

Draft Assessment Forest Plan Revision

Forest Management and Timber Report

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Malheur, Umatilla, and Wallowa-Whitman National Forests

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Forest Management and Timber	2
Introduction	2
Process and Methods	3
Scale	3
Current Forest Plan Direction	4
Current Suitable Timber Lands.....	5
Non-timber Forest Products	6
Existing Condition	6
Key Benefits to People	6
Non-timber Forest Products	7
Risks and Stressors	7
Trends and Drivers	7
Trends - Forest Service Management Actions.....	9
Trends – Natural Disturbances	12
Information Needs	13
Key Findings	13
Literature Cited	14

Forest Management and Timber

Introduction

Forest management is an important process for establishing and maintaining sustainable ecological conditions within national forests. As an element of forest management, timber harvest continues to play an essential role in restoring desired conditions in national forests, including those for wildlife habitat, moving toward ecological resilience (including range of variation (RV) for forest structural stages, tree species composition, and stand density and potentially future conditions considering climate change), minimizing impacts by insect and disease, and hazardous fuel management. Timber harvest contributes to social and economic sustainability by providing forest products that help support local forest-dependent industries and the communities associated with those industries. Without the local forest products industry, the capability of the Forest Service to affordably manage forest vegetation would be significantly reduced. Timber harvest helps meet the demands of the public for products such as lumber, pulpwood, firewood, house logs or other forms of roundwood. It can also influence the availability and harvesting of special forest products.

The Blue Mountains national forests have a long history of providing timber and other forest products to address local community, regional, and national needs. Commercial logging began in the 1870s when the transcontinental railroad linked the Blue Mountains to the national lumber markets. With the establishment of the national forests, harvest slowed on public lands. National forest timber was difficult to access and more costly to acquire. From 1905 until 1916, most commercial timber harvest in the Blue Mountains came from private lands. In the 1920s, national forests began offering large timber sales that focused on removal of commercially valuable stands of old ponderosa pine. Heavy logging occurred throughout the decade, declined during the 1930s, and increased again in the 1940s. During the post-World War II era, communities throughout the Blue Mountains generally had robust economies related in part to a flourishing wood products industry. Harvest levels remained relatively high throughout the next four decades from the 1950s through 1980s.

Historically, management of the national forests emphasized efficient and productive forests capable of meeting the nation's timber demands into the future by focusing on the removal of inferior, diseased, and decadent trees. Generally, this meant replacing stands of slower growing, old ponderosa pine with young, faster growing stands.

Sharp declines in timber harvesting from federal lands in the Blue Mountains have occurred since the 1990s. These declines have primarily been due to changes in federal management direction intended to protect wildlife species and encourage the establishment and growth of older forests. The amount of timber volume harvested from the three Blue Mountains national forests has declined dramatically during the previous planning period, from highs of almost 600 million board feet annually in the early 1990s to a current 20-year average annual volume harvested of around 75 million board feet. Harvest on all other ownerships has also declined during the same period. This decline in local log supply has resulted in a commensurate reduction in the wood products industry outputs and a restructuring of the industry.

The 1990 forest plans focused on traditional forest practices that involved forest management to tend and regenerate the forest that was implemented by professional foresters. Changes in national forest policy (such as the Healthy Forest Restoration Act and the Collaborative Forest Landscape Restoration Program), amendments to the 1990 forest plans (“Eastside Screens”), and societal shifts in public involvement of the management of national forests (the collaborative process) have changed towards ecological forestry practices that focus on removing smaller diameter trees, reducing fuels that increase fire hazard, shifting species composition, and managing to protect and promote old trees and wildlife habitat. Forest Service projects have evolved from being primarily focused on timber resources to promoting forest health and resiliency from a multi-resource perspective, while still contributing to and supporting local economies as well as growing and expanding new markets. New science and monitoring within the Blue Mountains national forests have helped inform this shift.

