.00	4.00	2008	2011
Tree Planting (Tree Planting)	58.00 Acres	\$1,250.00	4.00	2008	2012
First release (Tree Release)	58.00 acres	\$375.00	4.00	2008	2016
Second Release (Tree Release)	58.00 Acres	\$375.00	4.00	2008	2023
Road Decommissioning	13.8 Miles	\$ 5,000.00	4.00	2008	2011

Table 9: Alternative 2 Present Net Value Summary¹

Present Net Value – Stumpage	Present Net Value – Costs	Present Net Value
\$329,437	-\$903,385	-\$573,948 ²

¹Source: Quicksliver Economic Analysis Program; 2008.

²This value is discounted, so is different than value in Table 7.

The present net value of this alternative is -\$573,948. In simpler terms, the Forest Service will need to budget this amount of funding (in 2008 dollars) to accomplish all the objectives of this project.

Indirect Effects

This alternative has indirect effects on the local economy. These effects include the number of jobs supported, income derived from the jobs, and payments of 25% of the stumpage value to Trinity County.

Harvesting and manufacturing timber will support jobs within the local economy. For this analysis, only direct jobs (logging and milling) were considered. Jobs are described as a person/year employment, and are based on the ratio of logging and milling employment to total volume harvested in 2007 within the state of California .

Counties receive payments in lieu of taxes (PILT) to replace tax revenue lost due to the public nature of lands administered by federal agencies as authorized under the 1976 Payments in Lieu of Taxes Act. The amount is based on the amount of acreage administered by certain federal agencies, population, a schedule of payments, the Consumer Price Index, other federal payments

made in the prior year, and the level of funding allocated by Congress. These payments would not be affected by changes in revenue as a result of implementation of the proposed action or alternatives.

In addition to PILT payments, counties receive a portion of the revenue generated on National Forest System lands. Historically, counties have received 25 Percent Fund payments. These payments returned 25 percent of all revenues generated from forest activities, with the exception of certain mineral programs, and were paid based on the number of National Forest System lands within each county. These funds are used for the upkeep and maintenance of public schools and roads. However, in 2000 Congress enacted the Secure Rural Schools and Community Self-Determination Act (SRSCS). This act was designed to stabilize annual payments to states and counties for the next six years beginning in 2001. The new formula for computing annual payments is based on averaging a state's three highest payments between 1986 and 1999 to arrive at a compensation allotment or "full payment amount". SRSCS authorization ended on September 30, 2006. Public Law (PL) 110-28, the Iraq Accountability Appropriations Act of 2007 contained a provision that provided for payments under the SRSCS Act of 2000 for 2007 and payments continued through September 30, 2007. In 2008 the emergency economic package extended payments through 2011.

Table 10: Alternative 2 – Jobs, Income, and Payment to County

MBF Harvested	Jobs Supported¹	Income Supported	Estimated Stumpage Value	Estimated 25% Payment to County
9,365	28.7	\$ 1,067,397	\$ 316,767	\$ 79,191

¹Direct Logging and Milling Jobs: Source: 2007 Bureau of Labor Statistics, 2007 California Board of Equalization

Cumulative Effects

Timber volume harvested from this project contributes to the Shasta Trinity National Forest's allowable Sale Quantity. The Shasta-Trinity National Forest Land Management Plan (1995) forecasted an ASQ of 82 MMBF for the preferred alternative. The average volume sold between 1995 and 2006 was 47 MMBF per year, or 57 percent of the ASQ. This alternative will contribute 9.4 MMBF to the annual target, or 11% of the ASQ.

Alternative 3

Alternative 3 proposes to treat 1,415 acres within the project area. Treatments include commercial and non-commercial thinning of overstocked stands, regeneration of declining stands via shelterwood and green tree retention prescriptions, thinning an existing shaded fuel break, pre-commercial thinning of high risk plantations, and hand treatment of fuels in a visually sensitive area.

The major difference between this alternative and the proposed action is increasing the remaining canopy closure to 60%, which significantly reduces the harvest volumes. Some of the proposed units will generate no commercial volumes, and will be understory thinned using service or integrated resource contracts.

Table 11: Alternative 3 Proposed Activities

Harvest Activity	Timber Sale Related Acres	Non-Commercial Acres
Intermediate Thinning	867	0
Shelterwood – Green Tree Retention	30	0
Fuel Break Maintenance ¹	100	100
Totals	997	100
Slash Treatment Activity	Timber Sale Related Acres	Non-Commercial Acres
Hand Pile and Burn	113	14
Treat Slash On Site	867	0
Tractor Site Prep, Burn Piles	30	0
Tractor Jackpot Pile, Burn Piles	0	100
Total	652	114
Other Activities	Timber Sale Related	Non-Commercial
Pre-commercial Thinning	0	421 Acres
Decommission Roads	0	13.8 Miles

¹The shaded fuel break maintenance has some commercial timber to remove. The timber sale is only responsible to treat the slash created by removing the commercial timber. Sub-merchantable timber will need to be treated outside of the timber sale contract.

