



Wildfire Adapted Missoula: Timber and Economics Effects Analysis

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Date: 3/4/2021

Consistency with Relevant Laws, Regulations, and Policy

National Forest Management Act (NFMA) Land Management Plan Consistency

The Lolo National Forest Land Management Plan provides standards and guidelines for timber sales larger than 1 MMBF and transportation systems for unroaded areas where timber harvest is scheduled.

Lolo National Forest Plan Standard #10

Unit wide

Lolo National Forest Plan Standard #10 requires an economic analysis be completed for a) timber sales larger than 1 MMBF and b) transportation systems for unroaded areas where timber harvest is scheduled. The project will be analyzed, and a decision made whether to continue, considering the net public benefit and/or probable marketability during project planning and design. The WAM project proposes both activities stated above.

An economic analysis was completed for the mechanical harvesting units in the Blue Mountain Focal Treatment Area where a timber sale is proposed. The analysis was completed using the USFS Region One (R1) Sale Feasibility Spreadsheet. The R1 Sale Feasibility spreadsheet is a residual value appraisal tool used to determine the marketability of a planned timber sale.

To determine marketability of the planned timber sale the appraised stumpage rate from the feasibility analysis was compared to the base rates. In this case the base rate is \$3 per hundred cubic feet (CCF) and the appraised stumpage rate is \$5.82 per CCF (see Table 1 below). The appraised stumpage rate is higher than the base rate indicating that Alternative B is feasible (likely to sell).

Other Relevant Law, Regulation, and Policy Consistency

Financial Efficiency

The financial efficiency analysis is specific to the timber harvest and required design criteria associated with the proposed activities (as directed in Forest Service Manual 2400-Timber Management and guidance found in Forest Service Handbook 2409.18). The Region One Project Economic Analysis Tool (PEAT) is used for financial efficiency evaluation to estimate the present net value of Alternative B. Costs for sale preparation, sale administration, regeneration, and required design criteria are included. All unit costs, quantities, and timing of activities were developed by the specialists on the project's interdisciplinary team. If exact costs were not known, the maximum of the cost range was used to produce the most conservative PNV result. If actual costs are lower, all else equal, PNV would be higher than the estimates in Table 1. The expected revenue for Alternative B is the corresponding predicted high bid from the sale feasibility analysis, multiplied by the quantity of timber to be harvested. The predicted high bid is used for the expected revenue (rather than the appraised stumpage rate) since the predicted high bid is the best estimate of the high bid resulting from the timber sale auction. The PNV was calculated using a 4% real discount rate over the ten-year project lifespan (2020-2029). For more information on the values or costs, see the WAM Project Economics Analysis Tool spreadsheet in the Project File.

This analysis is not intended to be a comprehensive benefit-cost or PNV analysis that incorporates a monetary expression of all known market and non-market benefits and costs that is generally used when economic efficiency is the sole or primary criterion upon which a decision is made. Many of the values associated with natural resource management are best handled apart from, but in conjunction with, a

more limited benefit-cost framework. These values are discussed throughout the EA for each resource area.

Table 1 summarizes project feasibility and financial efficiency, including the base rates, appraised stumpage rate, predicted high bid, total revenue, and PNV for Alternative B. The PNV indicates the financial efficiency of Alternative B, including all costs and revenues associated with the timber harvest and required design criteria. The cost of sale preparation \$14/CCF and sale administration \$8/CCF are also considered in the PNV calculation.

Table 1. Project Feasibility and Financial Efficiency Summary (2020 Dollars)

Category	Measure	No Action	Alt. B
Timber Harvest Information	Acres Harvested	0	1,144*
	Volume Harvested (CCF)	0	12,303
	Base Rates (\$/CCF)	\$0	\$3.00
	Appraised Stumpage Rate (\$/CCF)	\$0	\$5.82
	Predicted High Bid (\$/CCF)	\$0	\$11.47
	Total Revenue (Thousands of \$)	\$0	\$118,681
Timber Harvest & Required Design Criteria	PNV (Thousands of \$)	\$0	-\$131,209

*Estimated acreage to be included in timber sale contract. This number is less than the NEPA analyzed acreage to account for unforeseen logging system and/or resource issues during harvest unit layout.