Process and Methods

The primary sources of information used for this report include the following: the existing 1990 Malheur, Umatilla, and Wallowa-Whitman Forest Plans, as amended; 1994 Eastside Screens; the withdrawn Final Environmental Impact Statement for the Malheur, Umatilla, and Wallowa-Whitman National Forests Land Management Plans (USDA FS FEIS 2018); 2018 Management Situation report (USDA FS SR 2018); withdrawn 2018 Malheur, Umatilla, and Wallowa-Whitman Forest Plans (USDA FS 2018); Malheur, Umatilla and Wallowa-Whitman National Forest Socioeconomic Technical Reports (Borchers et. al. 2024); Blues Intergovernmental Council Final Socioeconomic Report; other agency reports and analyses; published literature; and other updated information. Management activity data was queried 11/20/2023 from the Forest Service Activities Tracking System (FACTS).

These sources are current and the best available scientific information available to describe the status, trends, and scientific understanding of forest management and timber on the Blue Mountains national forests and surrounding areas.

Scale

The Malheur National Forest plan area includes the entire Malheur National Forest as well as a portion of the Ochoco National Forest. The Malheur National Forest lands are located within portions of Baker, Grant, Harney, and Malheur counties in Oregon. Crook County, Oregon is also included due to social and economic ties to the Malheur National Forest.

The Umatilla National Forest plan area includes the entire Umatilla National Forest. The Forest lies within portions of Asotin, Columbia, Garfield, and Walla Walla counties in Washington and Baker, Grant, Morrow, Umatilla, Union, Wallowa, and Wheeler counties in Oregon. Nez Perce County, Idaho is also included due to social and economic ties to the Umatilla National Forest.

The Wallowa-Whitman National Forest plan area includes the Wallowa-Whitman National Forest excluding the Hells Canyon National Recreation Area. The Forest lies within portions of Baker, Union, Wallowa, and Malheur counties in Oregon. Nez Perce County, Idaho is also included due to social and economic ties to the Wallowa-Whitman National Forest.

Many of these counties contain tentatively suitable or suitable timber lands and receive timber products from other national forests or private lands. Lands tentatively suitable or suitable for timber production from the Blue Mountains national forests represent a small proportion of the county land base.

Current Forest Plan Direction

Malheur National Forest's current forest plan states that its goals and objectives for timber management are to harvest timber to provide a sustained flow of timber for lumber, fiber, and associated wood products at a level that will contribute to economic stability, and in a manner which will minimize losses and maximize outputs in a cost-effective manner consistent with the various resource objectives and environmental standards. Resource objectives include management of cover for big game habitat, riparian area management for shading and large woody material, and providing dead and down trees and old growth for wildlife habitat needs. The plan regulates the volume of timber that may be harvested in the form of the allowable sale quantity. It also regulates timber harvest activities such as silviculture systems, timber stand improvement and reforestation, and the size of trees available for harvest and opening size.

Umatilla National Forest's current forest plan outlines goals and objectives for timberland management that provide for production and sustained yield of wood fiber and insofar as possible meet projected production levels consistent with various resource objectives, standards and guidelines, and cost efficiency. Resource objectives include minimizing impacts to visual quality, protecting forest resources and values from unacceptable losses due to destructive forest pests, providing acceptable habitat conditions for wildlife species, providing dead and down trees and old growth for wildlife habitat needs, management of cover for big game habitat, and riparian area management for shading and large woody material. The plan regulates the volume of timber that may be harvested in the form of the allowable sale quantity. It also regulates timber harvest activities such as silviculture systems, timber stand improvement and reforestation, and the size of trees available for harvest and opening size.

Wallowa-Whitman National Forest's current plan outlines goals and objectives for timberland management that provide for production of wood fiber to satisfy national needs and benefit local economies consistent with multiple resource objectives, environmental constraints, and economic efficiency. Resource objectives include control of forest pests, providing habitat for viable populations of wildlife species and to maintain or enhance the overall quality of wildlife habitat across the Forest, and providing old growth habitat. The plan regulates the volume of timber that may be harvested in the form of the allowable sale quantity. It also regulates timber harvest activities such as silviculture systems, timber stand improvement and reforestation, and the size of trees available for harvest and opening size.

The National Forest Management Act requires that National Forest System lands be classified as to their suitability and availability for timber harvest and production. Timber harvest direction in the current Blue Mountains national forests plans is focused on managing lands classified as suitable for

timber production. Although the National Forest Management Act allows for timber harvest from lands classified as unsuitable for timber production to meet specific resource objectives, current forest plans provide little direction on when and under what conditions timber harvest from unsuitable lands would be appropriate.

