Title: Mechanical Fuel Treatments on Timberland in the Western United States and Their Impact on Wildfire Hazard Ratings

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Abstract: A set of uneven-aged and even-aged treatments to reduce fire hazard, developed as part of a broad study to examine the impacts of mechanical fuel treatments on timber markets in the Western United States, were simulated for 46 million timberland acres in twelve Western states using available Forest Inventory and Analysis (FIA) data. This article describes their simulated impact on wildfire hazard with and without limits on basal area removed to retain canopy closure. Based on our screens for wildfire hazard, 46 million acres of timberland were eligible for treatment. The results show that with a limit on removals the even-aged treatments initially placed more area within our hazard thresholds while the uneven-aged treatments produced more sawlog volume. Without limits on basal area removed all of the treatments placed virtually every acre above our hazard target.

Keywords: Wildfire, Risk, Fuel Treatments

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1. Introduction

Silvicultural treatments are methods for altering forest conditions and thereby changing the likelihood and severity of wildfire (Graham et al., 1999; Graham et al., 2004; Raymond and Peterson, 2005; Stephens, 1998; Stratton, 2004; van Wagtendonk, 1996; Wilson et al., 1998). Properly designed fuel treatments can increase resiliency and resistance in dry forests and change the behavior of subsequent wildfires so that suppression is more readily accomplished (Graham et al., 2004). Recent legislative actions such as the Healthy Forests Restoration Act (HFRA, 2003) and policy initiatives like the Ten Year Comprehensive Strategy and Implementation Plan (WGA, 2001; WGA, 2002) envision broad-scale fuel reductions to reduce the likelihood and severity of uncharacteristic wildland fire.

Many treatment options are available to land managers seeking to reduce fire hazard. Prescribed burning and mechanical thinning change fire hazard by reducing the amount of fuel, while treatments such as mastication and mulching change fire hazard without a reduction in loading (Graham et al., 2004). Prescribed fire, while often the cheapest to implement, is not a viable option in many cases due to poor weather conditions, concerns about smoke, and the likelihood that a fire will escape in a populated area (USFS, 2003). Mechanical treatment alternatives can create a variety of uneven-aged or even-aged stand structures depending on the desired treatment goals such as fuel reduction, silvicultural objectives, and wildlife habitat maintenance and restoration.

The purpose of this paper is to describe a set of simulated uneven-aged and even-aged treatments, the volumes they remove, and their impacts on wildfire hazard ratings on 46 million acres of timberland in the Western United States using available FIA inventory data. The states covered by this analysis include Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming. These treatments are the result of a consistent, collaborative effort between this Joint Fire Science Program project (01-1-2-09) and the Wood Utilization Opportunity Areas study.

The methods section will commence with descriptions of the data and the two metrics for quantifying wildfire hazard, torching index and crowning index. A suite of treatment options, including uneven-aged treatments based on the Stand Density Index (SDI) of Reineke (1933) and even-aged thin-from-below (TFB) treatments will be described next. These treatments are applied based on forest type and are simulated with and without limits on basal area removed. The results section will discuss total treated area, how each treatment changes stand condition and wildfire hazard, as well as provide detail on removal volumes by state. Approximately 46 million acres of timberland did not meet the hazard criteria and were treatable: 30 million in low-severity forest types and 16 million in high-severity forest types (lodgepole and fir-spruce). Federal land comprised 59% of the total treatable area. Based on our hazard assessment 31% of treatable land on low-severity forest types was high hazard while 49% of treatable land in high-severity forest types was high hazard.

When limits at the plot level on the amount of basal area removed on low-severity forest types were imposed, the even-aged treatments placed more acres above our hazard targets while the uneven-aged treatments removed more sawlog volume. Across all ownerships, the uneven-aged treatment that removed the most large trees produced just under 30 billion ft^3 of sawlog volume. The uneven-aged treatment produced 7 billion ft^3

of sawlog volume. The uneven-aged treatment that removed the most large trees placed 62% of treatable acres above our hazard targets while the uneven-aged treatment placed 91% of treatable acres above our hazard targets. Without limits at the plot level on the amount of basal area removed on low-severity forest types, all treatment alternatives placed virtually every treatable acre above our hazard targets. Across all ownerships, the uneven-aged treatment that removed the most large trees produced 35 billion ft^3 of sawlog volume. The even-aged treatments produced 8 billion ft^3 of sawlog volume. The simulation algorithm was able to find the optimal prescription for each plot for each treatment in almost every instance. Since there was no constraint on removals, over 99.5% of treatable acres were able achieve our hazard targets when no limits on removals were imposed.

A West-wide comprehensive program for mechanical fuel treatments, combining an uneven-aged treatment for low-severity forest types and an even-aged treatment for high-severity forest types, would produce a total of 31 billion ft^3 of sawlog volume across all ownerships and a total of 19 billion ft^3 of sawlog volume on federal ownership. This program would place 58% of treatable acres on all ownerships above our hazard targets. A set of figures shows the spatial distribution of sawlog volume under this program for federal land across all hazard categories and federal land classified as high hazard. The paper will conclude with a discussion of policy implications and plans for future work.

2. Methods

2.1 Data and Hazard Assessment

Information on forest conditions in the twelve Western states was obtained from Forest Inventory and Analysis (FIA) data provided by the U.S. Forest Service. Table 1 describes the survey for each state.

A set of screens was applied to the data to eliminate plots prior to the determination of pre-treatment wildfire risk. A plot was eliminated if it was classified as reserved, located in a designated roadless area, or not classified as timberland (productivity at least 20 ft^3/acre/year). There are about 233 million acres of forestland and 127 million acres of timberland in the twelve Western states[2].

Wildfire hazard for this study was assessed using the torching index (TI) and crowning index (CI) of Scott and Reinhardt (2001), which links the surface fire (1972) and crown fire (1991) models of Rothermel with the transition model of Van Wagner (1977). TI is the windspeed at a height of 20 feet that is sufficient to create a crown fire, when fire moves from surface fuels to the crowns of individual trees, and is a function of surface fuel and foliar moisture content, canopy wind reduction, canopy base height (CBH), and slope (Scott and Reinhardt, 2001). CI is the windspeed at a height of 20 feet that is sufficient to induce active crowning, when fire moves through the forest canopy, and is influenced by surface fuel moisture content, canopy bulk density (CBD), and slope (Scott and Reinhardt, 2001). Higher values of TI and CI correspond to lower hazard ratings. The TI and CI thresholds for each plot for were:

1. TI $\geq$ 25 mph and CI $\geq$ 25 mph or
2. TI < 25 mph and CI $\geq$ 40 mph.

[2] RPA 2002 Tabler/Mapmaker ver 1.0. Available at http://ncrs2.fs.fed.us/4801/fiadb/rpa_tabler/webclass_rpa_tabler.asp.

The first threshold, both TI and CI of at least 25 mph, would protect most stands from both the initiation and active spreading of crown fire. The second threshold, CI of at least 40 mph even if TI does not meet the 25 mph objective, reflects the notion that if CI is high enough, a crown fire would not actively spread even if torching were to occur. If a plot meets one of these two targets then we will describe it as "in condition." A plot is excluded from treatment if it is characterized by either of the two thresholds. If a plot did not meet one of these thresholds ("out of condition") then it was eligible for treatment. On the eligible plots our objective was to simulate a change in stand characteristics, and hence TI and CI through a change in CBD and CBH, that would enable each plot to reach one of the two thresholds. The thresholds also allowed us to define hazard levels for plots that do not meet these criteria pre- or post-treatment. In the results section,

- plots with TI < 25 and 25 < CI ≤ 40 will be classified as low hazard,
- plots with TI ≥ 25 and CI < 25 will be classified as medium hazard, and
- plots with TI < 25 and CI < 25 will be classified as high hazard.

These ratings reflect our goal of reducing active crown fire hazard through the treatment simulations.

2.2 Treatments

We considered both uneven-aged and even-aged treatments in our analysis. The uneven-aged treatments are SDI- based and thin across all diameter classes. These treatments, called SDI-FLEX (Shepperd, 2006) begin with a forest type and ecoregion-specific maximum SDI for each plot. Two variables are used to manipulate the shape and height of the stocking curve for each plot. The flex factor (*flex*) determines how SDI is distributed among diameter classes while the SDI seed (*seed*) controls the percent of maximum SDI stocking desired on the residual plot. With both *flex* and *seed* set at 1, the plot is stocked at the maximum SDI level with an equal distribution of SDI stocking in all diameter classes. Decreasing *seed* while keeping *flex* constant lowers the plot stocking curve while maintaining an equal distribution of SDI across diameter classes. Decreasing *flex* while keeping *seed* constant flattens the stocking curve (changes its slope) by reducing SDI in smaller diameter classes. The even-aged thin from below treatments remove a given amount of biomass from a plot by cutting the smallest diameter trees first and successively cutting those of larger diameter.

2.3 Simulation Algorithm

Several existing software tools were integrated in a single simulation process to calculate hazard and simulate treatment. Pre- and post-treatment CBD and CBH for each plot were determined using the FORTRAN algorithm of Reinhardt et al. **(**in press). CBH was calculated as the lowest height where the 3-foot running mean of the crown's weight was at least 30 lb/acre/foot. CBD was the maximum of a 13-foot running mean of crown weight. Crown fire hazard was measured using NEXUS (Scott, 1999), a program that takes the plot-level CBD, CBH, and slope as well as assumptions on fuel moisture and fuel model to estimate a variety of fire behavior variables including TI and CI. Fuel moisture conditions were assumed to be "summer drought" (Rothermel, 1991). The lack of plot-level information on surface fuels and the broad scope of the area being simulated forced us to make some simplifying assumptions in this regard. Fuel model 9 (Albini, 1976; Anderson, 1982), hardwood or long-needle pine litter, was assumed for all forest types. We recognize that it is highly unlikely that every acre of timberland considered by this study would be classified as model 9 based on actual fuels. However the mid-range

of fire behavior exhibited by model 9 made it a good candidate for a study of this breadth. Table 2 shows the fuel moisture, fuel loading, and site variables that were used as inputs into NEXUS. Note that only slope, CBD, and CBH varied among plots- all other variables are held constant. The objective of the treatments was to influence CBH and CBD through changes in stand condition.

The treatment simulation can be broken into three parts: pre-treatment, treatment, and post-treatment. The pre-treatment phase began with an assessment of CBD, CBH, TI, and CI on the plots representing the 127 million acres of eligible timberland. Plots which met one of the two threshold conditions were eliminated from the pool of eligible plots, leaving roughly 59 million acres of timberland. Removing inventoried roadless areas reduced the eligible area to 46 million acres in the twelve Western states.

The uneven-aged SDI treatments and even-aged TFB treatments were simulated with and without limits on the amount of basal area removed. The basal area removal limits were designed to retain closure of the canopy. Loss of canopy closure may introduce conditions that intensify surface fires (Pollet and Omi, 2002) and stimulate the initiation of crown fires.

2.3.1 Forest Types other than Lodgepole and Fir-Spruce

On plots classified as a forest type other than lodgepole or fir-spruce, two uneven-aged stand density treatments and one even-aged thin from below treatment were applied with (limited or "A" scenario) and without (unlimited or "B" scenario) a 50% limit on basal area removed (*barem*). The first stand density treatment (SDI 1), biased toward leaving greater numbers of small trees and designed to result in high structural diversity, treated plots by setting *flex* =1. The second stand density treatment (SDI 2), designed to leave fewer small trees than SDI 1 and to result in limited structural diversity, treated plots by setting *flex* = 0.844421 (the lowest value that will maintain a continuously downward sloping post-treatment stocking curve across all diameter classes). The even-aged thin from below treatment (TFB 3) removed trees on a plot, beginning with the smallest diameter and moving up, necessary to remove basal area in successive 1% increments.

Each plot's optimal prescription for each of the three treatments for scenario "A" was determined by performing a search over the parameter space of each treatment to locate the highest values of *seed* for SDI 1 and SDI 2 and the lowest value of *barem* for TFB 3 that achieved the first of

- $TI \geq 25$ and $CI \geq 25$,
- $TI < 25$, $CI \geq 40$, or
- 50% of beginning basal area had been removed.

Note that under the "A" scenario some plots will not meet one of the two risk thresholds due to the limit on basal area removed. For the "B" scenario, a search was performed over the parameter space of each treatment to locate the highest values of *seed* for SDI 1 and SDI 2 and the lowest value of *barem* for TFB 3 that achieved the first of

- $TI \geq 25$ and $CI \geq 25$ or
- $TI < 25$, $CI \geq 40$.

With no minimum value for *seed*, all plots should achieve one of the risk thresholds under the "B" scenarios. Figure 1 illustrates the process of assessing hazard according to the inventoried data, determining if treatment is necessary, and applying treatment at the plot level for the "B" scenario.

Figure 2 presents pre- and post-treatment visualizations for a Douglas-fir stand in San Miguel County, Colorado where pre-treatment torching index was initially below the threshold of 25 mph. SDI 1, by removing larger trees, reduced CBD and increased CI to above 40 mph but did not impact CBH and TI. SDI 2 removed more small trees than SDI 1, increasing both TI and CI through the increase in CBH and reduction in CBD. The thin-from-below treatment increased TI through an increase in CBH but left CBD and hence CI unchanged.

2.3.2 Lodgepole and Fir-Spruce Forest Types

Lodgepole and fir-spruce forest types were treated with a less aggressive thin from below treatment, TFB 4, to avoid wind throw in these vulnerable forest types with high-severity, stand replacement fire regimes (Alexander, 1986a; Alexander, 1986b). The "A" scenario for these forest types limited removals to 25% of beginning basal area while the "B" scenario allowed a maximum of 50% of beginning basal area to be removed. Each plot's optimal prescription for TFB 4 under scenario "A" was determined by performing a search over the parameter space of each treatment to locate the lowest value of *barem* for that achieved the first of

- TI $\geq$ 25 and CI $\geq$ 25,
- TI < 25, CI $\geq$ 40, or
- 25% of beginning basal area had been removed.

For the "B" scenario, a search was performed over the parameter space of each treatment to locate the lowest value of *barem* that achieved the first of

- TI $\geq$ 25 and CI $\geq$ 25,
- TI < 25, CI $\geq$ 40, or
- 50% of beginning basal area had been removed.

The presence of removal limits on both of the scenarios for these forest types implies that not all plots will meet one of the two thresholds.

Table 3 provides summary descriptions of the simulated treatments by forest type and scenario.

3. Results

In the discussion and tables that follow, results will be presented for all ownerships with some detail for federal ownership. Volumes and risk reduction metrics by ownership are available upon request. Note that the following assumptions were made about volumes removed:

- removals are from all forest types subject to the screens described above,
- sawlog volumes are softwood only, excluding pinyon, juniper, and red cedar species, and
- total volumes also exclude juniper and red cedar species.

3.1 Area Treated

The assessment of TI and CI before the simulated treatment allows the estimation of stand-level fire hazard based on inventoried conditions. Table 4 shows the relationship between our pre-treatment stand-level hazard ratings and the Fire Regime Condition Class (FRCC; Schmidt et al., 2002) for the plots representing the 46 million treatable acres in the twelve states. The FRCC, included in the FIA data for each plot, indicated the degree of departure (1 ≡ low, 2 ≡ medium, 3 ≡ high) from natural, historical conditions and is more of a coarse-scale measure of hazard compared to our stand-level

hazard assessment of TI and CI. The relatively low values of the diagonal elements of Table 4 indicate that the degree of correspondence between the hazard ratings from the coarse-scale FRCC and the stand-level TI- and CI-based assessment was relatively low. This could mean that our hazard measures were not good proxies for the degree of departure from historical conditions and/or that caution must be exercised when applying coarse-scale spatial data to FIA inventories to assess wildfire hazard.

Table 5 shows the detail of forestland, timberland, and eligible area for treatment by state with detail on wildland-urban interface (WUI) and ownership. In aggregate, of the 46 million acres that were treatable, 6% were in the WUI and 60% were on federally owned land. Note that our estimate of WUI acres was based on the assignment of interface or intermix to each plot in the RPA database. Plot expansion factors were not adjusted for WUI status, hence the resulting area in interface and intermix obtained by summing across all plots in a state will not match published estimates of WUI area (Radeloff, 2005). We acknowledge this issue and leave the development of WUI-adjusted expansion factors as a venue for future work.

