
Appendix D Economics

Cook County encompasses approximately 950,000 acres of northeastern Minnesota, of which 91% is publicly owned. In Cook County the U.S. Government owns approximately 70% of the land, the State of Minnesota owns 15% of the land, the Grand Portage Indian Reservation owns 5% of the land and Cook County owns less than 1% of the land (Cook County Courthouse, 2006).

The estimated 2004 population of Cook County was 5,317, which represented a 2.8% increase over the number recorded in the 2000 census. The median household income in 1999 was \$36,640, with the majority of workers (76%) employed in the private sector (U.S. Census Bureau 2000).

In July 2001, the University of Minnesota Duluth Bureau of Business and Economic Research completed a study to measure the importance of forestry to northern Minnesota, report on its economic base, and analyze its economic trends. Forestry was categorized into product industries such as paper mills, sawmills, logging contractors, and retailers of different types of wood products. The area was described as economically diverse but very dependent on natural resources. The study identified the forest products industry as “clearly one of the central industries in the region’s economy” (Litchey et al. 2001: iv).

The study found forest product industries (particularly paper mills and reconstituted wood products) to be major contributors to the economic health of northeast Minnesota. Paper mills ranked 7th for the dollar value output of production and distribution (Litchey et al. 2001:26). This same output for reconstituted wood products was almost thirty-eight times higher than the same industry nationally (Litchey et al. 2001:28). Seven forestry-related industries ranked in the top third of all the industries in the northeast region.

The hospitality industry category of “Eating and Drinking Places” ranked 9th for output in the northeast region (Litchey et al. 2001:29). “The hospitality industry clearly depends, to some extent, on the natural resource amenities in the region, but to conclude that all of this industry depends on forestry is clearly wrong. For instance, water resources, human-made amenities (such as championship golf courses, ski resorts, and convention facilities), and the availability of adequate transportation systems, also bring tourists to the region” (Litchey et al. 2001:v).

Financial Efficiency Analysis

The estimated cost of implementation of each alternative is shown in Table D-1. These costs would be spread over the course of approximately 10 years until the full implementation of the proposed activities have been completed.

*Table D-1 Estimated Costs for Implementing Each Alternative. **

Harvest Treatments	Acres	Cost/Acre	Alternative 1	Alternative 2
Sale Preparation	1288	\$72	\$0	\$92,736
Sale Administration	1288	\$48	\$0	\$61,824
Total Harvest Costs:				\$154,560
Fuels Reduction:				
Mechanical Fuels Reduction	97	\$15	\$0	\$1,455
Broadcast Burn	21	\$150	\$0	\$3,150
Handpile and Burn	93	\$200	\$0	\$18,600
Underburn	49	\$150	\$0	\$7,350
Pile Burn	119	\$15	\$0	\$1,785
Total Fuels Reduction Costs:				\$32,340
Reforestation				
Site Prep Burn	171	\$150	\$0	\$25,650
Planting*	436	\$212	\$0	\$92,432
Interplanting**	785	\$212	\$0	\$166,420
Mechanical Site Preparation***	954	\$220	\$0	\$209,880
Seeding	68	\$150	\$0	\$10,200
Total Reforestation Costs:				\$504,582
Wildlife				
Wildlife Habitat Rehabilitate openings	29	\$200	\$0	\$5,800
Underplant	12	\$212	\$0	\$2,544
Total Wildlife Costs:				\$8,344
Slash Disposal				
Total Slash Disposal Costs:	932	\$15	\$0	\$13,980
Transportation				
Total Temporary Road Construction:	13.3	\$5000	\$0	\$66,500
Total Costs:				\$780,306
Treatment acres were used to calculate costs per treatment. Cost figures for sale and treatment layout were obtained from the Mid-Temperance EA; costs for the fuels treatments were provided by Patty Johnson, Fuels Planner; costs for regeneration and site preparation were provided by Myra Theimer, Silviculturist; costs for wildlife habitat rehabilitate openings were provided by Dave Ingebrigtsen, Wildlife Biologist, Minnesota DNR; costs for temporary road construction were provided by John Olson, Civil Engineer and John Mellang, Transportation Planner.				
*Planting that occurs after Clearcut with Reserves (680 seedlings per acre, 8x8 spacing). Some Clearcut with Reserves would only be interplanted which would treat approximately 20% of the area. An estimated 30% of all acres with any type of planting would be released.				
**Planting that occurs after Shelterwood Seed Cut with Reserves (underplant 222 seedlings per acre, 14x14 spacing). Interplanting for diversity in the Clearcut with Reserves would be approximately 20% of the area. An estimated 30% of the acres with interplanting white pine would have some type of treatment to protect the pine from deer such as bud caps, or spraying deer repellent. Acres for release or deer protection would be determined based on site specific needs.				
***Mechanical Site Preparation would only be 30-50% of the acreage shown.				

Revenues are based on potential timber sale receipts. Table D-2 shows the estimated revenues, based on October 1, 2007 base period prices with no market adjustments. The actual revenues generated will depend upon market values at the time of sale. In the past, bids on timber sales have run above base period prices.

Table D-2 Estimated Benefits

Factor	Alt. 1	Alt. 2
Harvest Volume (MMBF)	0	8.1
Federal Revenue	\$0	\$253,765
Payments to State and Local Government	\$0	\$ 63,441
Total Federal Revenue	\$0	\$190,324
Note: Treatment acres were used to estimate revenue		

Under Alternative 1 (no action), there would be no costs incurred from forest management activities. There would be no revenue to the federal government from timber sales and no payment to the county government.

The least expensive harvest method with the greatest return of dollars and total volume is aspen clearcut with reserves or patch clearcut followed by jack pine-black spruce clearcut with reserves with site preparation and seeding. The shelterwood seed cut with reserves, seed-tree cut, and single-tree selection would be more costly to layout and would generate less volume and revenue than the other harvest methods because of the time required to mark specific trees to be removed and because fewer trees would be harvested. Mechanical site preparation is less costly than a site preparation burn.

Forest Plan goals for restoration, retention of trees for habitat and other values (legacy patches, leave tree requirements in clearcuts, MIH guidelines), and scenic and riparian protection or enhancement all require more effort in planning, sale preparation, reforestation and administration. This results in higher average unit costs and lower average unit revenues.

Simple economic costs and benefits are important considerations but are not the only or even primary considerations in an environmental analysis. There are many non-market or amenity values associated with the alternatives such as the values of large patches of mature forest and large patches of young forest that will grow into mature patches. Other non-market values include enhancements to habitat conditions, vegetation, riparian areas, and scenery.

The Forest Plan considered the costs and revenues of vegetation management across the Superior National Forest. For information on the economic sustainability of local communities see the Forest Plan Final Environmental Impact Statement (FEIS Volume I, pp. 3.9-1 to 58).