Direct and Indirect Effects

Commodity Production

This alternative will result in the production of timber commodities. In addition to sawlogs, this project could also produce fuel for the biomass industry. However, the closest facility capable of utilizing the fuel is in Anderson, California, and the cost of removing, processing, and transporting the fuel exceeds the current delivered fuel price.

The proposed harvest removal methods for the commercial thinning units include ground based and helicopter yarding. The ground based system used for this analysis is mechanized falling (feller buncher) and tractor skidding. The analysis assumed that the tops would be left attached, skidded to the landing for processing and disposal. If no biomass market exists at the time of harvest, the tops and slash would be piled and burned at the landing. The helicopter yarding analysis showed that it is less expensive to hand pile and burn the slash in the unit then to fly the tops out with the sawlogs.

Table 12: Alternative 3 - Acres, Volumes, and Harvest Costs by Logging System

Harvest System	Acres	Sawlog Volume MBF ¹	Sawlog Volume CCF ²	Biomass Volume BDT ³	Stump to Mill Costs per CCF
Commercial Ground Based	867	2,741	5,100	4,680	\$153.35
Commercial Helicopter	113	565	1,051	0	\$376.44
Totals	980	3,306	6,151	4,680	---

¹MBF = Thousand Board Feet²CCF = Hundred Cubic Feet³BDT = Bone Dry Ton⁴Stump to Mill Cost: Source Salt Alt3 R5_sale_eval_V1_02_02_09.xls. Costs include all cost centers including harvest, load, trucking, road construction, reconstruction, slash disposal ,and erosion control.

The timber harvested under this alternative consists of small and medium sawtimber. The fuel being harvested consists of the limbs and tops of the merchantable trees. To meet fuel loading objectives, the cost of yarding the tops is included in the cost of removing the sawtimber. The additional biomass costs include chipping, and transportation to the biomass plant.

Table 13: Timber Characteristics and Delivered Product Values

Product	Species	Volume CCF	Pond Log Value ¹
Sawlog	Ponderosa Pine	1,926	\$139.33
Sawlog	Sugar Pine	601	\$153.31
Sawlog	Douglas Fir	1,792	\$165.81
Sawlog	White Fir	1,468	\$138.91
Sawlog	Incense Cedar	364	\$312.50
Total/Weighted Average		6,151	\$158.56
Product	Volume CCF	Landing to Plant Cost	Pond Log Value ²
Biomass	1,702	\$61.95	\$43.15

¹Source: Oregon Department of Forestry , Klamath Region, 4th Quarter 2008 prices. Pond Log Value is the price paid at the mill for delivered logs.²Source: Region 5 TEA Spreadsheet. Pond Log Value is the price paid at the mill for delivered fuel.

Comparing the average Pond Log Value to the average Stump to Mill cost for both harvest systems, it is obvious that the helicopter portion is not economically viable. The ground based component appears to have a positive economic value, but the difference is still below base rates, which indicates a deficit sale. It is unlikely that a purchaser would purchase a sale with these values. The reasons for this include the affect high fuel prices has on helicopter yarding costs, depressed values for forest products due to the current housing market, and the dramatic effect low harvest volumes per acre have on both ground based and helicopter harvest costs. The biomass component is not economically viable at current market prices. It has been left in the analysis because utilizing this material is preferable to disposing of it, and the possibility that a combination of lower fuel prices and higher electricity prices during the life of the project may cause it to become economically viable.

Table 14: Alternative 3 Timber Sale Viability

Logging System	Base Rates (\$ per CCF)	Indicated Advertised Rates (\$ per CCF)	Total Estimated Sale Value
Ground Based Only	\$10.56	\$--6.54	\$-33,355
Ground Based and Helicopter	\$8.80	-\$--45.84	-\$--281,981

Table 4 details the economic viability for this alternative. The base rates are the minimum value that the government will accept for the timber. The advertised rates are the predicted selling value of the timber if it was appraised in today's market. An advertised rate of less than the base rate indicates a deficit sale. It is unlikely that a purchaser would buy a deficit sale.

Under current market conditions, this alternative does not have an economically viable timber sale. It is highly unlikely that there will be a combination of lower fuel costs and higher market conditions during the life of the project which will make the commercial sawtimber in the alternative economically viable. To achieve the objectives of this alternative, the only solution is to offer the project as an integrated resource contract. Under this type of contract, the value of the sawtimber is subtracted away from the cost of treatment, and appropriated funds are used to finance to balance.

The financial efficiency will be calculated for all treatments. The indirect effects (jobs, income, and payments to counties) will be calculated using only the commercial treatment component of this alternative.

Financial Efficiency

The financial efficiency of this project is measured by the present net value of the project (PNV). The PNV is calculated by subtracting the present value of future costs from the present value of future benefits. The present value is the 2008 value of costs and benefits earned or spent in future years, discounted back to 2008 dollars.