3.2 Treatment Outcomes: Area and Volume

3.2.1 Forest Types other than Lodgepole and Fir-Spruce

Tables 6 through 11 ("A" treatments) and 14 through 19 ("B" treatments) present the state-level outcomes by treatment for all ownerships and federal land only. The SDI treatment that removed the most large trees, SDI 1, resulted in the most sawlog volume removed both with and without removal limits and the least number of acres that achieve one of the two hazard thresholds for the "A" treatments, 62% for all ownerships. The even-aged treatment TFB 3, which removed the most small trees, produced the least sawlog volume with and without removal limits but placed the most acres in condition for the "A" treatments, 91% for all ownerships. SDI 2 resulted in volumes and acres in condition that are between SDI 1 and TFB 3. The absence of limits on basal area removed allowed the "B" treatments to remove more volume and achieve the desired hazard targets on virtually every acre[3].

The aggregate ability of the treatments to "move" treatable area into lower hazard categories is shown in Tables 22 through 25. Across all ownerships for the "A" treatments, SDI 1A achieved the hazard thresholds on 85% of high risk acres while TFB 3A places over one-quarter of these acres above our targets. The three "A" treatments achieved the hazard goals on 83% (SDI 1A) to 99% (TFB 3A) of low risk acres for all ownerships. The sawlog volumes that resulted from the "movement" of treated area pre- to post-treatment are illustrated in Tables 28 through 31. Across all ownerships, SDI 1A and SDI 2A produced around the same amount of sawlog volume on treated area that achieves our objectives, 14.4 vs. 14.7 billion ft^3. However, SDI 1A produced over twice as much sawlog volume as SDI 2A on area that does not meet our conditions post-treatment. Without the removal limit, SDI 1B increased the sawlog volume removed on high risk acres that achieve CI $\geq$ 40 by over 9 billion ft^3 compared to SDI 1A.

Various policy prescriptions and recommendations have focused on treatments in the WUI. Tables 34 and 35 show the aggregate sawlog volume available under the three

[3] For the uneven-aged treatments, *Seed* was set at a minimum of 0.025. If a plot did not achieve one of the two thresholds with this minimum for the uneven-aged treatments then it's post-treatment outcome was out of condition. Tables 12 and 14 show that plots such as these represent under 0.5% of total treated area across all ownerships for SDI 1B and SDI 2B.

treatments by interface status. The results indicate that sawlog volume tracks closely with treatable area in the WUI: approximately 4% to 6% of total sawlog volume was from areas designated as interface or intermix.

Figures 3 through 8 ("A" treatments) and 9 through 14 ("B" treatments) illustrate the aggregate distribution of the number of trees, sawlog volume, and total volume removed by treatment by diameter class. In general, TFB 3 removed the most trees and total volume in the smaller diameter classes. However this changed around the 7"-8.9" class as SDI 2 then SDI 1 eventually removed the most trees and total volume in the larger diameter classes.

3.2.2 Lodgepole and Fir-Spruce Forest Types

Tables 12 and 13 (TFB 4A) and 20 and 21 (TFB 4B) present the state-level outcomes for all ownerships and federal land only. The lower limit on removals allowed TFB 4B to produce about 2.5 times more sawlog volume and place 35% more acres in condition than TFB 4A. The migration of treated area from pre- to post-treatment is shown in Tables 26 and 27, while the volumes produced by pre- to post- category are given in Tables 32 and 33. The distribution of aggregate volumes by WUI status presented in Table 36 shows a proportionately larger amount of volume available in the WUI compared to the low-severity forest types: 9% to 10% of total sawlog volume was in areas designated as interface or intermix.

Figures 15 through 20 illustrate the aggregate distribution of the number of trees, sawlog volume, and total volume removed by treatment by diameter class for these forest types.

3.3 Treatment Outcomes: Fire Behavior Metrics

The assessment of wildfire hazard and the treatment objectives were based on the torching and crowning indices of Scott and Reinhardt (2001). However, there are a variety of other metrics which describe potential fire behavior. Tables 37 through 48 present weighted average pre- and post-treatment values for CBH, CBD, TI, CI, rate of spread, heat per unit area, fireline intensity, and flame length by state. While the metrics presented in these tables illustrate the simulation results at a very broad aggregate level, they are useful for comparing average pre- and post-treatment behavior. Space prevents the presentation and discussion of these metrics for finer spatial scales, such as individual forest types or counties, within the twelve Western states. These are available upon request.

4. A Comprehensive Treatment Program

The spatial equilibrium economic model in the accompanying document "A Description of the Timber-Based RTP Mixed-Integer Goal Program Economic Model" (Prestemon et al.) examines the welfare impacts of a multi-year treatment program in the twelve Western states. This model uses the "maximum opportunity" set of treatments, SDI 1A and TFB 4A. The combination of these treatments would produce 31 billion ft^3 of sawlog volume across all ownerships and 19 billion ft^3 of sawlog volume on federal ownership.

We chose these treatments for the following reasons. First, the absence of a limit on removals for the low-severity forest types may make the treatments in scenario "B" socially or politically difficult to implement. Further, removing over half basal area in these stands may have unintended silvicultural consequences. Next, while the even-aged

treatments initially perform better than the uneven-aged treatments in terms of achieving our hazard objectives, it is shown in the accompanying document "The Spatial and Temporal Impacts of Mechanical Fuel Treatments on Wildfire Hazard Ratings in Colorado" (Huggett et al.) that over a 25 year projection the gap is quickly closed and eventually overcome. Finally, the sawlog volume available under an uneven-aged treatment program makes these treatments in low-severity forest types attractive from a standpoint of "paying for themselves." For these reasons we feel the combination of SDI 1A for the low severity, dry forest types and TFB 4A for lodgepole and fir-spruce forest types balances feasibility with hazard reduction and removal volume.

Figures 21 through 32 show the spatial distribution of volumes by state for i.) a program that treated all federal land and ii.) a program that treated only high risk plots on federal land. The volumes are mapped by 160,000 acre Environmental Monitoring and Assessment Program (EMAP) hexagon. For plots where the EMAP hexagon was missing in the data, the Forest Health Monitoring (FHM) hexagon assignment was used instead.

5. Discussion

The even-aged treatments provide the least amount of sawlog volume for the low-severity forest types. However, with a limit on basal area removed the even-aged treatment placed the greatest number of acres in condition. The uneven-aged limited treatment that removed the most large trees yielded the most sawlog volume but the least number of acres above our hazard targets. The uneven-aged limited treatment that removed more small trees was between the other two in regards to removal volumes and acres in condition. This tradeoff between sawlog volume and area meeting the thresholds for the limited treatments is illustrated in Figure 33.

The even-aged treatments initially placed more acres above our target conditions. However a 25 year projection on ponderosa pine and Douglas fir plots in Colorado, taking into account growth and regeneration following treatment, showed that the uneven-aged treatments retain more area above our hazard targets in the longer run. These findings and the broader question of temporal efficacy of the treatments are addressed in the accompanying document "The Spatial and Temporal Impacts of Mechanical Fuel Treatments on Wildfire Hazard Ratings in Colorado" (Huggett et al.).

One of the primary objectives for this paper was to describe a process for assigning wildfire hazard to timberland in twelve Western states based on inventoried FIA data. While the effort discussed above resulted in an objective, consistent measure of hazard, future work can further refine these findings and add policy context. For example, while we conjecture that the treatments would result in changes in fire behavior, we are not certain how these changes would translate into gains (or losses) in economic welfare. Both human and natural values at risk over various temporal and spatial scales would be impacted by a large treatment effort encompassing close to 50 million acres. Simulated treatments can be integrated with tools such as FARSITE (Finney, 1998) to estimate program effects at the landscape level which can then be translated into welfare impacts. Another avenue for further work is to modify and refine the assumptions made regarding fuel model and weather conditions to allow for sensitivity analysis over a variety of scenarios. Additional screens could also be applied to the data or results these to provide alternate estimates of treated area and volumes removed. For example, a

requirement that a treated plot have a minimum amount of volume to ensure some threshold level of revenue. Finally, adjustment of plot expansion factors to reflect WUI status would provide a better estimate of both area treated and volumes removed in interface and intermix.

The comparison of the treatments by area in condition, removal volumes, and other measures of fire behavior assumed that the same treatment would be applied across the entire landscape at a single point in time. A program for treating almost 50 million acres across twelve states could take decades. The choice of treatment and timing of application are largely local decisions based on a variety of factors including political, social, and cultural institutions and goals, treatment and processing capacity, and management goals other than wildfire prevention.

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7. Tables

Table 1: FIA surveys

State	Survey
Arizona	RPA periodic, 1999 cycle 2
California	RPA periodic, 1994 cycle 1
Colorado	RPA periodic, 1983 cycle 2
Idaho	RPA periodic, 1991 cycle 1
Montana	RPA periodic, 1989 cycle 1
New Mexico	RPA periodic, 1999 cycle 2
Nevada	RPA periodic, 1989 cycle 1
Oregon	RPA periodic, 1992 cycle 1
South Dakota	RPA periodic, 1995 cycle 4
Utah	RPA periodic, 1995 cycle 1
Washington	RPA periodic, 1991 cycle 1
Wyoming	RPA periodic, 1984 cycle 1

Table 2: Fuel model and fuel moisture variables used for estimating crown fire hazard.

Type	**Variable**	**Value**
Surface Fuels: moisture	1-hour fuel moisture (%)	4
	10-hour fuel moisture (%)	5
	100-hour fuel moisture (%)	7
	Live fuel moisture (%)	78
Surface Fuels: model 9 loading and depth	1-hour fuel loading (tons/acre)	2.92
	10-hour fuel loading (tons/acre)	0.41
	100-hour fuel loading (tons/acre)	0.15
	Live fuel loading (tons/acre)	1×10^{-5}
	Fuel bed depth (feet)	0.20
Site Conditions	Foliar moisture content (%)	100
	Open windspeed (mph)	15
	Wind reduction factor (%)	25
	Canopy fuel load (tons/acre)	4
	Canopy bulk density (kg/m^3)	Plot
	Canopy base height (feet)	Plot
	Slope (%)	Plot

Table 3: Summary of treatments.

Treatment	Description	Removal Limit*
forest types other than lodgepole and fir-spruce		
SDI 1A	uneven-aged: leave more small trees	50%
SDI 2A	uneven-aged: leave more large trees	50%
TFB 3A	even-aged; thin from below	50%
SDI 1B	uneven-aged: leave more small trees	none
SDI 2B	uneven-aged: leave more large trees	none
TFB 3B	even-aged; thin from below	none
lodgepole and fir-spruce forest types		
SDI 4A	even-aged; thin from below	25%
SDI 4B	even-aged; thin from below	50%

* As a percentage of beginning basal area.

Table 4: Relationship between Fire Regime Condition Class (FRCC), the degree of departure from historical conditions, and hazard rating based on torching index and crowning index for treatable plots (all ownerships).

	Hazard Rating			
FRCC	Low	Medium	High	Total
1; Low	20%	41%	39%	100%
2; Medium	25%	39%	36%	100%
3; High	29%	32%	39%	100%

Table 5: Summary of total forestland, timberland, and timberland eligible for treatment by state with detail on WUI and ownership.

State	(1) Forestland Acres (millions)	Timberland Acres (millions) (2) Total	(3) Out of Condition in (2)*	(4) ***Treatable*** = Non-Roadless in (3)	(5) WUI in (4)	(6) Federal Own. in (4)	(7) Non-Federal Public Own. in (4)	(8) Private & Other Own. in (4)
AZ	19.4	3.5	1.0	1.0	0.0	0.7		0.3
CA	40.2	17.8	7.4	6.6	0.3	3.7	0.0	2.9
CO	21.6	11.6	5.9	4.5	0.2	3.2	0.1	1.2
ID	21.6	16.8	9.0	6.3	1.2	4.4	0.5	1.4
MT	23.3	19.2	11.1	7.2	0.2	4.6	0.4	2.3
NV	10.2	0.4	0.2	0.1	0.0	0.0	0.0	0.0
NM	16.7	4.4	2.2	2.0	0.0	1.2	0.1	0.7
OR	29.7	23.8	8.9	8.2	0.3	5.1	0.4	2.7
SD	1.6	1.5	0.2	0.2	0.0	0.2		
UT	15.7	4.7	2.2	1.2	0.0	0.9	0.1	0.3
WA	21.8	17.3	8.1	7.0	0.5	2.4	1.2	3.4
WY	11.0	5.7	2.9	1.5	0.0	1.1	0.1	0.4
Total	232.9	126.8	59.2	45.8	2.8	27.4	2.8	15.6

* after application of data screen for reserved status

Table 6: State Summary All Ownerships: Treatment SDI 1A for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	374.2	559.3	394.3	232.0	218.1	844.5	310.5	347.1	657.6	77.9%	126.0	12.3	48.6	186.9	22.1%
CA	6,747.2	8,311.2	1,797.6	1,400.2	2,272.3	5,470.2	1,483.6	1,507.3	2,990.9	54.7%	1,647.1	289.5	542.7	2,479.3	45.3%
CO	440.5	1,029.6	561.5	673.2	728.2	1,962.9	570.0	467.2	1,037.2	52.8%	478.0	227.6	220.1	925.7	47.2%
ID	2,579.1	3,503.6	727.2	1,205.1	1,072.6	3,004.9	1,082.2	691.3	1,773.5	59.0%	693.7	332.3	205.3	1,231.4	41.0%
MT	1,985.5	3,265.0	985.4	2,245.7	1,211.5	4,442.6	1,730.7	922.4	2,653.1	59.7%	694.2	802.9	292.5	1,789.5	40.3%
NV	13.4	17.7	15.9	8.2	1.1	25.2	15.2	9.0	24.1	95.7%	0.0	0.0	1.1	1.1	4.3%
NM	522.5	901.9	365.8	427.8	610.8	1,404.4	479.3	302.2	781.5	55.6%	416.0	99.5	107.5	622.9	44.4%
OR	8,704.4	10,402.7	1,699.5	3,145.6	1,141.5	5,986.7	2,937.4	1,546.9	4,484.4	74.9%	833.3	526.9	142.1	1,502.3	25.1%
SD	43.0	84.1	92.4	97.8	33.8	224.0	120.3	82.2	202.4	90.4%	21.5	0.0	0.0	21.5	9.6%
UT	173.2	382.5	202.7	98.9	225.5	527.1	128.0	150.1	278.1	52.8%	177.4	23.3	48.2	249.0	47.2%
WA	7,864.8	9,706.5	1,277.1	2,869.1	1,646.1	5,792.3	2,471.6	1,154.6	3,626.1	62.6%	1,074.6	698.9	392.8	2,166.2	37.4%
WY	233.3	389.2	198.4	169.6	253.2	621.2	174.1	168.2	342.3	55.1%	185.0	35.5	58.3	278.8	44.9%
Total	29,680.9	38,553.4	8,317.8	12,573.4	9,414.8	30,306.0	11,502.9	7,348.3	18,851.2	62.2%	6,346.9	3,048.6	2,059.2	11,454.7	37.8%

Table 7: State Summary Federal Ownership: Treatment SDI 1A for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	295.9	419.3	289.8	185.9	142.9	618.6	241.9	234.8	476.7	77.1%	87.0	9.2	45.8	141.9	22.9%
CA	4,094.8	4,771.3	891.1	843.8	1,079.5	2,814.3	769.8	689.8	1,459.6	51.9%	850.6	208.9	295.1	1,354.7	48.1%
CO	294.6	673.8	308.4	428.5	377.9	1,114.8	356.6	249.1	605.7	54.3%	256.9	164.4	87.8	509.1	45.7%
ID	1,816.7	2,363.4	580.3	666.0	683.9	1,930.2	617.8	524.1	1,141.9	59.2%	499.9	183.3	105.1	788.3	40.8%
MT	1,435.1	2,261.2	482.4	1,248.9	731.5	2,462.8	938.7	422.3	1,361.0	55.3%	417.8	457.3	226.7	1,101.9	44.7%
NV	3.8	5.2	15.9	0.0	1.1	17.0	7.0	9.0	15.9	93.6%	0.0	0.0	1.1	1.1	6.4%
NM	389.3	643.3	258.5	237.6	359.1	855.2	286.3	200.0	486.2	56.9%	239.2	52.8	77.0	369.0	43.1%
OR	6,428.7	7,277.6	1,335.2	1,204.7	791.2	3,331.1	1,266.9	1,194.1	2,460.9	73.9%	642.9	143.2	84.0	870.1	26.1%
SD	43.0	84.1	92.4	97.8	33.8	224.0	120.3	82.2	202.4	90.4%	21.5	0.0	0.0	21.5	9.6%
UT	110.6	239.5	125.3	71.0	131.6	327.9	64.4	101.4	165.8	50.6%	115.6	9.2	37.4	162.1	49.4%
WA	2,995.2	3,489.1	489.5	506.4	742.7	1,738.6	579.6	528.1	1,107.6	63.7%	401.6	89.9	139.5	631.0	36.3%
WY	160.0	260.1	73.0	74.1	144.6	291.7	78.5	57.9	136.4	46.8%	95.8	23.5	36.0	155.3	53.2%
Total	18,067.7	22,488.1	4,941.8	5,564.6	5,219.8	15,726.1	5,327.6	4,292.5	9,620.1	61.2%	3,628.8	1,341.7	1,135.5	6,106.0	38.8%