Current Suitable Timber Lands

Identification of lands not suited for timber production is required by the 1976 National Forest Management Act (NFMA). Section 219.14 (a) of the 1982 Planning Rule provided criteria for identifying tentatively suitable land for timber production. Table 1 lists the acres of tentatively suitable land base by forest from the 1990 Forest Plans.

Table 1. Classification of land tentatively suitable for timber production for each national forest in the current Forest Plans.

	Classification	Malheur (acres)	Umatilla (acres)	Wallowa- Whitman (acres)
1	Non-forest land	284,544	316,362	937,290
2	Forest land	1,174,878	1,086,113	1,411,925
3	Forest land withdrawn from timber production (reserved)	68,373	236,431	338,756
4	Forest land not capable of producing crops of industrial wood	0	24,920	12,881
5	Forest land physically unsuitable	66,637	17,529	77,349
	Irreversible damage likely to occur	0	0	9,860
	Not restock able within 5 years	66,637	17,529	67,489
6	Forest land – inadequate information	0	0	0
7	Tentatively suitable forest land (item 2 minus items 3, 4, 5, and 6)	1,039,868	807,233	937,290
10	Total National Forest land	1,459,422	1,402,467	2,349,215

During the EIS phase of the planning process for the 1990 plans, areas unsuitable for timber production were identified based on combinations of resource management prescriptions to meet management objectives for the various multiple uses including outdoor recreation, timber, watershed, range, wildlife and fish, and wilderness. The remaining acres (acres tentatively suitable for timber production [Table 1, item 7] minus acres unsuitable for timber production) are classified as suitable for timber production.

The 1990 Malheur National Forest plan identified approximately 1,039,868 acres of tentatively suitable forest lands (Table 1) and 835,970 acres (80 percent of the tentatively suitable base) as suitable for timber production. The Malheur plan provided for an annual harvest of 200 million board feet (MMBF).

The 1990 Umatilla National Forest plan identified 807,233 acres as tentatively suitable forest lands and 618,769 acres, 77 percent of the tentatively suitable base as suitable for timber production. The Umatilla plan provided for an annual harvest of 124 MMBF.

The 1990 Wallowa-Whitman National Forest plan identified 937,290 acres as tentatively suitable forest lands and 836,800 acres, 89 percent of the tentatively suitable base as suitable for timber production. The Wallowa-Whitman plan provided for an annual harvest of 144 MMBF.

The utilization standards the 1990 forest plans applied a regulated harvest minimum DBH (in) of 9 and minimum top DIB (in) of 6 for all species except for lodgepole pine, which used 7 and 4 inches. Commercial thinning harvests also used 7 and 4 inches. The plans anticipated 7 and 4 inches would be the minimums used from the year 2000 forward.

Many changes to timber production suitability have occurred since the adoption of the 1990 forest plans. These changes include reductions in lands considered suitable for timber production due to forest plan amendments, resulting from major shifts in management direction pertaining to riparian areas and old growth forest. The adoption of federal regulations for protection of inventoried roadless areas (36 CFR 294) also resulted in large areas no longer being suitable for timber production.

As part of the forest plan revision process, timber suitability will be recalculated to reflect these changes in management direction. Lands that may be suitable for timber production form the basis for the calculation of the sustained yield limit.

Non-timber Forest Products

Current forest plans primarily address traditional forest products, such as sawlogs, roundwood, and firewood. They are largely silent regarding miscellaneous forest products, such as Christmas trees, mushrooms, huckleberries, and landscaping transplants. Demand for these products has grown since the time the current forest plans were produced and are included in this Assessment Report.

Existing Condition

Across the Blue Mountains national forests, the annual and net forest growth have far exceeded levels of tree removal via forest management or historic disturbance. These high levels of net growth, combined with low levels of disturbance or harvest, non-commercial thinning, and forest fuels reduction removals, may jeopardize long-term timber resource as well as ecosystem health (see “Terrestrial Ecosystems Report”). Excess forest growth is now subject to competition-related mortality, insect and disease outbreaks, and wildfires. This growing surplus needs to be removed in a controlled manner to move toward and maintain the desired conditions for forest vegetation and timber production. Overgrowth leads to reduced individual tree growth and vigor and may contribute to uncharacteristically severe wildfire or insect outbreaks (Raffa et al. 2008; Stine et al. 2014; Millar and Stephenson 2015), especially when compounded by stress from climate change (see “Climate Change Report”).