Results shown in Table 1 indicate that Alternative B is not financially efficient (negative PNV) for the timber harvest with design criteria. A negative PNV does not indicate that a timber sale is not financially feasible and would result in no bids at auction, see NFMA Land Management Consistency section above for further details. A negative PNV does show that costs to complete the timber harvest and required design criteria along with sale preparation and sale administration costs are higher than the predicted revenue from the timber sale. However, using a timber sale as a tool to reduce fuels generates revenue. Timber harvest could help maintain or increase the supply of logs to mills. This could also maintain or produce jobs in the timber industry as well as other indirect jobs that are a result of timber harvest and manufacturing. If a timber sale was not used for fuels reduction the project would have a more negative PNV as there would be no revenue from selling the trees and 100% of the funding would need to be generated outside the timber sale to cover the cost of reducing fuels. The purpose and need of the project may not be able to be met without the removal of large sawlog-sized material. The most cost efficient way to remove this material is with a timber sale.

The No Action alternative would not harvest any timber. The public would incur no financial costs, nor realize any benefits of timber harvest in this area. Therefore, the No Action alternative would yield a present net value of zero. However, a NEPA planning cost for this alternative has already been incurred outside of the financial efficiency analysis and there would be no return on this planning cost.

The No Action alternative has the potential to continue the decline of timber-related employment in the rural communities of the project area. Continued decline in timber harvest from NFS lands could potentially impact wood product employment and associated indirect and induced employment. Cumulative loss in timber-related jobs could affect the remaining timber processing infrastructure and capacity of the local rural communities, and could disrupt the dependent local goods and service industries

As indicated earlier, many of the values associated with natural resource management are non-market benefits. These benefits should be considered in conjunction with the financial efficiency information presented here. These non-market values are discussed in the various resource sections found in the EA and associated specialists' reports. When evaluating trade-offs, the use of efficiency measures is one tool used in making the decision. Many costs and benefits cannot be quantified financially, such as safety, effects on wildlife, the restoration of watersheds and vegetation. The decision maker takes many factors into account when making the decision.

Environmental Justice

As stated in Executive Order 12898, it is required that all federal actions consider the potential of disproportionate effects on minority and low-income populations in the local region. The principles of environmental justice require agencies to address the equity and fairness implications associated with federal land management actions. Defining minority and low-income populations is vital to undertaking environmental justice analysis. The terms minority and low-income are defined below using departmental regulations and from the CEQ (Council on Environmental Quality 1997).

Minority Populations

The USDA departmental regulations define minority as "a person who is a member of the following population groups; American Indian or Alaska Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic" (U.S. Department of Agriculture 1997).

In its direction on environmental justice in NEPA, the CEQ defines a minority population as:

1. A readily identifiable group of people living in geographic proximity with a population that is 50% minority. The population with a 50% minority may be made up of one minority or a number of different minority groups; together the sum is 50%.
2. A minority population may be an identifiable group that has a meaningfully greater minority population than the adjacent geographic areas, or may also be a geographically dispersed/transient set of individuals such as migrant workers of Native Americans (Council on Environmental Quality 1997).

Low-Income Populations

According to CEQ, a low-income population is a community or a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect (Council on Environmental Quality 1997). USDA departmental regulations (U.S. Department of Agriculture 1997) state that low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Census Bureau's annual current population reports (Series P-60) on income and poverty.

The WAM project area is almost entirely within Missoula County with less than five percent of the project area in Granite County. Missoula County was selected for the geographic unit of analysis to assess environmental justice requirements as this would be the only population that would have a potential to be negatively impacted. The state of Montana was used as the reference unit to identify if an environmental justice population exists in the project area. The USDA Forest Service recommends using a five percent threshold to identify environmental justice populations.

During a five year period from 2014-2018, the average percent of total population for all minority races in Missoula County was less than 10%¹. During the same period, Montana's minority population was 11%. Missoula County has a lower minority population when compared to the State and therefore does not meet the criteria for an environmental justice community based on race.

Figures from the U.S. Department of Commerce show that the low income population of Missoula County is similar to that of Montana. With 14.9% of Missoula County residents below the poverty level, the poverty rate is slightly higher than that of Montana, 13.7%. However, 7.6% of the families in Missoula County are below the poverty level which is lower than the Montana rate of 8.5%. The figures for Missoula County do not meet the 5 percent threshold for people or families below the poverty level needed to identify a low-income population.

Neither minority or low-income populations within Missoula County meet the 5 percent threshold for identifying environmental justice populations.

References Cited

Council on Environmental Quality. 1997. Environmental justice: Guidance under the National Environmental Policy Act.

U.S. Department of Agriculture. 1997. Departmental regulation: Environmental Justice. 5600-002, U.S. Department of Agriculture, Natural Resources and Environment, Washington, DC.

¹ U.S. Department of Commerce. 2019. Census Bureau, American Community Survey Office, Washington, D.C., as reported in Headwaters Economics' Economic Profile System (headwaterseconomics.org/apps/economic-profile-system/)

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