Table 8: State Summary All Ownerships: Treatment SDI 2A for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	240.5	433.8	394.3	232.0	218.1	844.5	389.5	323.2	712.7	84.4%	90.8	16.6	24.2	131.7	15.6%
CA	4,224.5	5,581.5	1,797.6	1,400.2	2,272.3	5,470.2	2,248.3	1,932.2	4,180.6	76.4%	957.3	139.0	193.3	1,289.6	23.6%
CO	306.8	877.3	561.5	673.2	728.2	1,962.9	759.0	514.7	1,273.8	64.9%	380.4	174.0	134.8	689.2	35.1%
ID	1,899.1	2,885.1	727.2	1,205.1	1,072.6	3,004.9	1,492.0	859.2	2,351.3	78.2%	368.7	193.2	91.7	653.6	21.8%
MT	1,522.5	2,865.4	985.4	2,245.7	1,211.5	4,442.6	2,206.1	1,035.5	3,241.6	73.0%	421.4	606.6	173.0	1,201.0	27.0%
NV	7.6	12.7	15.9	8.2	1.1	25.2	15.2	9.0	24.1	95.7%	0.0	0.0	1.1	1.1	4.3%
NM	337.0	717.9	365.8	427.8	610.8	1,404.4	668.2	322.5	990.7	70.5%	261.8	76.1	75.9	413.7	29.5%
OR	6,484.5	8,259.3	1,699.5	3,145.6	1,141.5	5,986.7	3,538.9	1,697.6	5,236.5	87.5%	413.8	301.6	34.7	750.1	12.5%
SD	25.2	65.0	92.4	97.8	33.8	224.0	135.9	73.0	208.9	93.3%	15.1	0.0	0.0	15.1	6.7%
UT	132.1	344.5	202.7	98.9	225.5	527.1	166.9	191.7	358.6	68.0%	123.8	10.6	34.2	168.6	32.0%
WA	6,062.0	8,133.4	1,277.1	2,869.1	1,646.1	5,792.3	3,050.0	1,284.2	4,334.2	74.8%	727.1	469.9	261.1	1,458.1	25.2%
WY	193.7	358.7	198.4	169.6	253.2	621.2	211.8	186.1	398.0	64.1%	146.5	37.8	38.9	223.2	35.9%
Total	21,435.5	30,534.7	8,317.8	12,573.4	9,414.8	30,306.0	14,882.0	8,428.9	23,310.9	76.9%	3,906.8	2,025.3	1,063.0	6,995.1	23.1%

Table 9: State Summary Federal Ownership: Treatment SDI 2A for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	197.3	333.9	289.8	185.9	142.9	618.6	300.5	223.5	524.0	84.7%	58.1	15.1	21.4	94.6	15.3%
CA	2,668.0	3,266.7	891.1	843.8	1,079.5	2,814.3	1,177.2	906.6	2,083.8	74.0%	518.5	105.0	107.0	730.5	26.0%
CO	202.5	576.5	308.4	428.5	377.9	1,114.8	462.6	295.7	758.3	68.0%	162.3	140.5	53.6	356.4	32.0%
ID	1,348.2	1,934.9	580.3	666.0	683.9	1,930.2	878.3	625.9	1,504.2	77.9%	233.3	139.7	52.9	425.9	22.1%
MT	1,137.5	2,009.2	482.4	1,248.9	731.5	2,462.8	1,186.4	525.5	1,711.9	69.5%	231.2	377.6	142.1	750.9	30.5%
NV	1.8	4.0	15.9	0.0	1.1	17.0	7.0	9.0	15.9	93.6%	0.0	0.0	1.1	1.1	6.4%
NM	252.7	506.8	258.5	237.6	359.1	855.2	396.4	207.1	603.5	70.6%	153.3	46.9	51.5	251.7	29.4%
OR	4,730.4	5,544.7	1,335.2	1,204.7	791.2	3,331.1	1,691.5	1,309.3	3,000.8	90.1%	244.3	78.7	7.4	330.3	9.9%
SD	25.2	65.0	92.4	97.8	33.8	224.0	135.9	73.0	208.9	93.3%	15.1	0.0	0.0	15.1	6.7%
UT	82.5	209.7	125.3	71.0	131.6	327.9	87.5	129.2	216.8	66.1%	84.4	3.5	23.2	111.1	33.9%
WA	2,236.4	2,784.6	489.5	506.4	742.7	1,738.6	831.4	563.7	1,395.0	80.2%	214.7	47.6	81.2	343.6	19.8%
WY	134.1	238.3	73.0	74.1	144.6	291.7	84.4	67.5	151.9	52.1%	81.2	28.6	30.0	139.8	47.9%
Total	13,016.4	17,474.2	4,941.8	5,564.6	5,219.8	15,726.1	7,239.2	4,935.9	12,175.1	77.4%	1,996.5	983.3	571.4	3,551.1	22.6%

Table 10: State Summary All Ownerships: Treatment TFB 3A for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	49.2	119.5	394.3	232.0	218.1	844.5	622.5	176.5	799.0	94.6%	12.6	29.0	3.8	45.4	5.4%
CA	742.9	1,585.3	1,797.6	1,400.2	2,272.3	5,470.2	4,551.2	705.5	5,256.7	96.1%	52.9	155.8	4.8	213.5	3.9%
CO	49.7	364.8	561.5	673.2	728.2	1,962.9	1,316.7	391.4	1,708.1	87.0%	79.0	170.0	5.9	254.9	13.0%
ID	470.5	1,261.1	727.2	1,205.1	1,072.6	3,004.9	2,394.0	350.1	2,744.1	91.3%	36.0	201.6	23.1	260.8	8.7%
MT	590.8	1,686.6	985.4	2,245.7	1,211.5	4,442.6	3,288.4	509.1	3,797.5	85.5%	67.0	565.6	12.5	645.1	14.5%
NV	3.3	7.9	15.9	8.2	1.1	25.2	25.2	0.0	25.2	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	32.8	237.0	365.8	427.8	610.8	1,404.4	1,091.7	186.7	1,278.4	91.0%	32.4	81.5	12.2	126.1	9.0%
OR	2,586.1	4,408.0	1,699.5	3,145.6	1,141.5	5,986.7	4,705.4	842.1	5,547.5	92.7%	58.0	373.1	8.1	439.2	7.3%
SD	0.3	14.6	92.4	97.8	33.8	224.0	188.8	28.7	217.5	97.1%	6.4	0.0	0.0	6.4	2.9%
UT	34.1	136.7	202.7	98.9	225.5	527.1	363.8	113.5	477.3	90.5%	11.1	13.7	25.1	49.9	9.5%
WA	2,633.8	4,814.2	1,277.1	2,869.1	1,646.1	5,792.3	4,401.7	712.4	5,114.1	88.3%	142.2	477.1	58.9	678.2	11.7%
WY	56.3	171.4	198.4	169.6	253.2	621.2	381.0	145.9	526.9	84.8%	18.5	68.3	7.6	94.3	15.2%
Total	7,249.7	14,807.1	8,317.8	12,573.4	9,414.8	30,306.0	23,330.4	4,161.8	27,492.2	90.7%	516.3	2,135.6	161.9	2,813.8	9.3%

Table 11: State Summary Federal Ownership: Treatment TFB 3A for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	44.7	96.5	289.8	185.9	142.9	618.6	480.3	102.4	582.7	94.2%	6.3	25.8	3.8	36.0	5.8%
CA	471.4	871.4	891.1	843.8	1,079.5	2,814.3	2,404.5	294.0	2,698.5	95.9%	25.4	90.5	0.0	115.9	4.1%
CO	29.9	224.5	308.4	428.5	377.9	1,114.8	812.0	158.4	970.3	87.0%	18.9	119.7	5.9	144.4	13.0%
ID	311.7	778.5	580.3	666.0	683.9	1,930.2	1,541.4	221.7	1,763.1	91.3%	24.5	119.4	23.1	167.0	8.7%
MT	490.6	1,240.5	482.4	1,248.9	731.5	2,462.8	1,790.7	211.7	2,002.4	81.3%	45.9	402.0	12.5	460.4	18.7%
NV	0.3	0.8	15.9	0.0	1.1	17.0	17.0	0.0	17.0	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	24.0	148.4	258.5	237.6	359.1	855.2	658.1	134.0	792.0	92.6%	17.7	39.4	6.1	63.2	7.4%
OR	1,721.9	2,433.3	1,335.2	1,204.7	791.2	3,331.1	2,603.9	560.3	3,164.2	95.0%	7.7	159.1	0.0	166.8	5.0%
SD	0.3	14.6	92.4	97.8	33.8	224.0	188.8	28.7	217.5	97.1%	6.4	0.0	0.0	6.4	2.9%
UT	24.0	76.2	125.3	71.0	131.6	327.9	250.2	56.9	307.1	93.6%	11.1	6.7	3.1	20.8	6.4%
WA	894.9	1,376.3	489.5	506.4	742.7	1,738.6	1,370.7	198.9	1,569.6	90.3%	9.6	140.5	18.9	169.0	9.7%
WY	53.8	143.1	73.0	74.1	144.6	291.7	169.0	66.3	235.3	80.7%	1.5	47.3	7.6	56.4	19.3%
Total	4,067.5	7,404.0	4,941.8	5,564.6	5,219.8	15,726.1	12,286.4	2,033.3	14,319.8	91.1%	175.0	1,150.5	80.9	1,406.4	8.9%

Table 12: State Summary All Ownerships: Treatment TFB 4A for lodgepole and fir-spruce forest types. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	16.0	45.7	38.4	29.1	109.2	176.6	91.3	13.7	105.0	59.5%	11.7	59.9	0.0	71.6	40.5%
CA	312.9	493.2	195.5	322.5	625.8	1,143.9	466.2	16.9	483.1	42.2%	41.5	585.2	34.1	660.8	57.8%
CO	106.3	732.8	308.2	1,071.8	1,148.6	2,528.7	787.8	82.7	870.5	34.4%	205.3	1,230.8	222.2	1,658.2	65.6%
ID	265.3	956.9	803.4	1,009.5	1,464.0	3,276.9	1,476.7	348.8	1,825.5	55.7%	295.1	975.0	181.3	1,451.4	44.3%
MT	52.4	567.4	641.4	988.6	1,170.4	2,800.3	1,259.1	237.8	1,496.9	53.5%	250.3	888.1	165.0	1,303.4	46.5%
NV	1.1	6.3	6.2	11.7	33.5	51.4	19.6	14.4	34.0	66.1%	0.0	9.2	8.2	17.4	33.9%
NM	29.7	146.2	30.8	164.1	410.6	605.5	139.2	12.4	151.6	25.0%	31.6	329.1	93.1	453.9	75.0%
OR	272.8	548.6	652.5	427.1	1,111.5	2,191.1	1,274.0	222.4	1,496.3	68.3%	80.7	587.7	26.4	694.8	31.7%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0	0.0	0.0	0.0%
UT	24.5	125.2	129.8	119.1	430.1	679.0	251.6	53.7	305.3	45.0%	52.0	265.7	55.9	373.6	55.0%
WA	190.5	363.1	294.4	211.0	661.5	1,167.0	544.9	100.3	645.2	55.3%	103.2	312.1	106.5	521.8	44.7%
WY	40.3	188.3	175.2	275.6	450.2	901.0	436.9	42.5	479.3	53.2%	97.3	253.0	71.4	421.7	46.8%
Total	1,311.9	4,173.7	3,275.9	4,630.1	7,615.4	15,521.4	6,747.3	1,145.5	7,892.8	50.9%	1,168.7	5,495.7	964.2	7,628.6	49.1%

Table 13: State Summary Federal Ownership: Treatment TFB 4A for lodgepole and fir-spruce forest types. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	5.4	21.5	33.2	12.3	67.1	112.6	61.5	8.6	70.1	62.2%	8.6	34.0	0.0	42.5	37.8%
CA	273.2	409.2	149.5	292.0	451.8	893.3	383.2	12.6	395.8	44.3%	14.9	462.0	20.6	497.5	55.7%
CO	92.7	640.0	252.0	872.7	933.3	2,058.0	662.0	55.1	717.1	34.8%	166.0	996.5	178.3	1,340.8	65.2%
ID	224.4	792.2	577.4	761.5	1,097.1	2,435.9	1,156.9	227.3	1,384.1	56.8%	219.6	712.6	119.6	1,051.8	43.2%
MT	42.6	447.6	457.3	733.5	924.9	2,115.7	1,000.1	148.9	1,149.0	54.3%	162.0	688.6	116.1	966.7	45.7%
NV	0.7	5.8	6.2	3.5	17.0	26.8	11.3	6.2	17.6	65.6%	0.0	9.2	0.0	9.2	34.4%
NM	16.6	87.9	18.4	118.9	205.0	342.4	94.4	0.0	94.4	27.6%	20.1	199.0	28.9	248.0	72.4%
OR	255.7	454.7	568.0	278.3	884.6	1,731.0	1,074.6	184.0	1,258.6	72.7%	58.8	394.2	19.3	472.3	27.3%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0	0.0	0.0	0.0%
UT	22.0	113.0	97.4	112.2	317.6	527.1	189.4	24.9	214.2	40.6%	34.8	235.0	43.2	312.9	59.4%
WA	172.8	267.7	170.7	95.4	389.7	655.7	322.2	59.6	381.8	58.2%	38.4	200.5	35.1	273.9	41.8%
WY	34.3	155.6	149.5	218.8	400.0	768.2	382.0	42.5	424.5	55.3%	75.2	203.8	64.7	343.7	44.7%
Total	1,140.5	3,395.3	2,479.5	3,499.1	5,688.1	11,666.7	5,337.5	769.7	6,107.2	52.3%	798.4	4,135.4	625.8	5,559.5	47.7%

Table 14: State Summary All Ownerships: Treatment SDI 1B for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	445.7	663.1	394.3	232.0	218.1	844.5	346.3	498.1	844.5	100.0%	0.0	0.0	0.0	0.0	0.0%
CA	8,728.7	10,664.7	1,797.6	1,400.2	2,272.3	5,470.2	2,155.3	3,279.9	5,435.2	99.4%	28.9	6.0	0.0	34.9	0.6%
CO	608.3	1,350.5	561.5	673.2	728.2	1,962.9	952.9	1,009.9	1,962.8	100.0%	0.0	0.1	0.0	0.1	0.0%
ID	3,073.5	4,203.8	727.2	1,205.1	1,072.6	3,004.9	1,585.5	1,407.9	2,993.4	99.6%	6.8	4.7	0.0	11.5	0.4%
MT	2,433.2	3,988.6	985.4	2,245.7	1,211.5	4,442.6	2,759.0	1,681.8	4,440.8	100.0%	0.0	1.8	0.0	1.8	0.0%
NV	14.0	18.5	15.9	8.2	1.1	25.2	15.2	10.1	25.2	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	667.5	1,154.8	365.8	427.8	610.8	1,404.4	686.7	711.4	1,398.1	99.5%	0.0	6.3	0.0	6.3	0.5%
OR	9,775.2	11,691.6	1,699.5	3,145.6	1,141.5	5,986.7	3,609.8	2,375.0	5,984.8	100.0%	1.9	0.0	0.0	1.9	0.0%
SD	44.9	87.4	92.4	97.8	33.8	224.0	120.3	103.7	224.0	100.0%	0.0	0.0	0.0	0.0	0.0%
UT	223.2	484.5	202.7	98.9	225.5	527.1	163.0	364.2	527.1	100.0%	0.0	0.0	0.0	0.0	0.0%
WA	9,116.0	11,283.2	1,277.1	2,869.1	1,646.1	5,792.3	3,478.4	2,251.2	5,729.6	98.9%	55.2	0.0	7.5	62.7	1.1%
WY	308.6	503.6	198.4	169.6	253.2	621.2	253.7	361.1	614.8	99.0%	6.4	0.0	0.0	6.4	1.0%
Total	35,438.8	46,094.4	8,317.8	12,573.4	9,414.8	30,306.0	16,126.1	14,054.3	30,180.4	99.6%	99.1	19.0	7.5	125.6	0.4%

