

Capacity and Capability of Mills in the Flathead National Forest Timber-Processing Area

Addendum to:

Timber Use, Processing Capacity, and Capability to Utilize Small-Diameter Timber
Within USDA Forest Service, Region One Timber-processing Area

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Prepared by:

Charles E. Keegan
Director, Forest Industry Research

Todd A. Morgan
Research Forester

Timothy P. Spoelma
Research Forester

Bureau of Business and Economic Research
The University of Montana – Missoula

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Introduction

This report was prepared as a forest planning support document for the Flathead National Forest as part of Challenge Cost-share Agreement #03-CS-1132463-241, between the USDA Forest Service, Inventory and Monitoring Institute and The University of Montana's Bureau of Business and Economic Research (BBER).

In this report, "capacity" refers to the total volume of timber (excluding pulpwood) that existing mills could utilize annually, and "capability" refers to the volume of trees of a certain size class that existing mills can efficiently process annually. The major sources of information used to estimate timber flow, timber-processing capacity, and volumes of timber processed were periodic censuses and annual surveys of the forest products industry (see attached Region One report). These censuses and surveys are performed on a regular basis by the BBER, the University of Idaho's Department of Forest Products, and the Department of Natural Resource Science at Washington State University. Follow-up telephone interviews with mill managers, conducted between May and August 2003, were used to update volumes of timber processed, as well as timber-processing capacity and capability to use trees of various sizes. Volumes of timber reported as harvested or processed include timber used to produce manufactured wood products (e.g., lumber, veneer, plywood, posts, utility poles, log homes, and log furniture). The roundwood pulpwood and industrial fuelwood components of the harvest are dealt with separately in the Region One report.

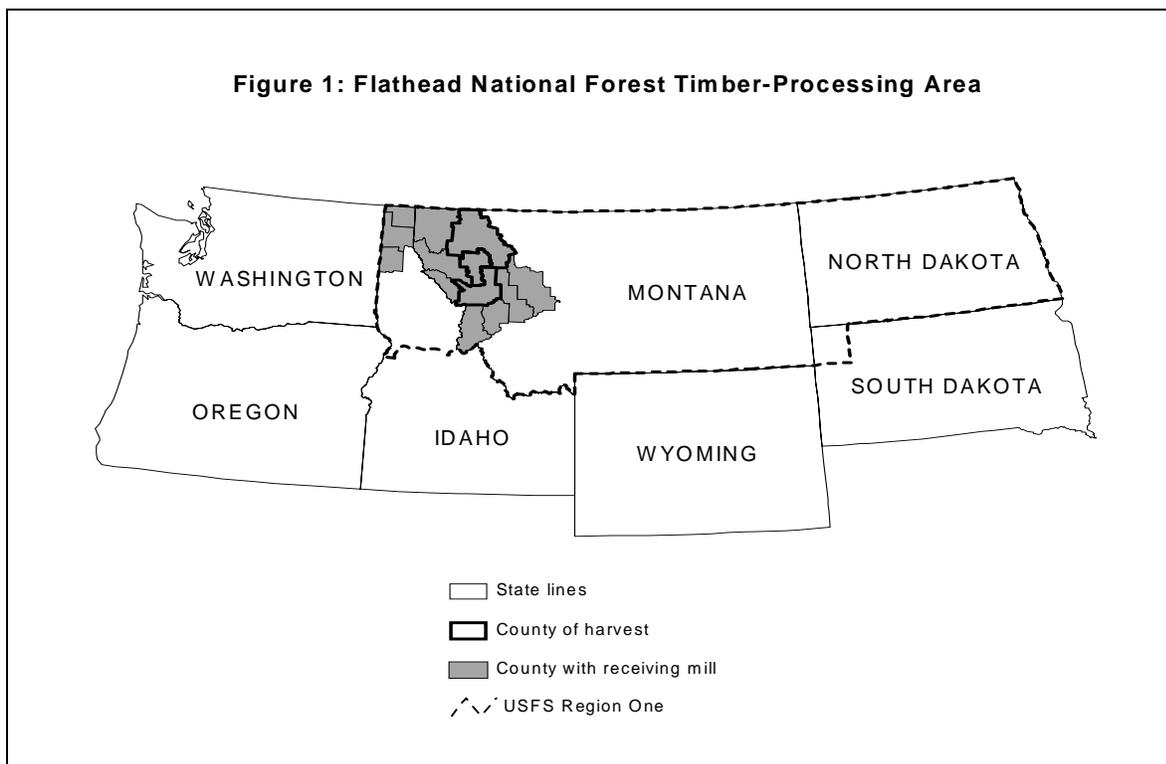
Timber-processing area

The following steps were taken to determine the timber-processing area for the Flathead National Forest:

1. Counties containing Flathead National Forest non-reserved timberland were identified.
2. Using BBER databases, timber harvest and flow was analyzed for all ownerships within the above counties.
3. Based on this timber harvest and flow analysis, all mills receiving timber harvested from those counties that contain Flathead National Forest non-reserved timberland were identified.
4. The counties with the above mills were designated as the Flathead National Forest Timber-Processing Area.

Destinations of small volumes (< 50 thousand cubic feet) of timber that moved extraordinarily long distances were not included in the final delineation of the timber-processing area. The mills and associated counties receiving these volumes--often for specialty products such as house logs--were not included because these long-distance flows of timber have not occurred repeatedly or consistently.