Key Benefits to People

Forest management is an important tool for establishing and maintaining sustainable ecological conditions within the national forests. Using applied ecological principles, timber harvest can be a

useful tool for resource specialists to achieve desired vegetative conditions at varying scales across the Blue Mountains national forests.

Timber harvests, and restoration activities such as thinning also provide forest products and contribute to the local economy. Timber harvest directly supports employment and income in logging and wood manufacturing firms and indirectly contributes to several other industries, including transportation, local government, and other sectors in the local economy.

Non-timber Forest Products

Recent tracking information indicates that Christmas trees, posts and poles, fuelwood, and mushrooms are provided to surrounding communities, family groups, reserved tribal rights, or as traditional pursuits. These uses help provide communities with heat and food and represent important connections between people and the national forests. Personal use of these products remains important to local lifestyles in terms of supporting subsistence needs and recreation.

Risks and Stressors

The ecosystems that provide forest products are subject to an array of natural and human-induced influences. Natural disturbances such as wildfire, windthrow, insects, and disease function across the landscape to kill trees and regenerate new age classes. Climate conditions greatly affect forest growth, establishment, and resiliency to those natural disturbances (see “Climate Change Report”). Human interventions, most notably fire suppression and forest management such as timber harvest and planting, have also altered forest conditions. The following are examples of human interventions that have contributed to forest fuel conditions that are conducive to high severity wildfire (see “Fire Report”):

- Fire suppression has resulted in a buildup of surface fuels.
- Timber harvest of fire-resistant trees.
- Regeneration of dense forest understory following timber harvest.

Timber harvest contributes to social and economic sustainability by providing forest products that help support local forest dependent industries and the communities associated with those industries. Without the local forest products industry, the capability of the Forest Service to affordably manage forest vegetation would be significantly reduced.

Trends and Drivers

National economic trends, national forest funding levels, and local market conditions have a considerable effect on the amount of timber sold, and quantities sold may vary considerably by year and by individual forest.

Declines in eastern Oregon federal timber harvests resulted in reductions in east-side volume delivered to Oregon mills over the past 20 years, particularly for ponderosa pine. Unlike other regions in the state, eastern Oregon holds relatively little private or state forest land to make up for reduced

federal harvests (Gale et al. 2012, USDA FS FEIS 2018). During the past 20 years, processing for wood products has also changed. There was a decrease in sawmill production of almost 60 percent. Manufactured board processing decreased by approximately 30 percent, and there was a reduction in plywood and veneer processing of about 10 percent, while pulp processing remained about the same.

The current forest plans anticipated providing a consistent amount of timber for industry within the area to maintain a stable and predictable local economy. As of 2004, however, average annual timber production declined 63 percent compared to the anticipated average annual output levels across the three forests' plans (USDA FS SR 2018). For the communities that are most heavily dependent on predictable levels of timber production from the national forests, the reduced production levels have caused greater emphasis on how to maintain or restore ecological integrity while considering the social and economic needs of the surrounding communities.

The amount of timber volume removed per year from the Blue Mountains national forests over the last 20 years has ranged from 53,000 to 102,000 MBF with an average per year harvest volume of close to 75,000 MBF (Table 2). The Malheur National Forest's accelerated forest restoration program has resulted in an increase in timber harvest starting in 2012. This trend is expected to increase across the Blue Mountains over the next decade. The overall timber volume removed over this period is still much less than what the current forest plans anticipated.

Table 2. Harvested volume 2003-2022, Blue Mountains national forests

Year	Harvested Volume (MBF) Malheur NF	Harvested Volume (MBF) Umatilla NF	Harvested Volume (MBF) Wallowa-Whitman NF	Total Harvested Volume (MBF)
2003	8,697	24,051	21,645	54,393
2004	46,978	28,820	26,587	102,385
2005	12,346	18,014	14,704	45,064
2006	15,565	23,639	14,014	53,218
2007	24,156	40,344	18,749	83,249
2008	13,305	21,675	23,716	58,696
2009	38,956	39,019	15,438	93,413
2010	18,778	48,027	18,939	85,744
2011	19,934	16,596	28,530	65,060
2012	27,316	26,502	23,663	77,481
2013	28,747	20,977	21,276	71,000
2014	32,134	14,846	20,736	67,716
2015	34,765	24,092	15,914	74,771
2016	44,550	32,487	23,313	100,350
2017	44,663	30,610	23,393	98,666
2018	43,135	19,273	14,954	77,362
2019	48,645	28,120	18,358	95,123
2020	43,775	16,592	10,664	71,031
2021	30,150	11,586	15,081	56,817
2022	28,703	11,457	24,313	64,473