Table 15: State Summary Federal Ownership: Treatment SDI 1B for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	358.8	506.9	289.8	185.9	142.9	618.6	271.8	346.8	618.6	100.0%	0.0	0.0	0.0	0.0	0.0%
CA	5,246.9	6,119.4	891.1	843.8	1,079.5	2,814.3	1,138.8	1,649.7	2,788.5	99.1%	19.8	6.0	0.0	25.8	0.9%
CO	389.9	864.7	308.4	428.5	377.9	1,114.8	602.7	511.9	1,114.7	100.0%	0.0	0.1	0.0	0.1	0.0%
ID	2,149.8	2,827.0	580.3	666.0	683.9	1,930.2	915.1	1,003.6	1,918.7	99.4%	6.8	4.7	0.0	11.5	0.6%
MT	1,763.2	2,779.4	482.4	1,248.9	731.5	2,462.8	1,540.1	922.7	2,462.8	100.0%	0.0	0.0	0.0	0.0	0.0%
NV	4.5	6.0	15.9	0.0	1.1	17.0	7.0	10.1	17.0	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	494.7	826.9	258.5	237.6	359.1	855.2	389.9	459.0	848.9	99.3%	0.0	6.3	0.0	6.3	0.7%
OR	7,243.9	8,225.1	1,335.2	1,204.7	791.2	3,331.1	1,489.6	1,839.6	3,329.2	99.9%	1.9	0.0	0.0	1.9	0.1%
SD	44.9	87.4	92.4	97.8	33.8	224.0	120.3	103.7	224.0	100.0%	0.0	0.0	0.0	0.0	0.0%
UT	138.2	296.0	125.3	71.0	131.6	327.9	81.1	246.8	327.9	100.0%	0.0	0.0	0.0	0.0	0.0%
WA	3,612.4	4,195.3	489.5	506.4	742.7	1,738.6	760.2	978.4	1,738.6	100.0%	0.0	0.0	0.0	0.0	0.0%
WY	217.3	344.7	73.0	74.1	144.6	291.7	126.7	165.0	291.7	100.0%	0.0	0.0	0.0	0.0	0.0%
Total	21,664.7	27,078.9	4,941.8	5,564.6	5,219.8	15,726.1	7,443.3	8,237.3	15,680.6	99.7%	28.4	17.2	0.0	45.5	0.3%

Table 16: State Summary All Ownerships: Treatment SDI 2B for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	277.6	485.7	394.3	232.0	218.1	844.5	437.6	406.8	844.5	100.0%	0.0	0.0	0.0	0.0	0.0%
CA	5,158.4	6,798.6	1,797.6	1,400.2	2,272.3	5,470.2	2,762.2	2,695.8	5,458.0	99.8%	9.2	3.0	0.0	12.2	0.2%
CO	391.2	1,044.6	561.5	673.2	728.2	1,962.9	1,090.1	872.8	1,962.8	100.0%	0.0	0.1	0.0	0.1	0.0%
ID	2,061.8	3,139.8	727.2	1,205.1	1,072.6	3,004.9	1,792.2	1,212.6	3,004.9	100.0%	0.0	0.0	0.0	0.0	0.0%
MT	1,757.4	3,269.2	985.4	2,245.7	1,211.5	4,442.6	3,072.4	1,368.5	4,440.8	100.0%	0.0	1.8	0.0	1.8	0.0%
NV	8.0	13.2	15.9	8.2	1.1	25.2	16.3	9.0	25.2	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	416.7	863.5	365.8	427.8	610.8	1,404.4	820.2	584.2	1,404.4	100.0%	0.0	0.0	0.0	0.0	0.0%
OR	6,750.0	8,591.2	1,699.5	3,145.6	1,141.5	5,986.7	3,944.6	2,042.0	5,986.7	100.0%	0.0	0.0	0.0	0.0	0.0%
SD	25.8	66.1	92.4	97.8	33.8	224.0	142.3	81.6	224.0	100.0%	0.0	0.0	0.0	0.0	0.0%
UT	156.2	392.3	202.7	98.9	225.5	527.1	191.2	336.0	527.1	100.0%	0.0	0.0	0.0	0.0	0.0%
WA	6,546.0	8,791.5	1,277.1	2,869.1	1,646.1	5,792.3	3,790.2	1,943.1	5,733.2	99.0%	51.6	0.0	7.5	59.1	1.0%
WY	240.7	433.4	198.4	169.6	253.2	621.2	315.3	305.9	621.2	100.0%	0.0	0.0	0.0	0.0	0.0%
Total	23,789.8	33,889.2	8,317.8	12,573.4	9,414.8	30,306.0	18,374.6	11,858.2	30,232.8	99.8%	60.8	4.9	7.5	73.2	0.2%

Table 17: State Summary Federal Ownership: Treatment SDI 2B for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	228.8	375.7	289.8	185.9	142.9	618.6	338.2	280.4	618.6	100.0%	0.0	0.0	0.0	0.0	0.0%
CA	3,147.8	3,852.3	891.1	843.8	1,079.5	2,814.3	1,469.6	1,341.7	2,811.3	99.9%	3.0	0.0	0.0	3.0	0.1%
CO	248.3	671.7	308.4	428.5	377.9	1,114.8	671.9	442.8	1,114.7	100.0%	0.1	0.0	0.0	0.1	0.0%
ID	1,456.0	2,101.6	580.3	666.0	683.9	1,930.2	1,098.1	832.1	1,930.2	100.0%	0.0	0.0	0.0	0.0	0.0%
MT	1,328.8	2,323.5	482.4	1,248.9	731.5	2,462.8	1,735.2	727.7	2,462.8	100.0%	0.0	0.0	0.0	0.0	0.0%
NV	2.2	4.5	15.9	0.0	1.1	17.0	8.1	9.0	17.0	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	312.5	614.6	258.5	237.6	359.1	855.2	474.4	380.9	855.2	100.0%	0.0	0.0	0.0	0.0	0.0%
OR	4,892.7	5,730.5	1,335.2	1,204.7	791.2	3,331.1	1,809.8	1,521.3	3,331.1	100.0%	0.0	0.0	0.0	0.0	0.0%
SD	25.8	66.1	92.4	97.8	33.8	224.0	142.3	81.6	224.0	100.0%	0.0	0.0	0.0	0.0	0.0%
UT	97.5	238.5	125.3	71.0	131.6	327.9	104.8	223.1	327.9	100.0%	0.0	0.0	0.0	0.0	0.0%
WA	2,436.7	3,022.2	489.5	506.4	742.7	1,738.6	974.4	764.3	1,738.6	100.0%	0.0	0.0	0.0	0.0	0.0%
WY	175.6	301.1	73.0	74.1	144.6	291.7	161.3	130.3	291.7	100.0%	0.0	0.0	0.0	0.0	0.0%
Total	14,352.7	19,302.3	4,941.8	5,564.6	5,219.8	15,726.1	8,987.9	6,735.1	15,723.0	100.0%	3.1	0.0	0.0	3.1	0.0%

Table 18: State Summary All Ownerships: Treatment TFB 3B for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	61.6	135.7	394.3	232.0	218.1	844.5	655.3	189.2	844.5	100.0%	0.0	0.0	0.0	0.0	0.0%
CA	830.6	1,696.6	1,797.6	1,400.2	2,272.3	5,470.2	4,718.4	751.8	5,470.2	100.0%	0.0	0.0	0.0	0.0	0.0%
CO	65.5	410.2	561.5	673.2	728.2	1,962.9	1,505.9	457.0	1,962.9	100.0%	0.0	0.0	0.0	0.0	0.0%
ID	522.7	1,379.3	727.2	1,205.1	1,072.6	3,004.9	2,615.4	389.5	3,004.9	100.0%	0.0	0.0	0.0	0.0	0.0%
MT	711.0	1,938.8	985.4	2,245.7	1,211.5	4,442.6	3,884.2	558.4	4,442.6	100.0%	0.0	0.0	0.0	0.0	0.0%
NV	3.3	7.9	15.9	8.2	1.1	25.2	25.2	0.0	25.2	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	55.8	276.3	365.8	427.8	610.8	1,404.4	1,198.9	205.5	1,404.4	100.0%	0.0	0.0	0.0	0.0	0.0%
OR	2,737.6	4,600.6	1,699.5	3,145.6	1,141.5	5,986.7	5,086.6	900.1	5,986.7	100.0%	0.0	0.0	0.0	0.0	0.0%
SD	0.3	14.6	92.4	97.8	33.8	224.0	188.8	35.2	224.0	100.0%	0.0	0.0	0.0	0.0	0.0%
UT	38.3	154.7	202.7	98.9	225.5	527.1	387.5	139.6	527.1	100.0%	0.0	0.0	0.0	0.0	0.0%
WA	2,832.2	5,103.8	1,277.1	2,869.1	1,646.1	5,792.3	4,918.7	873.6	5,792.3	100.0%	0.0	0.0	0.0	0.0	0.0%
WY	64.4	196.3	198.4	169.6	253.2	621.2	449.2	171.9	621.2	100.0%	0.0	0.0	0.0	0.0	0.0%
Total	7,923.3	15,914.9	8,317.8	12,573.4	9,414.8	30,306.0	25,634.2	4,671.8	30,306.0	100.0%	0.0	0.0	0.0	0.0	0.0%

Table 19: State Summary Federal Ownership: Treatment TFB 3B for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	57.0	111.2	289.8	185.9	142.9	618.6	509.9	108.7	618.6	100.0%	0.0	0.0	0.0	0.0	0.0%
CA	504.2	913.1	891.1	843.8	1,079.5	2,814.3	2,496.4	317.9	2,814.3	100.0%	0.0	0.0	0.0	0.0	0.0%
CO	39.7	249.3	308.4	428.5	377.9	1,114.8	943.5	171.3	1,114.8	100.0%	0.0	0.0	0.0	0.0	0.0%
ID	353.4	856.2	580.3	666.0	683.9	1,930.2	1,674.8	255.4	1,930.2	100.0%	0.0	0.0	0.0	0.0	0.0%
MT	601.0	1,461.6	482.4	1,248.9	731.5	2,462.8	2,215.3	247.5	2,462.8	100.0%	0.0	0.0	0.0	0.0	0.0%
NV	0.3	0.8	15.9	0.0	1.1	17.0	17.0	0.0	17.0	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	35.2	164.9	258.5	237.6	359.1	855.2	709.7	145.5	855.2	100.0%	0.0	0.0	0.0	0.0	0.0%
OR	1,802.8	2,524.0	1,335.2	1,204.7	791.2	3,331.1	2,763.0	568.0	3,331.1	100.0%	0.0	0.0	0.0	0.0	0.0%
SD	0.3	14.6	92.4	97.8	33.8	224.0	188.8	35.2	224.0	100.0%	0.0	0.0	0.0	0.0	0.0%
UT	25.4	84.5	125.3	71.0	131.6	327.9	259.9	68.0	327.9	100.0%	0.0	0.0	0.0	0.0	0.0%
WA	968.9	1,474.9	489.5	506.4	742.7	1,738.6	1,513.1	225.5	1,738.6	100.0%	0.0	0.0	0.0	0.0	0.0%
WY	61.2	164.3	73.0	74.1	144.6	291.7	216.3	75.4	291.7	100.0%	0.0	0.0	0.0	0.0	0.0%
Total	4,449.5	8,019.3	4,941.8	5,564.6	5,219.8	15,726.1	13,507.8	2,218.3	15,726.1	100.0%	0.0	0.0	0.0	0.0	0.0%

Table 20: State Summary All Ownerships: Treatment TFB 4B for lodgepole and fir-spruce forest types. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	41.1	81.1	38.4	29.1	109.2	176.6	139.5	16.9	156.4	88.5%	8.6	11.7	0.0	20.2	11.5%
CA	699.0	963.2	195.5	322.5	625.8	1,143.9	929.8	40.8	970.6	84.9%	4.8	165.5	3.0	173.3	15.1%
CO	406.2	1,565.5	308.2	1,071.8	1,148.6	2,528.7	1,683.8	189.5	1,873.3	74.1%	126.9	490.0	38.5	655.4	25.9%
ID	648.5	1,732.0	803.4	1,009.5	1,464.0	3,276.9	2,351.2	572.8	2,924.1	89.2%	116.7	214.6	21.6	352.9	10.8%
MT	194.6	1,135.0	641.4	988.6	1,170.4	2,800.3	2,054.2	416.7	2,470.8	88.2%	70.3	233.0	26.2	329.5	11.8%
NV	1.9	9.2	6.2	11.7	33.5	51.4	28.8	22.7	51.4	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	117.3	347.6	30.8	164.1	410.6	605.5	423.6	20.1	443.7	73.3%	0.0	141.0	20.9	161.8	26.7%
OR	556.9	941.8	652.5	427.1	1,111.5	2,191.1	1,806.9	284.2	2,091.1	95.4%	3.8	94.2	2.0	100.0	4.6%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0	0.0	0.0	0.0%
UT	86.3	274.1	129.8	119.1	430.1	679.0	454.1	88.0	542.1	79.8%	48.7	81.6	6.6	136.9	20.2%
WA	412.0	690.4	294.4	211.0	661.5	1,167.0	834.2	158.9	993.1	85.1%	48.4	79.9	45.5	173.9	14.9%
WY	115.6	371.5	175.2	275.6	450.2	901.0	703.3	90.6	793.8	88.1%	36.8	49.4	21.1	107.2	11.9%
Total	3,279.6	8,111.5	3,275.9	4,630.1	7,615.4	15,521.4	11,409.5	1,901.0	13,310.4	85.8%	465.0	1,560.7	185.3	2,211.0	14.2%

Table 21: State Summary Federal Ownership: Treatment TFB 4B for lodgepole and fir-spruce forest types. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

	Volume (MMCF)		Treatable Acres Pre-Treatment Out of Condition (000s)				Treatable Acres Post-Treatment								
							In Condition (000s)				Out of Condition (000s)				
state	Sawlog	Total	low	medium	high	Total	in_25	in_40	Total	Total %	low	medium	high	Total	Total %
AZ	17.6	39.4	33.2	12.3	67.1	112.6	92.4	8.6	101.0	89.7%	8.6	3.0	0.0	11.6	10.3%
CA	590.5	786.9	149.5	292.0	451.8	893.3	724.8	18.1	742.9	83.2%	4.8	142.6	3.0	150.4	16.8%
CO	338.7	1,327.3	252.0	872.7	933.3	2,058.0	1,442.6	130.1	1,572.7	76.4%	100.6	353.4	31.3	485.3	23.6%
ID	517.2	1,361.9	577.4	761.5	1,097.1	2,435.9	1,848.7	401.3	2,250.1	92.4%	81.3	102.1	2.4	185.9	7.6%
MT	168.6	905.1	457.3	733.5	924.9	2,115.7	1,618.9	263.0	1,881.9	88.9%	42.4	174.2	17.2	233.8	11.1%
NV	1.5	8.8	6.2	3.5	17.0	26.8	20.6	6.2	26.8	100.0%	0.0	0.0	0.0	0.0	0.0%
NM	70.3	199.9	18.4	118.9	205.0	342.4	268.4	7.7	276.0	80.6%	0.0	60.0	6.4	66.3	19.4%
OR	507.2	772.3	568.0	278.3	884.6	1,731.0	1,441.4	223.9	1,665.3	96.2%	3.8	59.9	2.0	65.6	3.8%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0	0.0	0.0	0.0%
UT	77.5	249.1	97.4	112.2	317.6	527.1	367.6	47.3	414.9	78.7%	30.6	75.1	6.6	112.2	21.3%
WA	363.2	513.6	170.7	95.4	389.7	655.7	499.4	87.4	586.8	89.5%	16.2	44.3	8.5	69.0	10.5%
WY	95.3	306.1	149.5	218.8	400.0	768.2	596.0	74.2	670.2	87.2%	36.8	40.2	21.1	98.0	12.8%
Total	2,747.7	6,470.3	2,479.5	3,499.1	5,688.1	11,666.7	8,920.7	1,267.9	10,188.5	87.3%	324.9	1,054.8	98.4	1,478.2	12.7%

Table 22: Treatments SDI 1A, SDI 2A, and TFB 3A for All Ownerships: Migration of treated area pre- to post-treatment for forest types other than lodgepole and fir-spruce.