Table 15: Alternative 3 Benefit and Cost Detail:

Benefit	Quantity and Unit of Measure	Value per Unit	Rate (%)	Base Year	Estimated Accomplishment Year
Stumpage (Timber Sale)	6,151	\$8.80	4.00	2008	2009
Cost	Quantity	Value	Rate (%)	Base	
Handpile (Fuels Treatment)	127.00 Acres	\$800.00	4.00	2008	2009
TOS – Commercial Acres (Fuels Treatment)	867.00 Acres	\$57.50	4.00	2009	2013
TOS – Non-Commercial Acres (Fuels Treatment)	228.00 Acres	\$103.67	4.00	2009	2013
Preparation (Timber Sale)	6,151.00 CCF	\$17.33	4.00	2008	2009
Timber Sale (Net Harvest Costs)	6,151.00 CCF	\$45.84	4.00	2008	2009
Administration (Timber Sale)	6,151.00 CCF	\$8.67	4.00	2008	2010
Pre-commercial Thinning (PCT)	481.00 Acres	\$200.00	4.00	2008	2010
Tractor Pile Fuel Break (Slash Treatment)	100.00 Acre	\$300.00	4.00	2008	2010
Tractor Pile Regeneration Units	30.00 Acres	\$300.00	4.00	2008	2010
Burn Handpiles (Slash Treatment)	127.00 Acres	\$50.00	4.00	2008	2011
Burn Landing Piles (Slash Treatment)	20.00 Each	\$100.00	4.00	2008	2011
Road Decommissioning (Service Work)	13.80 Miles	\$5,000.00	4.00	2008	2011
Tree Planting (Tree Planting)	30.00 Acres	\$1,250.00	4.00	2008	2012
first release (Tree Release)	30.00 acres	\$375.00	4.00	2008	2016
Second Release (Tree Release)	30.00 Acres	\$375.00	4.00	2008	2023

Table 16: Alternative 3 Present Net Value Summary¹

Present Net Value – Stumpage	Present Net Value – Costs	Present Net Value
52,293	-804,809	-\$748,515

¹Source: Quicksilver Economic Analysis Program; 2008

The present net value of this alternative is -\$748,515. In simpler terms, the Forest Service will need to budget this amount of funding (in 2008 dollars) to accomplish all the objectives of this project.

Indirect Effects

This alternative has indirect effects on the local economy. These effects include the number of jobs supported, income derived from the jobs, and payments of 25% of the stumpage value to Trinity County.

Harvesting and manufacturing timber will support jobs within the local economy. For this analysis, only direct jobs (logging and milling) were considered. Jobs are described as a person/year employment, and are based on the ratio of logging and milling employment to total volume harvested in 2007 within the state of California.

Counties receive payments in lieu of taxes (PILT) to replace tax revenue lost due to the public nature of lands administered by federal agencies as authorized under the 1976 Payments in Lieu of Taxes Act. The amount is based on the amount of acreage administered by certain federal agencies, population, a schedule of payments, the Consumer Price Index, other federal payments made in the prior year, and the level of funding allocated by Congress. These payments would not be affected by changes in revenue as a result of implementation of the proposed action or alternatives.

In addition to PILT payments, counties receive a portion of the revenue generated on National Forest System lands. Historically, counties have received 25 Percent Fund payments. These payments returned 25 percent of all revenues generated from forest activities, with the exception of certain mineral programs, and were paid based on the number of National Forest System lands within each county. These funds are used for the upkeep and maintenance of public schools and roads. However, in 2000 Congress enacted the Secure Rural Schools and Community Self-Determination Act (SRSCS). This act was designed to stabilize annual payments to states and counties for the next six years beginning in 2001. The new formula for computing annual payments is based on averaging a state's three highest payments between 1986 and 1999 to arrive at a compensation allotment or "full payment amount". SRSCS authorization ended on September 30, 2006. The last payment under this authorization was made in December of 2006. Public Law (PL) 110-28, the Iraq Accountability Appropriations Act of 2007 contained a provision that provided for payments under the SRSCS Act of 2000 for 2007 and payments continued through September 30, 2007. In 2008 the emergency economic package extended payments through 2011.

Table 17: Alternative 3 – Jobs, Income, and Payment to County

MBF Harvested	Jobs Supported¹	Income Supported	Estimated Stumpage Value	Estimated 25% Payment to County
3,306	10.1	\$376,809	\$54,128	\$13,532

¹Direct Logging and Milling Jobs: Source: 2007 Bureau of Labor Statistics, 2007 California Board of Equalization

Cumulative Effects

Timber volume harvested from this project contributes to the Shasta Trinity National Forest's allowable Sale Quantity. The Shasta-Trinity National Forest Land Management Plan (1995) forecasted an ASQ of 82 MMBF for the preferred alternative. The average volume sold between 1995 and 2006 was 47 MMBF per year, or 57 percent of the ASQ. This alternative will contribute 3.3 MMBF to the annual target, or 4% of the ASQ.