AVG:	30,265	24,836	19,699	74,801
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Source: Malheur, Umatilla and Wallowa-Whitman National Forest Socioeconomic Technical Reports (Borchers et al 2024)

The decreasing production capacity, labor saving technological changes, and decreases in logging have resulted in declines for associated employment. More recently, Oregon’s forest sector has been slowly recovering since the recession of 2009. However, certain parts of the Blue Mountains region have been impacted so severely that possible recovery may be years away. The share of jobs lost during the recession that have since been regained remains at only one of three or fewer for many affected counties (USDA FS FEIS 2018).

Although some economic diversification has taken place, especially in the retail, health, and business services sectors, economic growth in the Blue Mountains region has been slower than in Oregon, Washington, and the U.S. overall. However, traditional wood products manufacturing remains an important part of local economies. There is also expanding use and interest in emerging markets such as mass timber, cross laminated timber, biomass for fuels (see “Mineral and Energy” report) and biochar as a soil amendment for industrial agriculture lands.

Non-timber Forest Products - The Blue Mountains national forests have also contributed nontimber forest products such as firewood, mushrooms, posts, and poles to residents and Tribes. While the trend from 1996-2001 indicated a downturn in the level of use, recent tracking information indicates that Christmas trees, post and poles, fuelwood, and mushrooms continue to be provided to surrounding communities, family groups, reserved tribal rights, or as traditional pursuits. For example, in fiscal year 2016, the national forests sold about \$148,000 of firewood permits, \$46,000 of mushroom collections permits, and about \$9,000 of post and pole permits (USDA FS FEIS 2018).

Trends - Forest Service Management Actions

Timber Harvest

Timber harvest is a tool used not only to provide timber products and contribute to the local economy but also to achieve multiple resource objectives. These include reducing insect or disease impacts, improving wildlife habitat, increasing tree growth, improving timber productivity, lowering fuels and fire risk, and altering vegetation conditions to enhance forest resilience. Three main types of timber harvest are displayed: even-aged regeneration harvest (such as clearcutting, shelterwood, and seed-tree cuts); uneven-aged regeneration harvest (such as group selection and single-tree selection); and intermediate harvest (such as commercial thins and improvement cutting). Table 3 displays the trend of harvest type by decade across the Blue Mountains national forests. Total acres of harvest peaked on the Malheur and Umatilla National Forests in the 1980s and on the Wallowa-Whitman National Forest in the 1990s. Regeneration harvest accounted for half or more of harvest acres on all three forests during the 1980s and 1990s. By the 2000s most harvest acres across the Blue Mountains national forests is intermediate harvest.

Table 3. Harvest acres by type and decade for the Blue Mountains national forests (1980-2019)

Year Decade	Acres of Regeneration Harvest	Acres of Uneven-aged Harvest	Acres of Intermediate Harvest	Forest Totals
Malheur National Forest				
1980-1989	180,680	54,340	61,270	296,290
1990-1999	109,150	28,930	78,190	216,270
2000-2009	16,630	4,470	70,200	91,300
2010-2019	1,030	150	98,120	99,300
Malheur NF Totals	307,490	87,890	307,781	703,160
Umatilla National Forest				
1980-1989	106,260	16,100	41,420	163,780
1990-1999	97,830	10,150	19,940	127,920
2000-2009	4,030	4,440	26,840	35,310
2010-2019	2,090	240	30,230	32,560
Umatilla NF Totals	210,210	30,930	118,430	359,570
Wallowa-Whitman National Forest				
1980-1989	89,430	12,700	71,170	173,300
1990-1999	109,620	12,110	67,330	189,060
2000-2009	5,460	3,540	67,680	76,680
2010-2019	1,090	1,210	27,640	29,940
Wallowa-Whitman NF Totals	205,600	29,560	233,820	468,980

Source: Management activity data queried from the Forest Service Activities Tracking System (FACTS) – 11/20/2023

Note: The actual managed area footprint acres are less where multiple activities have been implemented on the same acres.