Treatment	Post Treatment										Total	
	In Condition				Risk: Out of Condition							
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total
SDI 1A												
low	684.6	2.3%	6,210.2	20.5%	1,416.2	4.7%	0.0	0.0%	6.8	0.0%	8,317.8	27.4%
med	9,716.1	32.1%	0.0	0.0%	0.0	0.0%	2,857.2	9.4%	0.0	0.0%	12,573.4	41.5%
high	1,102.2	3.6%	1,138.1	3.8%	4,930.7	16.3%	191.4	0.6%	2,052.5	6.8%	9,414.8	31.1%
	11,502.9	38.0%	7,348.3	24.2%	6,346.9	20.9%	3,048.6	10.1%	2,059.2	6.8%	30,306.0	100.0%
SDI 2A												
low	1,680.4	5.5%	6,241.1	20.6%	396.3	1.3%	0.0	0.0%	0.0	0.0%	8,317.8	27.4%
med	10,694.0	35.3%	0.0	0.0%	0.0	0.0%	1,879.4	6.2%	0.0	0.0%	12,573.4	41.5%
high	2,507.6	8.3%	2,187.8	7.2%	3,510.4	11.6%	146.0	0.5%	1,063.0	3.5%	9,414.8	31.1%
	14,882.0	49.1%	8,428.9	27.8%	3,906.8	12.9%	2,025.3	6.7%	1,063.0	3.5%	30,306.0	100.0%
TFB 3A												
low	5,337.3	17.6%	2,937.9	9.7%	42.6	0.1%	0.0	0.0%	0.0	0.0%	8,317.8	27.4%
med	11,147.1	36.8%	0.0	0.0%	0.0	0.0%	1,426.3	4.7%	0.0	0.0%	12,573.4	41.5%
high	6,846.1	22.6%	1,223.9	4.0%	473.6	1.6%	709.3	2.3%	161.9	0.5%	9,414.8	31.1%
	23,330.4	77.0%	4,161.8	13.7%	516.3	1.7%	2,135.6	7.0%	161.9	0.5%	30,306.0	100.0%

Table 23: Treatments SDI 1A, SDI 2A, and TFB 3A for Federal Ownership: Migration of treated area pre- to post-treatment for forest types other than lodgepole and fir-spruce.

Treatment	Post Treatment										Total	
	In Condition				Risk: Out of Condition							
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total
SDI 1A												
low	441.9	2.8%	3,650.3	23.2%	842.8	5.4%	0.0	0.0%	6.8	0.0%	4,941.8	31.4%
med	4,318.0	27.5%	0.0	0.0%	0.0	0.0%	1,246.5	7.9%	0.0	0.0%	5,564.6	35.4%
high	567.7	3.6%	642.2	4.1%	2,786.0	17.7%	95.1	0.6%	1,128.7	7.2%	5,219.8	33.2%
	5,327.6	33.9%	4,292.5	27.3%	3,628.8	23.1%	1,341.7	8.5%	1,135.5	7.2%	15,726.1	100.0%
SDI 2A												
low	1,121.2	7.1%	3,653.2	23.2%	167.4	1.1%	0.0	0.0%	0.0	0.0%	4,941.8	31.4%
med	4,673.9	29.7%	0.0	0.0%	0.0	0.0%	890.6	5.7%	0.0	0.0%	5,564.6	35.4%
high	1,444.1	9.2%	1,282.6	8.2%	1,829.1	11.6%	92.6	0.6%	571.4	3.6%	5,219.8	33.2%
	7,239.2	46.0%	4,935.9	31.4%	1,996.5	12.7%	983.3	6.3%	571.4	3.6%	15,726.1	100.0%
TFB 3A												
low	3,408.4	21.7%	1,514.6	9.6%	18.8	0.1%	0.0	0.0%	0.0	0.0%	4,941.8	31.4%
med	4,833.6	30.7%	0.0	0.0%	0.0	0.0%	731.0	4.6%	0.0	0.0%	5,564.6	35.4%
high	4,044.5	25.7%	518.7	3.3%	156.2	1.0%	419.5	2.7%	80.9	0.5%	5,219.8	33.2%
	12,286.4	78.1%	2,033.3	12.9%	175.0	1.1%	1,150.5	7.3%	80.9	0.5%	15,726.1	100.0%

Table 24: Treatments SDI 1B, SDI 2B, and TFB 3B for All Ownerships: Migration of treated area pre- to post-treatment for forest types other than lodgepole and fir-spruce.

Treatment		Post Treatment										Total	
		In Condition				Risk: Out of Condition							
		TI & CI ≥ 25		CI ≥ 40		low		med		high			
	Pre-Treat Risk	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total
SDI 1B													
	low	843.4	2.8%	7,416.9	24.5%	57.5	0.2%	0.0	0.0%	0.0	0.0%	8,317.8	27.4%
	med	12,562.1	41.5%	0.0	0.0%	0.0	0.0%	11.3	0.0%	0.0	0.0%	12,573.4	41.5%
	high	2,720.6	9.0%	6,637.4	21.9%	41.6	0.1%	7.7	0.0%	7.5	0.0%	9,414.8	31.1%
		16,126.1	53.2%	14,054.3	46.4%	99.1	0.3%	19.0	0.1%	7.5	0.0%	30,306.0	100.0%
SDI 2B													
	low	1,747.7	5.8%	6,527.6	21.5%	42.5	0.1%	0.0	0.0%	0.0	0.0%	8,317.8	27.4%
	med	12,568.4	41.5%	0.0	0.0%	0.0	0.0%	4.9	0.0%	0.0	0.0%	12,573.4	41.5%
	high	4,058.5	13.4%	5,330.5	17.6%	18.3	0.1%	0.0	0.0%	7.5	0.0%	9,414.8	31.1%
		18,374.6	60.6%	11,858.2	39.1%	60.8	0.2%	4.9	0.0%	7.5	0.0%	30,306.0	100.0%
TFB 3B													
	low	5,349.5	17.7%	2,968.3	9.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	8,317.8	27.4%
	med	12,573.4	41.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	12,573.4	41.5%
	high	7,711.3	25.4%	1,703.5	5.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	9,414.8	31.1%
		25,634.2	84.6%	4,671.8	15.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	30,306.0	100.0%

Table 25: Treatments SDI 1B, SDI 2B, and TFB 3B for Federal Ownership: Migration of treated area pre- to post-treatment for forest types other than lodgepole and fir-spruce.

Treatment	Post Treatment										Total	
	In Condition				Risk: Out of Condition							
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total
SDI 1B												
low	531.6	3.4%	4,401.6	28.0%	8.6	0.1%	0.0	0.0%	0.0	0.0%	4,941.8	31.4%
med	5,555.1	35.3%	0.0	0.0%	0.0	0.0%	9.4	0.1%	0.0	0.0%	5,564.6	35.4%
high	1,356.6	8.6%	3,835.7	24.4%	19.8	0.1%	7.7	0.0%	0.0	0.0%	5,219.8	33.2%
	7,443.3	47.3%	8,237.3	52.4%	28.4	0.2%	17.2	0.1%	0.0	0.0%	15,726.1	100.0%
SDI 2B												
low	1,153.1	7.3%	3,788.7	24.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4,941.8	31.4%
med	5,561.4	35.4%	0.0	0.0%	0.0	0.0%	3.1	0.0%	0.0	0.0%	5,564.6	35.4%
high	2,273.4	14.5%	2,946.4	18.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	5,219.8	33.2%
	8,987.9	57.2%	6,735.1	42.8%	0.0	0.0%	3.1	0.0%	0.0	0.0%	15,726.1	100.0%
TFB 3B												
low	3,420.6	21.8%	1,521.2	9.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4,941.8	31.4%
med	5,564.6	35.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	5,564.6	35.4%
high	4,522.7	28.8%	697.1	4.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	5,219.8	33.2%
	13,507.8	85.9%	2,218.3	14.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	15,726.1	100.0%

Table 26: Treatments TFB 4A and TFB 4B for All Ownerships: Migration of treated area pre- to post-treatment for lodgepole and fir-spruce forest types.

Treatment	Post Treatment								Total	
	In Condition				Risk: Out of Condition					
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total
TFB 4A												
low	2,053.6	13.2%	981.4	6.3%	240.9	1.6%	0.0	0.0%	0.0	0.0%	3,275.9	21.1%
med	2,170.5	14.0%	0.0	0.0%	0.0	0.0%	2,459.6	15.8%	0.0	0.0%	4,630.1	29.8%
high	2,523.2	16.3%	164.1	1.1%	927.7	6.0%	3,036.1	19.6%	964.2	6.2%	7,615.4	49.1%
	6,747.3	43.5%	1,145.5	7.4%	1,168.7	7.5%	5,495.7	35.4%	964.2	6.2%	15,521.4	100.0%
TFB 4B												
low	2,112.6	13.6%	1,148.5	7.4%	14.7	0.1%	0.0	0.0%	0.0	0.0%	3,275.9	21.1%
med	3,975.1	25.6%	0.0	0.0%	0.0	0.0%	655.0	4.2%	0.0	0.0%	4,630.1	29.8%
high	5,321.7	34.3%	752.4	4.8%	450.3	2.9%	905.7	5.8%	185.3	1.2%	7,615.4	49.1%
	11,409.5	73.5%	1,901.0	12.2%	465.0	3.0%	1,560.7	10.1%	185.3	1.2%	15,521.4	100.0%

Table 27: Treatments TFB 4A and TFB 4B for Federal Ownership: Migration of treated area pre- to post-treatment for lodgepole and fir-spruce forest types.

Treatment	Post Treatment								Total	
	In Condition				Risk: Out of Condition					
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total	acres (000s)	% of Total
SDI 1B												
low	1,655.4	14.2%	648.5	5.6%	175.6	1.5%	0.0	0.0%	0.0	0.0%	2,479.5	21.3%
med	1,677.3	14.4%	0.0	0.0%	0.0	0.0%	1,821.8	15.6%	0.0	0.0%	3,499.1	30.0%
high	2,004.8	17.2%	121.2	1.0%	622.8	5.3%	2,313.6	19.8%	625.8	5.4%	5,688.1	48.8%
	5,337.5	45.7%	769.7	6.6%	798.4	6.8%	4,135.4	35.4%	625.8	5.4%	11,666.7	100.0%
SDI 2B												
low	1,700.7	14.6%	774.3	6.6%	4.5	0.0%	0.0	0.0%	0.0	0.0%	2,479.5	21.3%
med	3,051.4	26.2%	0.0	0.0%	0.0	0.0%	447.6	3.8%	0.0	0.0%	3,499.1	30.0%
high	4,168.5	35.7%	493.6	4.2%	320.4	2.7%	607.2	5.2%	98.4	0.8%	5,688.1	48.8%
	8,920.7	76.5%	1,267.9	10.9%	324.9	2.8%	1,054.8	9.0%	98.4	0.8%	11,666.7	100.0%

Table 28: Treatments SDI 1A, SDI 2A, and TFB 3A for All Ownerships: Sawlog volume removed by pre- and post-treatment risk condition for forest types other than lodgepole and fir-spruce.

Treatment	Post Treatment										Total	
	In Condition				Risk: Out of Condition							
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total
SDI 1A												
low	256.4	0.9%	2,993.2	10.1%	2,563.0	8.6%	0.0	0.0%	0.5	0.0%	5,813.1	19.6%
med	9,897.1	33.3%	0.0	0.0%	0.0	0.0%	4,828.0	16.3%	0.0	0.0%	14,725.0	49.6%
high	441.3	1.5%	841.3	2.8%	5,417.6	18.3%	117.7	0.4%	2,324.9	7.8%	9,142.8	30.8%
	10,594.8	35.7%	3,834.5	12.9%	7,980.6	26.9%	4,945.6	16.7%	2,325.4	7.8%	29,680.9	100.0%
SDI 2A												
low	441.9	2.1%	2,418.0	11.3%	315.3	1.5%	0.0	0.0%	0.0	0.0%	3,175.2	14.8%
med	9,009.2	42.0%	0.0	0.0%	0.0	0.0%	2,603.6	12.1%	0.0	0.0%	11,612.8	54.2%
high	1,323.4	6.2%	1,488.5	6.9%	3,077.3	14.4%	81.2	0.4%	677.3	3.2%	6,647.6	31.0%
	10,774.4	50.3%	3,906.5	18.2%	3,392.5	15.8%	2,684.7	12.5%	677.3	3.2%	21,435.5	100.0%
TFB 3A												
low	12.6	0.2%	8.4	0.1%	2.8	0.0%	0.0	0.0%	0.0	0.0%	23.9	0.3%
med	4,522.8	62.4%	0.0	0.0%	0.0	0.0%	1,347.4	18.6%	0.0	0.0%	5,870.2	81.0%
high	1,019.2	14.1%	28.6	0.4%	18.3	0.3%	279.0	3.8%	10.6	0.1%	1,355.7	18.7%
	5,554.6	76.6%	37.0	0.5%	21.1	0.3%	1,626.4	22.4%	10.6	0.1%	7,249.7	100.0%

Table 29: Treatments SDI 1A, SDI 2A, and TFB 3A for Federal Ownership: Sawlog volume removed by pre- and post-treatment risk condition for forest types other than lodgepole and fir-spruce.

Treatment	Post Treatment										Total	
	In Condition				Risk: Out of Condition							
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total
SDI 1A												
low	198.1	1.1%	2,196.3	12.2%	2,110.7	11.7%	0.0	0.0%	0.5	0.0%	4,505.7	24.9%
med	4,993.8	27.6%	0.0	0.0%	0.0	0.0%	2,183.7	12.1%	0.0	0.0%	7,177.5	39.7%
high	292.4	1.6%	631.9	3.5%	3,682.5	20.4%	68.3	0.4%	1,709.4	9.5%	6,384.5	35.3%
	5,484.4	30.4%	2,828.2	15.7%	5,793.2	32.1%	2,252.0	12.5%	1,709.9	9.5%	18,067.7	100.0%
SDI 2A												
low	363.3	2.8%	1,859.6	14.3%	282.4	2.2%	0.0	0.0%	0.0	0.0%	2,505.3	19.2%
med	4,651.4	35.7%	0.0	0.0%	0.0	0.0%	1,191.4	9.2%	0.0	0.0%	5,842.7	44.9%
high	954.9	7.3%	1,082.3	8.3%	2,063.5	15.9%	67.5	0.5%	500.2	3.8%	4,668.4	35.9%
	5,969.5	45.9%	2,941.9	22.6%	2,345.9	18.0%	1,258.9	9.7%	500.2	3.8%	13,016.4	100.0%
TFB 3A												
low	8.2	0.2%	4.8	0.1%	0.3	0.0%	0.0	0.0%	0.0	0.0%	13.4	0.3%
med	2,232.5	54.9%	0.0	0.0%	0.0	0.0%	767.1	18.9%	0.0	0.0%	2,999.7	73.7%
high	787.5	19.4%	16.6	0.4%	9.4	0.2%	235.7	5.8%	5.3	0.1%	1,054.5	25.9%
	3,028.3	74.4%	21.5	0.5%	9.7	0.2%	1,002.8	24.7%	5.3	0.1%	4,067.5	100.0%

Table 30: Treatments SDI 1B, SDI 2B, and TFB 3B for All Ownerships: Sawlog volume removed by pre- and post-treatment risk condition for forest types other than lodgepole and fir-spruce.

Treatment	Post Treatment										Total	
	In Condition				Risk: Out of Condition							
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total
SDI 1B												
low	605.6	1.7%	5,943.6	16.8%	3.8	0.0%	0.0	0.0%	0.0	0.0%	6,553.0	18.5%
med	16,184.6	45.7%	0.0	0.0%	0.0	0.0%	19.8	0.1%	0.0	0.0%	16,204.5	45.7%
high	2,535.2	7.2%	10,137.3	28.6%	1.5	0.0%	7.4	0.0%	0.0	0.0%	12,681.4	35.8%
	19,325.4	54.5%	16,080.9	45.4%	5.3	0.0%	27.2	0.1%	0.0	0.0%	35,438.8	100.0%
SDI 2B												
low	516.5	2.2%	2,817.1	11.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	3,333.7	14.0%
med	12,423.7	52.2%	0.0	0.0%	0.0	0.0%	0.1	0.0%	0.0	0.0%	12,423.8	52.2%
high	3,058.4	12.9%	4,974.0	20.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	8,032.3	33.8%
	15,998.6	67.2%	7,791.1	32.7%	0.0	0.0%	0.1	0.0%	0.0	0.0%	23,789.8	100.0%
TFB 3B												
low	12.6	0.2%	12.0	0.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	24.6	0.3%
med	6,382.6	80.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	6,382.6	80.6%
high	1,460.6	18.4%	55.5	0.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,516.1	19.1%
	7,855.8	99.1%	67.5	0.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	7,923.3	100.0%

Table 31: Treatments SDI 1B, SDI 2B, and TFB 3B for Federal Ownership: Sawlog volume removed by pre- and post-treatment risk condition for forest types other than lodgepole and fir-spruce.