Nearly all Flathead National Forest non-reserved timberland is located in three Montana counties: Flathead, Lake, and Missoula (Figure 1). Slightly less than 8 percent of the recent (1998) timber harvest in this three-county area originated from the Flathead National Forest. Most (87 percent) of the timber harvested from these counties consisted of green (live) trees. The species composition of the harvested volume in this three-county area was: Douglas-fir approximately 35 percent, lodgepole pine 26 percent, western larch 14 percent, and Engelmann spruce and ponderosa pine about 9 percent each. True firs accounted for about 6 percent, and western redcedar, western hemlock, and western white pine combined accounted for about 1 percent. Sawmills received about 75 percent of the timber harvested from these counties, while veneer/plywood manufacturers received about 22 percent. House logs, posts, and small poles combined accounted for about 1 percent of the timber harvest volume. Roundwood pulpwood also accounted for about 2 percent and is dealt with in the Region One report.



The Flathead National Forest Timber Processing Area (TPA) is the 13-county area with mills that receive timber from Flathead, Lake, and Missoula counties. The counties comprising the Flathead National Forest TPA are Bonner, Boundary, and Kootenai counties in Idaho; and Flathead, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, and Sanders counties in Montana (Figure 1). Within the Flathead National Forest TPA there are 158 facilities currently operating: 57 log home manufacturers, 53 sawmills, 24 post and small pole plants, 16 log furniture manufacturers, five veneer and plywood facilities, and three cedar products manufacturers. Additionally, a pulp mill and particleboard plant are located in Missoula County, and a medium density fiberboard plant is located in Flathead County. The use of roundwood is discussed in the Region One report.

Current conditions and capacity

Across Region One, about 80 percent of annual timber-processing capacity is being utilized (see attached Region One report). Capacity to process timber in the Flathead National Forest TPA is 334,646 thousand cubic feet (MCF), with slightly more than 81 percent of capacity being used annually.

Thousand Cubic Feet of Timber		Thousand Board Feet Scribner of Timber	
Tree dbh	Volume Used	Tree dbh	Volume Used
<7 in	2,747	<7 in	2,747
7-9.9 in	23,259	7-9.9 in	89,315
10+ in	246,498	10+ in	1,051,976
Total	272,504	Total	1,144,038

Mills in the Flathead National Forest TPA are currently using about 272,504 MCF of timber annually (Table 1). Slightly more than 90 percent (246,498 MCF) of the volume processed in the TPA is composed of trees with diameter at breast height (dbh) $\geq 10''$. Nearly 9 percent (23,259 MCF) of the volume processed comes from trees 7.0 - 9.9" dbh, while slightly more than 1 percent (3,049 MCF) of processed volume comes from trees $< 7''$ dbh.

Most facilities are designed to operate using trees of a given size class (e.g., veneer/plywood plants, which typically use trees $\geq 10''$ dbh, or post manufacturers, which use trees $< 7''$ dbh). Capacity at these facilities was readily classified as being capable of processing timber of

just one of the size classes. This was true for some sawmills, but sawmills vary greatly in equipment, product output, and ability to process timber of various sizes.

Mills often process trees that are larger than the smallest tree sizes they are capable of processing. In other words, most mills capable of efficiently processing trees 7 – 9.9” dbh are also capable of processing trees ≥ 10 ” dbh, and indeed these mills do process substantial volumes of these larger trees. However, some mills that process larger trees are not capable of processing smaller-diameter trees. For this reason, this report presents capability to process trees ≥ 10 ” dbh as the proportion of total capacity not capable of efficiently using trees < 10 ” dbh. Whereas, capability to process trees < 7 ” dbh and 7 – 9.9” dbh are presented as maximum volumes of trees of these size classes that can be processed efficiently.

Financial feasibility analyses, involving repeated simulations of processing logs of a range of sizes through different sawmill configurations (see attached Region One report), were used to estimate the potential for individual sawmills to use trees in each size class. In some cases, particularly where a mill has both small- and large-log capability, expert opinion was employed to estimate the proportion of smaller trees the mill is capable of using.

Thousand Cubic Feet of Timber		Thousand Board Feet Scribner of Timber	
Tree dbh	Capability	Tree dbh	Capability
<7 in	8,751	<7 in	8,751
7-9.9 in	90,409	7-9.9 in	347,171
10+ in	235,486	10+ in	1,049,004
Total Capacity	334,646	Total Capacity	1,404,925

* Note: Capability in <7 and 7-9.9 in. classes is maximum volume capable of being used efficiently; capability in 10+ in. class is portion of total capacity NOT capable of efficiently using trees with dbh<10 in.

About 70 percent (235,486 MCF) of the 334,646 MCF of existing capacity in the Flathead National Forest TPA is not capable of efficiently utilizing trees < 10 ” dbh (Table 2). Slightly more than 99,000 MCF of timber-processing capacity is capable of utilizing trees < 10 ” dbh, and most of this is in the 7 - 9.9” dbh class. A substantial amount of the capacity capable of utilizing smaller diameter trees is being used to process larger trees or going unused. About 31 percent of capacity in the < 7 ” dbh category is currently utilized to process trees < 7 ” dbh, and slightly less than 26 percent of capacity in the 7 - 9.9” dbh category is being used to process trees 7 - 9.9” dbh. More than 50,000 MCF of capacity capable of using trees 7 - 9.9” dbh are used annually to process trees ≥ 10 ” dbh.