In line with the rest of the region, timber has seen a precipitous drop in production and output since 1990 due to environmental legislation, global competition, and capital and technological enhancements within the industry (Blues Intergovernmental Council 2023). Economic conditions and changing timber market values are partially responsible for the lows and highs in timber harvest levels. Insect and disease dynamics and wildfires are ecological factors that also influence harvest levels and trends.

Stand Improvement and Reforestation

Stand improvement refers to intermediate treatments of trees generally not past the sapling stage to improve the composition, structure, condition, health, and growth of even or uneven-aged stands.

Reforestation is the reestablishment of forest cover either naturally (natural seeding) or artificially (by direct seeding or planting). A variety of site preparation activities are associated with reforestation on the Blue Mountains national forests, including burning, slashing, and hand or machine scarification. While in the past these treatments were primarily tied to harvesting, reforestation and stand

improvement activities are increasingly conducted in areas impacted by large wildfires to meet an array of resource objectives.

As displayed in Table 4, stand improvement acres occur on less than half the number of acres with regeneration harvest plus uneven-aged harvest, indicating there is a backlog of post-harvest stand improvement need across the three forests.

Reforestation acres are low on the Malheur compared to regeneration harvest acres. This may be due to a reliance on natural regeneration and reporting inconsistencies. The Umatilla and Wallowa-Whitman reforestation acres are commensurate with regeneration harvest acres. There were also substantial acres of high severity wildfires in the 1990s on the Umatilla and Wallowa-Whitman that were replanted.

Table 4. Stand improvement and reforestation activity acres by decade for the Blue Mountains national forests (1980-2019)

Year Decade	Acres of Stand Improvement	Acres of Reforestation	Forest Total Acres
Malheur National Forest			
1980-1989	50	1,620	1,670
1990-1999	2,310	30,890	33,200
2000-2009	50,400	31,410	81,810
2010-2019	77,940	39,060	117,000
Malheur NF Totals	130,700	102,980	233,680
Umatilla National Forest			
1980-1989	17,780	76,540	94,320
1990-1999	43,400	91,910	135,310
2000-2009	25,580	45,040	70,620
2010-2019	24,670	22,600	47,270
Umatilla NF Totals	111,430	236,090	347,520
Wallowa-Whitman National Forest			
1980-1989	9,030	58,460	67,490
1990-1999	50,180	108,340	158,520
2000-2009	52,220	12,030	64,250
2010-2019	46,660	6,120	52,780
Wallowa-Whitman NF Totals	158,090	184,950	343,040

Source: Management activity data queried from the Forest Service Activities Tracking System (FACTS) – 11/20/2023

Note: The actual managed area footprint acres are less where multiple activities have been implemented on the same acres.

Fire and Fuel Treatments

Fire and fuel treatments, such as prescribed burning, slashing, and piling of fuels, are also methods that the Forest Service uses to manipulate forest vegetative conditions. Generally, these activities

have occurred in association with timber harvest, and these treatments were done to reduce activity fuels and prepare sites for planting. As harvest has declined over the last 20 years, fire and fuels treatments have focused more on hazardous fuels reduction. This is illustrated by the high number of acres that had a fuel treatment on all three forests during the decade from 2010 to 2019.

Table 5. Fuel treatment acres by decade for the Blue Mountains national forests (1980-2019)

Year Decade	Prescribed Burn Acres	Fuels Reduction Acres	Forest Total Fuel Treatment Acres
Malheur National Forest			
1980-1989	No Acres Reported	No Acres Reported	NA
1990-1999	3,420	23,570	26,990
2000-2009	46,490	103,910	150,400
2010-2019	255,470	210,500	465,970
Malheur NF Totals	305,380	337,980	643,360
Umatilla National Forest			
1980-1989	7,270	20,820	28,090
1990-1999	17,530	18,100	35,630
2000-2009	79,330	38,180	117,510
2010-2019	147,190	634,840	782,030
Umatilla NF Totals	251,320	711,940	963,260
Wallowa-Whitman National Forest			
1980-1989	9,680	160,150	169,830
1990-1999	41,890	190,540	232,430
2000-2009	57,980	79,990	137,970
2010-2019	400,280	101,240	501,520
Wallow-Whitman NF Totals	509,830	531,920	1,041,750

Source: Management activity data queried from the Forest Service Activities Tracking System (FACTS) – 11/20/2023

Note: The actual managed area footprint acres are less where multiple activities have been implemented on the same acres.