Treatment	Post Treatment								Total	
	In Condition				Risk: Out of Condition					
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total
SDI 1B												
low	3.8	0.0%	464.9	2.1%	4,647.5	21.5%	0.0	0.0%	0.0	0.0%	5,116.2	23.6%
med	0.0	0.0%	7,828.8	36.1%	0.0	0.0%	19.8	0.1%	0.0	0.0%	7,848.7	36.2%
high	1.5	0.0%	1,574.6	7.3%	7,116.4	32.8%	7.4	0.0%	0.0	0.0%	8,699.8	40.2%
	5.3	0.0%	9,868.3	45.6%	11,763.9	54.3%	27.2	0.1%	0.0	0.0%	21,664.7	100.0%
SDI 2B												
low	401.2	2.8%	2,196.1	15.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2,597.3	18.1%
med	6,189.5	43.1%	0.0	0.0%	0.1	0.0%	0.0	0.0%	0.0	0.0%	6,189.7	43.1%
high	2,146.2	15.0%	3,419.6	23.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	5,565.7	38.8%
	8,736.9	60.9%	5,615.7	39.1%	0.1	0.0%	0.0	0.0%	0.0	0.0%	14,352.7	100.0%
TFB 3B												
low	8.2	0.2%	5.7	0.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	13.9	0.3%
med	3,271.7	73.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	3,271.7	73.5%
high	1,132.7	25.5%	31.1	0.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,163.8	26.2%
	4,412.7	99.2%	36.8	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4,449.5	100.0%

Table 32: Treatments TFB 4A and TFB 4B for All Ownerships: Sawlog volume removed by pre- and post-treatment risk condition for lodgepole and fir-spruce forest types.

Treatment	Post Treatment										Total	
	In Condition				Risk: Out of Condition							
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total
TFB 4A												
low	1.5	0.1%	1.0	0.1%	5.5	0.4%	0.0	0.0%	0.0	0.0%	8.0	0.6%
med	159.5	12.2%	0.0	0.0%	0.0	0.0%	538.4	41.0%	0.0	0.0%	697.9	53.2%
high	122.2	9.3%	0.0	0.0%	13.5	1.0%	455.2	34.7%	15.1	1.2%	606.0	46.2%
	283.2	21.6%	1.0	0.1%	19.1	1.5%	993.6	75.7%	15.1	1.2%	1,311.9	100.0%
TFB 4B												
low	5.1	0.2%	9.7	0.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	14.9	0.5%
med	1,112.9	33.9%	0.0	0.0%	0.0	0.0%	518.4	15.8%	0.0	0.0%	1,631.3	49.7%
high	1,040.1	31.7%	32.6	1.0%	50.0	1.5%	495.4	15.1%	15.2	0.5%	1,633.4	49.8%
	2,158.2	65.8%	42.3	1.3%	50.0	1.5%	1,013.7	30.9%	15.2	0.5%	3,279.6	100.0%

Table 33: Treatments TFB 4A and TFB 4B for Federal Ownership: Sawlog volume removed by pre- and post-treatment risk condition for lodgepole and fir-spruce forest types.

Treatment	Post Treatment										Total	
	In Condition				Risk: Out of Condition							
	TI & CI ≥ 25		CI ≥ 40		low		med		high			
Pre-Treat Risk	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total	Vol (MMCF)	% of Total
TFB 4A												
low	1.3	0.1%	0.9	0.1%	5.4	0.5%	0.0	0.0%	0.0	0.0%	7.6	0.7%
med	128.9	11.3%	0.0	0.0%	0.0	0.0%	469.5	41.2%	0.0	0.0%	598.4	52.5%
high	104.2	9.1%	0.0	0.0%	10.4	0.9%	407.3	35.7%	12.7	1.1%	534.5	46.9%
	234.3	20.5%	0.9	0.1%	15.7	1.4%	876.8	76.9%	12.7	1.1%	1,140.5	100.0%
TFB 4B												
low	4.9	0.2%	9.2	0.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	14.1	0.5%
med	953.9	34.7%	0.0	0.0%	0.0	0.0%	425.2	15.5%	0.0	0.0%	1,379.0	50.2%
high	908.0	33.0%	19.1	0.7%	45.6	1.7%	366.6	13.3%	15.2	0.6%	1,354.6	49.3%
	1,866.8	67.9%	28.3	1.0%	45.6	1.7%	791.8	28.8%	15.2	0.6%	2,747.7	100.0%

Table 34: Treatments SDI 1A, SDI 2A, and TFB 3A: Sawlog volume removed and acres treated by WUI classification for forest types other than lodgepole and fir-spruce.

Ownership	Non-WUI				WUI				Total	
	Volume		Acres		Volume		Acres		Volume	Acres
Treatment	MMCF	%	000s	%	MMCF	%	000s	%	MMCF	000s
federal only										
SDI 1A	17,423.3	96.4%			644.4	3.6%			18,067.7	
SDI 2A	12,556.2	96.5%	15,127.8	96.2%	460.2	3.5%	598.4	3.8%	13,016.4	15,726.1
TFB 3A	3,913.1	96.2%			154.4	3.8%			4,067.5	
all ownerships										
SDI 1A	28,005.4	94.4%			1,675.6	5.6%			29,680.9	
SDI 2A	20,233.7	94.4%	28,644.3	94.5%	1,201.8	5.6%	1,661.7	5.5%	21,435.5	30,306.0
TFB 3A	6,775.4	93.5%			474.3	6.5%			7,249.7	

Table 35: Treatments SDI 1B, SDI 2B, and TFB 3B: Sawlog volume removed and acres treated by WUI classification for forest types other than lodgepole and fir-spruce.

Ownership	Non-WUI				WUI				Total	
	Volume		Acres		Volume		Acres		Volume	Acres
Treatment	MMCF	%	000s	%	MMCF	%	000s	%	MMCF	000s
federal only										
SDI 1B	20,876.6	96.4%			788.0	3.6%			21,664.7	
SDI 2B	13,838.4	96.4%	15,127.8	96.2%	514.3	3.6%	598.4	3.8%	14,352.7	15,726.1
TFB 3B	4,284.0	96.3%			165.4	3.7%			4,449.5	
all ownerships										
SDI 1B	33,503.5	94.5%			1,935.3	5.5%			35,438.8	
SDI 2B	22,480.9	94.5%	28,644.3	94.5%	1,308.9	5.5%	1,661.7	5.5%	23,789.8	30,306.0
TFB 3B	7,416.4	93.6%			506.9	6.4%			7,923.3	

Table 36: Treatments TFB 4A and 4B: Sawlog volume removed and acres treated by WUI classification for lodgepole and fir-spruce forest types.

Ownership	Non-WUI				WUI				Total	
	Volume		Acres		Volume		Acres		Volume	Acres
Treatment	MMCF	%	000s	%	MMCF	%	000s	%	MMCF	000s
federal only										
SDI 4A	1,026.3	90.0%	10,595.8	90.8%	114.2	10.0%	1,070.9	9.2%	1,140.5	11,666.7
SDI 4B	2,474.9	90.1%			272.8	9.9%			2,747.7	
all ownerships										
SDI 4A	1,193.5	91.0%	14,351.6	92.5%	118.5	9.0%	1,169.8	7.5%	1,311.9	15,521.4
SDI 4B	3,000.0	91.5%			279.5	8.5%			3,279.6	

Table 37: Arizona weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	6.090	0.105	23.574	25.498	13.565	551.924	171.874	4.719
SDI 1A	6.559	0.068	25.622	33.593	10.278	456.646	83.950	3.367
SDI 2A	7.042	0.063	27.585	35.597	10.023	449.494	79.214	3.292
TFB 3A	10.392	0.071	40.244	31.923	9.483	432.695	71.821	3.144
SDI 1B	6.705	0.060	26.238	36.251	9.929	446.384	77.295	3.259
SDI 2B	7.143	0.058	27.993	36.982	9.838	444.182	75.818	3.236
TFB 3B	10.447	0.070	40.440	32.265	9.380	429.742	69.610	3.110
lodgepole and fir-spruce forest types								
Pre-Treatment	3.824	0.139	13.760	20.766	22.695	839.237	438.677	8.863
TFB 4A	11.864	0.095	45.463	26.248	9.042	426.516	64.985	3.052
TFB 4B	13.212	0.080	50.299	28.722	9.042	426.516	64.985	3.052

Table 38: California weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	5.775	0.122	20.607	22.448	20.961	719.653	374.039	7.751
SDI 1A	6.187	0.073	22.446	31.480	14.449	536.916	161.443	4.584
SDI 2A	6.826	0.067	25.188	33.010	12.495	482.713	114.555	3.866
TFB 3A	16.052	0.075	58.831	29.794	10.533	429.955	77.816	3.279
SDI 1B	6.499	0.056	23.866	37.596	12.057	470.320	101.845	3.682
SDI 2B	7.309	0.058	27.094	36.166	11.696	460.989	96.305	3.589
TFB 3B	16.113	0.073	59.035	30.053	10.522	429.609	77.624	3.275
lodgepole and fir-spruce forest types								
Pre-Treatment	5.685	0.191	21.519	17.470	20.056	744.544	400.224	8.226
TFB 4A	18.683	0.127	68.975	22.479	9.322	428.604	73.348	3.169
TFB 4B	21.138	0.093	77.253	26.061	9.019	419.828	63.805	3.023

Table 39: Colorado weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	6.077	0.138	22.834	21.175	18.141	641.551	312.742	6.696
SDI 1A	6.436	0.081	24.357	30.068	13.334	514.403	152.392	4.362
SDI 2A	6.800	0.076	25.952	31.106	12.486	491.665	129.853	4.034
TFB 3A	10.448	0.078	40.072	30.055	10.364	437.750	79.318	3.284
SDI 1B	6.877	0.060	26.328	36.843	10.907	453.224	86.647	3.422
SDI 2B	7.173	0.063	27.529	34.727	10.942	454.086	87.723	3.435
TFB 3B	10.633	0.072	40.732	31.015	10.298	436.313	77.865	3.264
lodgepole and fir-spruce forest types								
Pre-Treatment	6.837	0.173	26.843	17.998	17.130	684.302	324.760	7.053
TFB 4A	12.776	0.123	49.214	22.804	9.172	442.874	81.406	3.268
TFB 4B	14.239	0.092	54.390	26.635	8.472	422.363	60.508	2.944

Table 40: Idaho weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	8.765	0.134	30.665	20.481	21.909	673.128	394.975	7.863
SDI 1A	9.499	0.075	33.563	30.322	15.821	523.481	179.941	4.810
SDI 2A	10.419	0.069	37.341	31.854	14.313	486.440	140.039	4.235
TFB 3A	19.775	0.076	70.544	28.529	12.056	431.396	89.982	3.500
SDI 1B	10.025	0.061	35.784	35.060	13.500	466.977	114.107	3.878
SDI 2B	10.779	0.062	38.791	33.930	13.144	457.826	108.540	3.786
TFB 3B	19.982	0.073	71.237	29.147	12.038	430.848	89.730	3.495
lodgepole and fir-spruce forest types								
Pre-Treatment	6.712	0.140	23.901	20.773	22.969	783.716	450.118	8.856
TFB 4A	15.295	0.093	56.083	26.627	11.548	466.873	108.743	3.743
TFB 4B	16.803	0.077	61.283	29.464	10.471	437.334	79.777	3.311

Table 41: Montana weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	9.292	0.146	33.720	19.275	18.314	613.613	299.308	6.525
SDI 1A	10.009	0.081	36.612	29.124	13.028	477.576	122.106	3.968
SDI 2A	10.482	0.076	38.516	30.261	12.466	463.008	108.577	3.765
TFB 3A	17.825	0.082	64.643	27.795	11.276	432.343	84.618	3.399
SDI 1B	10.343	0.065	38.010	33.578	11.965	450.047	95.580	3.580
SDI 2B	10.865	0.067	40.033	32.699	11.814	445.791	93.417	3.540
TFB 3B	18.050	0.076	65.409	28.773	11.235	431.187	83.824	3.387
lodgepole and fir-spruce forest types								
Pre-Treatment	7.068	0.130	25.651	21.074	20.915	728.745	393.024	7.966
TFB 4A	16.300	0.093	59.722	26.390	11.309	465.593	108.935	3.738
TFB 4B	17.697	0.079	64.594	28.792	10.339	439.852	80.353	3.313

Table 42: Nevada weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	9.818	0.104	36.513	23.399	14.545	540.278	196.937	5.042
SDI 1A	10.094	0.072	37.650	31.840	11.655	467.972	102.016	3.662
SDI 2A	10.181	0.072	38.212	31.230	11.036	453.328	89.525	3.479
TFB 3A	12.773	0.078	48.930	28.018	9.645	416.074	66.884	3.101
SDI 1B	10.094	0.068	37.650	33.182	10.817	446.873	83.121	3.393
SDI 2B	10.310	0.070	38.843	31.930	10.312	435.088	75.777	3.273
TFB 3B	12.773	0.078	48.930	28.018	9.645	416.074	66.884	3.101
lodgepole and fir-spruce forest types								
Pre-Treatment	4.765	0.127	14.988	19.576	32.657	1,013.968	739.983	13.048
TFB 4A	7.892	0.080	28.966	29.160	14.520	533.052	141.739	4.398
TFB 4B	7.960	0.063	29.227	33.444	12.977	484.496	107.064	3.859

Table 43: New Mexico weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	5.406	0.124	20.006	21.639	18.786	661.868	321.082	6.886
SDI 1A	6.040	0.076	22.860	30.825	12.492	494.875	120.441	3.958
SDI 2A	6.713	0.072	25.728	31.848	11.501	468.669	99.413	3.639
TFB 3A	10.595	0.078	40.694	29.153	10.061	426.324	73.256	3.201
SDI 1B	6.293	0.060	24.024	36.393	11.007	452.593	87.503	3.452
SDI 2B	6.939	0.062	26.744	34.719	10.692	444.388	82.875	3.372
TFB 3B	10.830	0.075	41.522	29.640	10.013	425.131	72.344	3.188
lodgepole and fir-spruce forest types								
Pre-Treatment	5.036	0.189	18.082	15.298	28.052	925.252	670.548	12.118
TFB 4A	11.819	0.126	45.187	20.959	11.292	465.725	117.867	3.893
TFB 4B	14.062	0.093	53.481	25.165	9.985	427.969	74.672	3.223

Table 44: Oregon weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	14.685	0.114	51.983	22.255	15.411	539.950	198.802	5.046
SDI 1A	15.490	0.072	54.920	30.914	12.375	462.055	106.042	3.719
SDI 2A	16.159	0.069	57.437	31.878	11.857	448.968	95.678	3.563
TFB 3A	26.540	0.076	91.431	28.936	11.234	432.585	84.758	3.389
SDI 1B	15.714	0.065	55.773	33.400	11.786	447.496	93.016	3.532
SDI 2B	16.266	0.066	57.867	32.704	11.654	443.947	91.356	3.500
TFB 3B	26.687	0.074	91.891	29.235	11.219	432.216	84.546	3.385
lodgepole and fir-spruce forest types								
Pre-Treatment	4.905	0.144	18.647	21.095	20.315	753.905	400.181	8.178
TFB 4A	15.100	0.091	56.197	27.577	9.411	434.478	76.988	3.197
TFB 4B	16.300	0.079	60.143	29.301	9.071	427.591	65.979	3.056

Table 45: South Dakota weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	7.293	0.096	28.718	26.167	10.595	469.888	105.867	3.668
SDI 1A	7.684	0.068	30.139	32.871	9.710	444.748	77.313	3.248
SDI 2A	7.880	0.067	30.986	33.526	9.616	441.926	75.102	3.215
TFB 3A	10.877	0.074	42.138	30.373	9.413	436.174	71.679	3.157
SDI 1B	7.712	0.066	30.260	33.996	9.451	437.574	71.457	3.162
SDI 2B	7.938	0.065	31.224	34.193	9.415	436.401	70.811	3.151
TFB 3B	10.906	0.073	42.393	30.786	9.162	429.152	66.729	3.081
lodgepole and fir-spruce forest types								
Pre-Treatment								
TFB 4A								
TFB 4B								

Table 46: Utah weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	5.122	0.102	16.233	23.527	24.956	725.144	443.483	8.490
SDI 1A	5.870	0.066	19.312	32.200	17.779	558.527	200.307	5.119
SDI 2A	6.242	0.061	21.050	33.873	16.796	534.451	179.188	4.813
TFB 3A	10.876	0.068	39.484	31.072	13.426	452.790	109.374	3.786
SDI 1B	6.063	0.053	20.050	37.834	15.536	504.065	143.014	4.320
SDI 2B	6.466	0.054	22.145	37.033	14.938	491.496	133.405	4.180
TFB 3B	11.085	0.065	40.270	32.010	13.415	452.518	109.207	3.784
lodgepole and fir-spruce forest types								
Pre-Treatment	4.626	0.147	16.507	19.230	26.563	875.028	576.940	10.624
TFB 4A	12.123	0.102	45.693	24.996	11.292	464.146	107.961	3.688
TFB 4B	13.242	0.080	49.851	28.567	9.930	430.092	72.461	3.188

Table 47: Washington weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	13.303	0.131	46.935	20.299	18.016	607.551	298.165	6.432
SDI 1A	14.197	0.078	50.136	29.629	13.688	498.387	148.265	4.290
SDI 2A	14.828	0.074	52.529	30.403	12.886	479.496	126.889	3.990
TFB 3A	24.821	0.079	86.340	28.259	11.394	442.756	93.469	3.500
SDI 1B	14.558	0.065	51.645	34.141	11.889	456.364	98.111	3.597
SDI 2B	15.199	0.067	54.005	32.859	11.722	452.298	95.547	3.555
TFB 3B	25.020	0.076	86.999	28.994	11.162	437.656	86.236	3.404
lodgepole and fir-spruce forest types								
Pre-Treatment	4.991	0.161	17.017	19.628	29.315	921.841	661.675	11.849
TFB 4A	16.753	0.099	59.902	26.312	13.947	512.785	183.808	4.809
TFB 4B	18.224	0.079	64.994	29.142	12.340	473.022	130.309	4.042

Table 48: Wyoming weighted average fire behavior statistics for treatable acres, all ownerships.

	Canopy Base Height (ft)	Canopy Bulk Density (kg/m^3)	Torching Index (mph)	Crowning Index (mph)	Rate of Spread (ft/min)	Heat Per Unit Area (btu/ft^2)	Fireline Intensity (btu/ft/sec)	Flame Length (ft)
forest types other than lodgepole and fir-spruce								
Pre-Treatment	5.645	0.126	20.115	21.661	21.745	728.084	402.627	8.088
SDI 1A	6.175	0.073	22.391	31.682	15.492	559.720	194.202	5.039
SDI 2A	6.787	0.069	24.994	32.704	13.522	507.595	137.505	4.204
TFB 3A	10.538	0.073	39.715	30.925	11.319	450.655	91.781	3.508
SDI 1B	6.595	0.056	24.332	37.679	12.074	473.650	99.872	3.691
SDI 2B	7.091	0.058	26.307	36.477	12.047	472.052	100.183	3.685
TFB 3B	10.628	0.068	40.013	31.964	11.013	442.623	84.667	3.406
lodgepole and fir-spruce forest types								
Pre-Treatment	5.649	0.134	21.358	21.007	19.647	737.086	362.982	7.581
TFB 4A	12.010	0.097	45.952	26.128	10.214	459.796	102.665	3.580
TFB 4B	12.836	0.082	48.939	28.584	9.566	441.758	83.170	3.289

8. Figures

Figure 1: Process for hazard assessment and treatment simulation for scenario “B”.

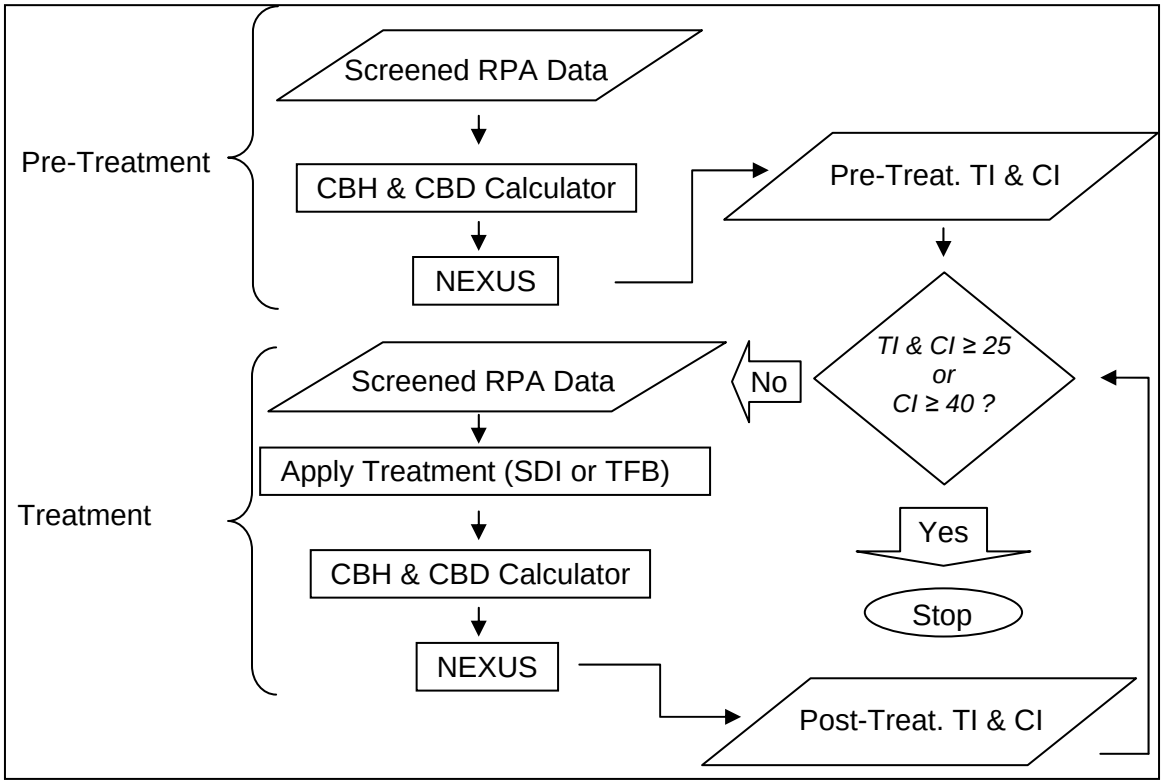


Fig. 2. Visualization of a Douglas-fir plot in San Miguel County prior to and following simulated treatment.

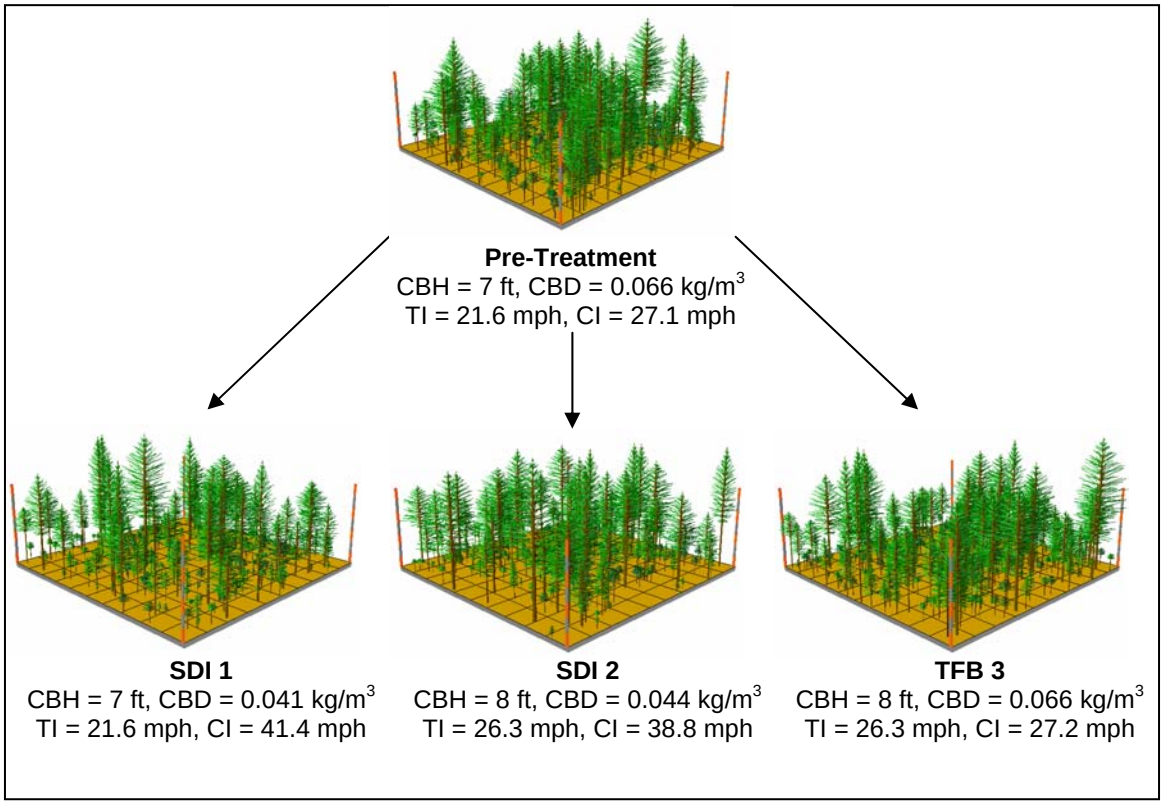


Figure 3: Treatments SDI 1A, SDI 2A, and TFB 3A for All Ownerships: Trees removed (softwood and hardwood) by diameter class for forest types other than lodgepole and fir-spruce.

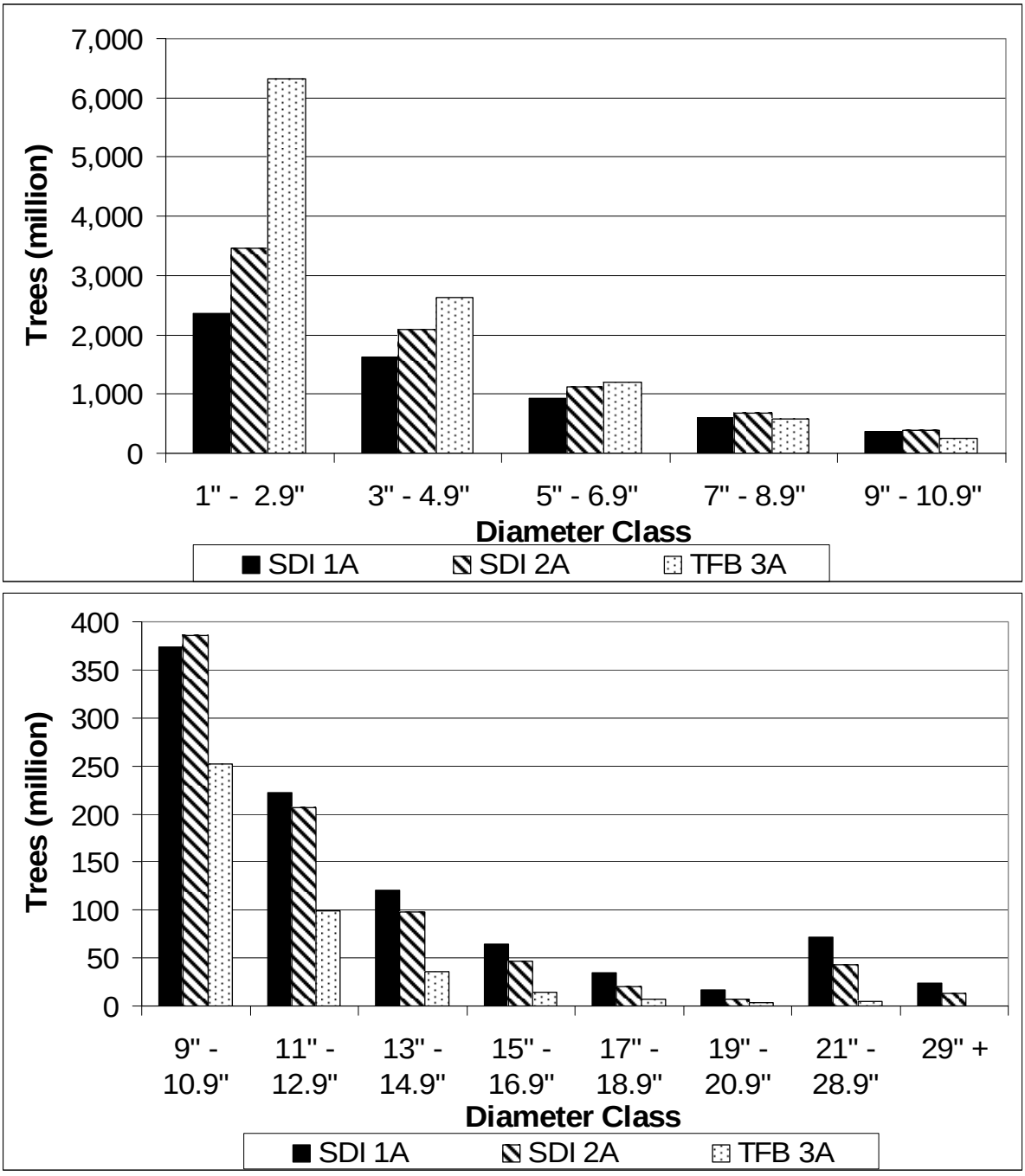


Figure 4: Treatments SDI 1A, SDI 2A, and TFB 3A for Federal Ownership: Trees removed (softwood and hardwood) by diameter class for forest types other than lodgepole and fir-spruce.