Trends – Natural Disturbances

The ecosystems that provide forest products are subject to an array of natural and human-induced influences. Natural disturbances such as wildfire, windthrow, insects, and disease function across the landscape to kill trees and regenerate new age classes. Climate conditions greatly affect forest growth, establishment, and resiliency to those natural disturbances (see “Climate Change Report”). Human interventions, most notably fire suppression and forest management such as timber harvest and planting, have also altered forest conditions. Table 6 displays wildfire acres burned within management areas that have timber production as a primary or secondary emphasis.

Table 6. Blue Mountains national forests acres burned by wildfire 1990-2019

Forest	Total Acres Burned	Acres Burned in Timber Production Emphasis Management Areas*	Percent of Total - Acres Burned within Timber Production Emphasis Management Areas
Malheur NF	281,250	138,600	49%
Umatilla NF	293,740	106,160	36%
Wallowa-Whitman NF	503,080	109,290	22%
Totals	1,078,070	354,050	33%

Note: Timber production emphasis management areas by Forest – Malheur NF (not including Ochoco) 1, 3A, 3B, 4A, 14, 18, 20A, 20B, 22; Umatilla NF A4, A7, A10, C2, C3, C4, C5, E1, E2, F4; Wallowa-Whitman NF (including HCNRA) 1, 1W, 3, 3a, 5, 7, 11, 17, 18.

As Table 6 displays, from 1990 thru 2019, over 1 million acres of the Blue Mountains national forests land base has been burned by wildfire. Of this, about 350,000 acres burned in management areas with a timber production emphasis (1990 forest plans), representing about 33% of the timber production acres. While not all the areas these wildfires have occurred in areas suitable for timber production, timber output has been affected to an extent. The effects of fires vary widely, and data to summarize severity are not readily available for all past fires. Where stand-replacing effects occurred, forests were returned to an early successional seedling stage of development, and it will be at least 50 to 60 years before the regenerating trees reach a size where commercial timber harvest may be feasible. Salvage of fire-killed trees occurred within a few years of some fires to remove trees before they lost economic value, representing a small percentage of each fire area. Over time, promoting the development of a more diverse mosaic of forest conditions may lead to increased resiliency and a more stable timber product output capability.

See the “Terrestrial Ecosystems” report regarding the trends across the Blue Mountains national forests for insects and disease and climate change impacts. Aerial detection surveys have annually observed and mapped areas that have been impacted by disturbance agents. The level of mortality can vary widely on any given acre. In areas where the sawtimber component was substantially impacted, the availability of timber products will be greatly reduced for the next few decades once the short window of opportunity for salvage has passed until new forests grow to a merchantable size.

Information Needs

An assessment of the Blue Mountains national forests forest products processing area is needed to better understand the demand and capacity for forest products from the national forests.

Key Findings

- Timber outputs for the Blue Mountains national forests have decreased since the late 1980s and have been substantially less than the projected outputs in the 1990 forest plans.
- Acres of timber stand improvement, fuels treatments, and reforestation have been decreasing since the late-1980s.

- High levels of net growth combined with low levels of harvest removals, non-commercial thinning, and forest fuels reduction increases the risk of high severity disturbance long-term to timber resource as well as ecosystem health.
 - Excess forest growth is currently outside of historic ranges of variability and is susceptible to competition-related mortality, insect and disease outbreaks, and wildfires.
 - In areas where the sawtimber component has been substantially impacted by disturbance, the availability of timber products will be greatly reduced for the next few decades.
- As part of revising the land management plan, the planning team will review land in the plan area and identify lands that will be suitable for timber production in the new plan.
 - See FSH 1909.12 Sec 61 for a detailed description of the process and consideration that will be used to identify lands suitable for timber production in the revised plan.

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