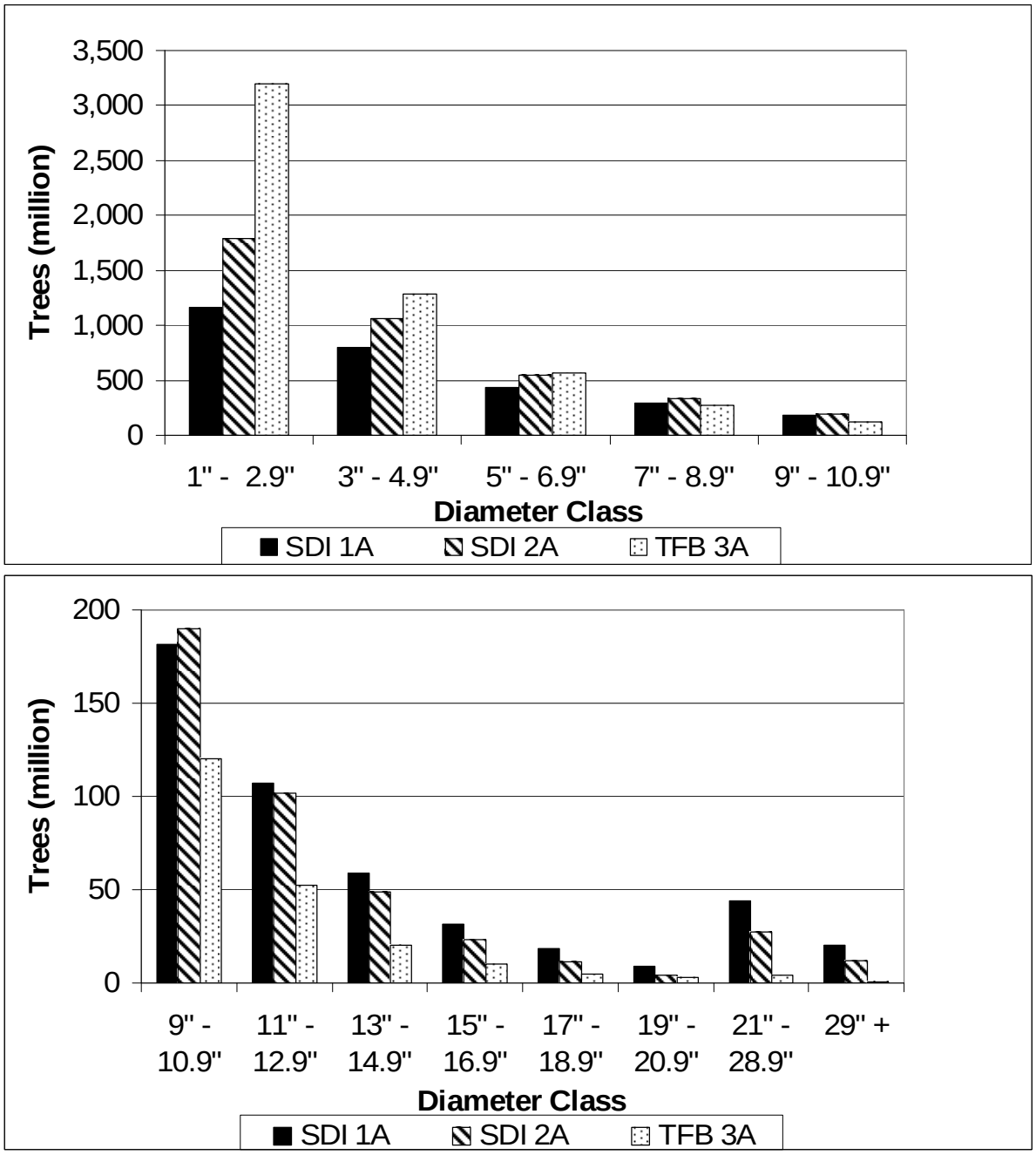


Figure 5: Treatments SDI 1A, SDI 2A, and TFB 3A for All Ownerships: Sawlog volume removed by diameter class for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

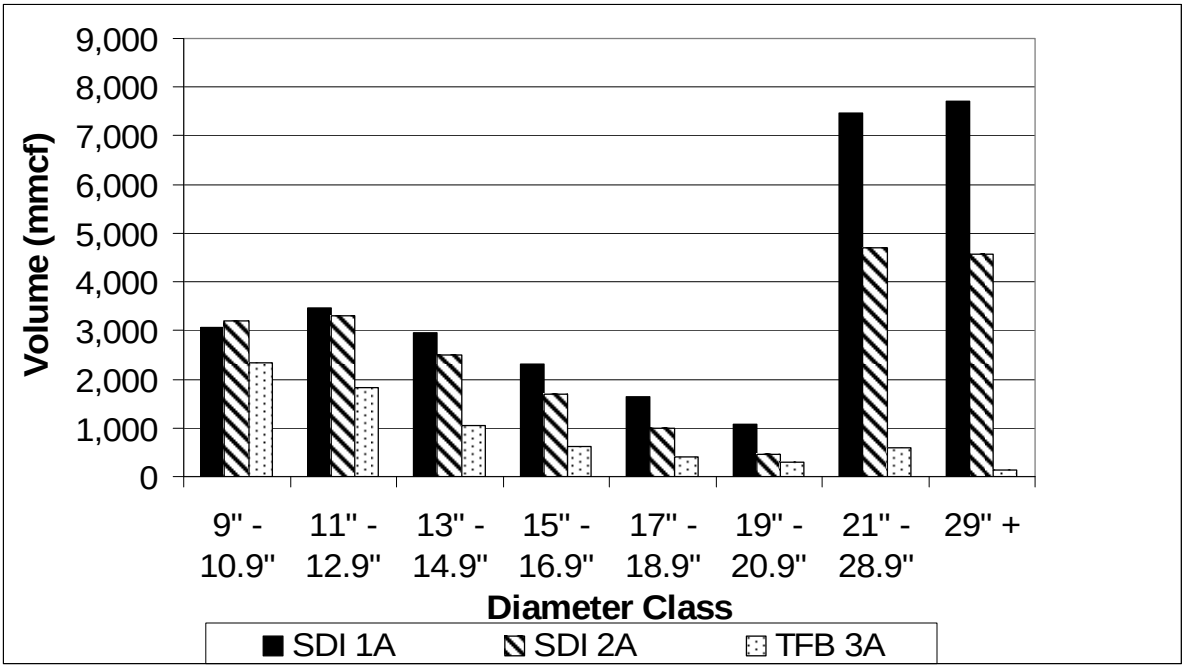


Figure 6: Treatments SDI 1A, SDI 2A, and TFB 3A for Federal Ownership: Sawlog volume removed by diameter class for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

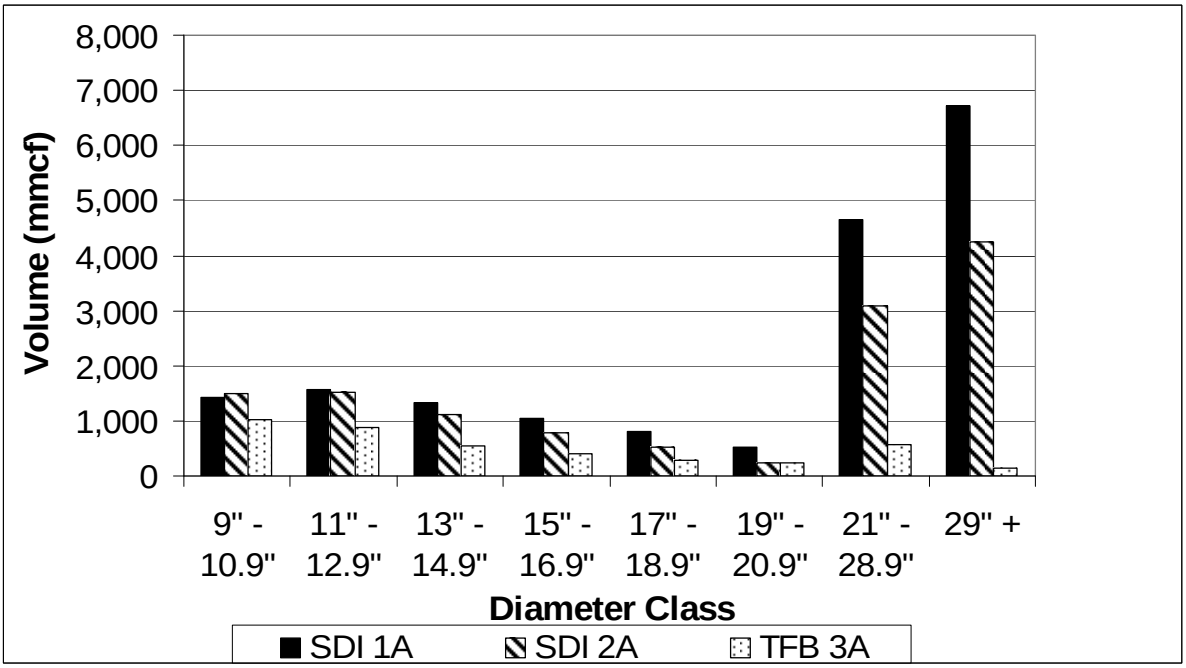


Figure 7: Treatments SDI 1A, SDI 2A, and TFB 3A for All Ownerships: Total volume removed by diameter class for forest types other than lodgepole and fir-spruce. Volumes assume all juniper and red cedar species are left on site (and not included in total volume).

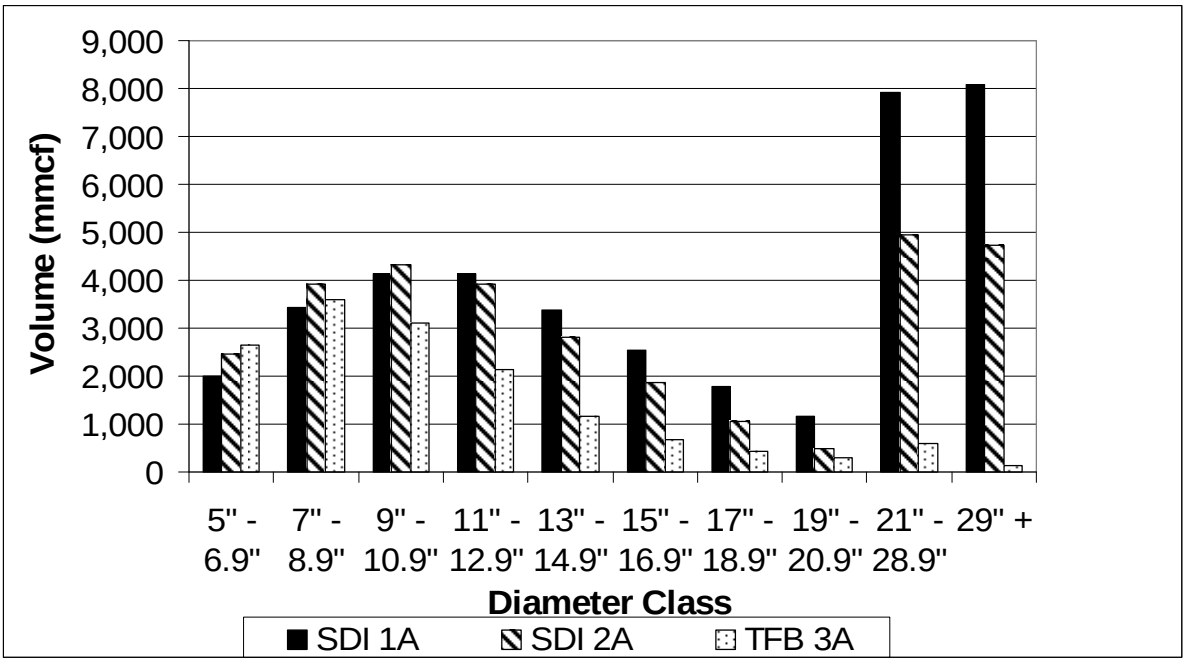


Figure 8: Treatments SDI 1A, SDI 2A, and TFB 3A for Federal Ownership: Total volume removed by diameter class for forest types other than lodgepole and fir-spruce. Volumes assume all juniper and red cedar species are left on site (and not included in total volume).

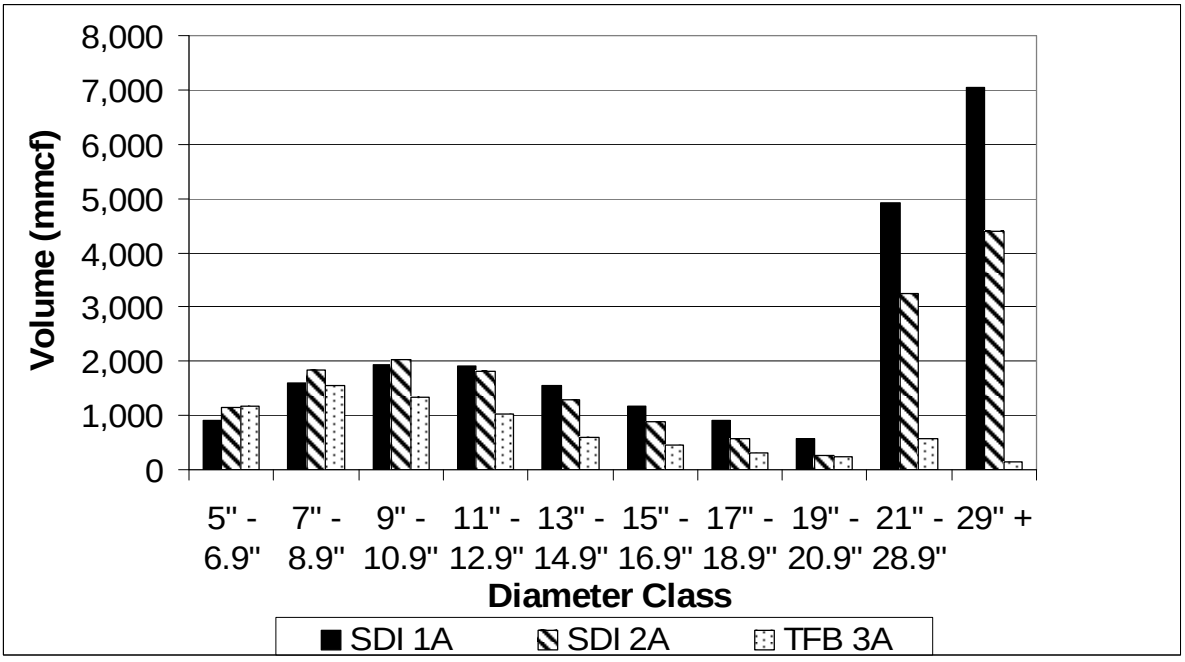


Figure 9: Treatments SDI 1B, SDI 2B, and TFB 3B for All Ownerships: Trees removed (softwood and hardwood) by diameter class for forest types other than lodgepole and fir-spruce.

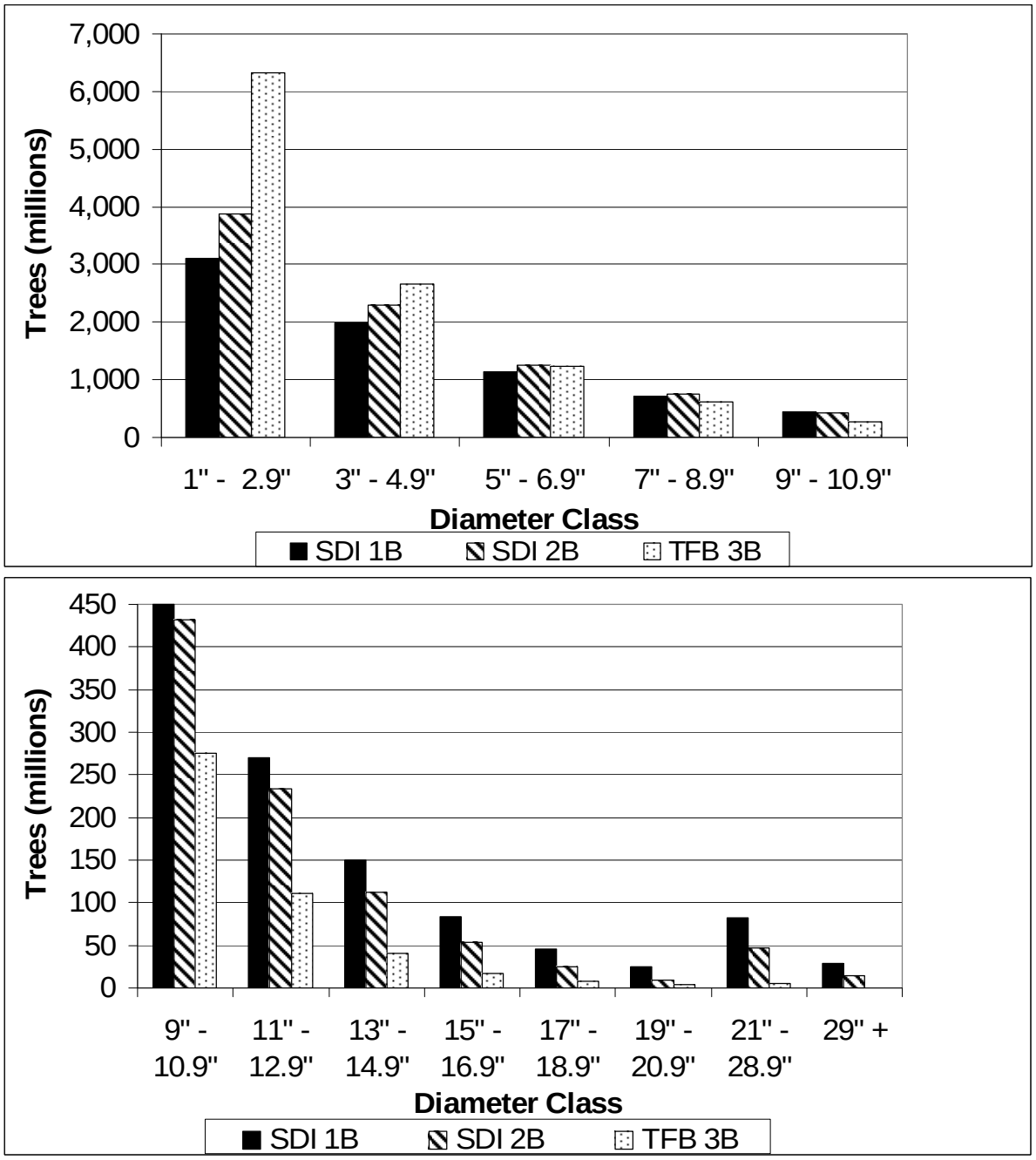


Figure 10: Treatments SDI 1B, SDI 2B, and TFB 3B for Federal Ownership: Trees removed (softwood and hardwood) by diameter class for forest types other than lodgepole and fir-spruce.

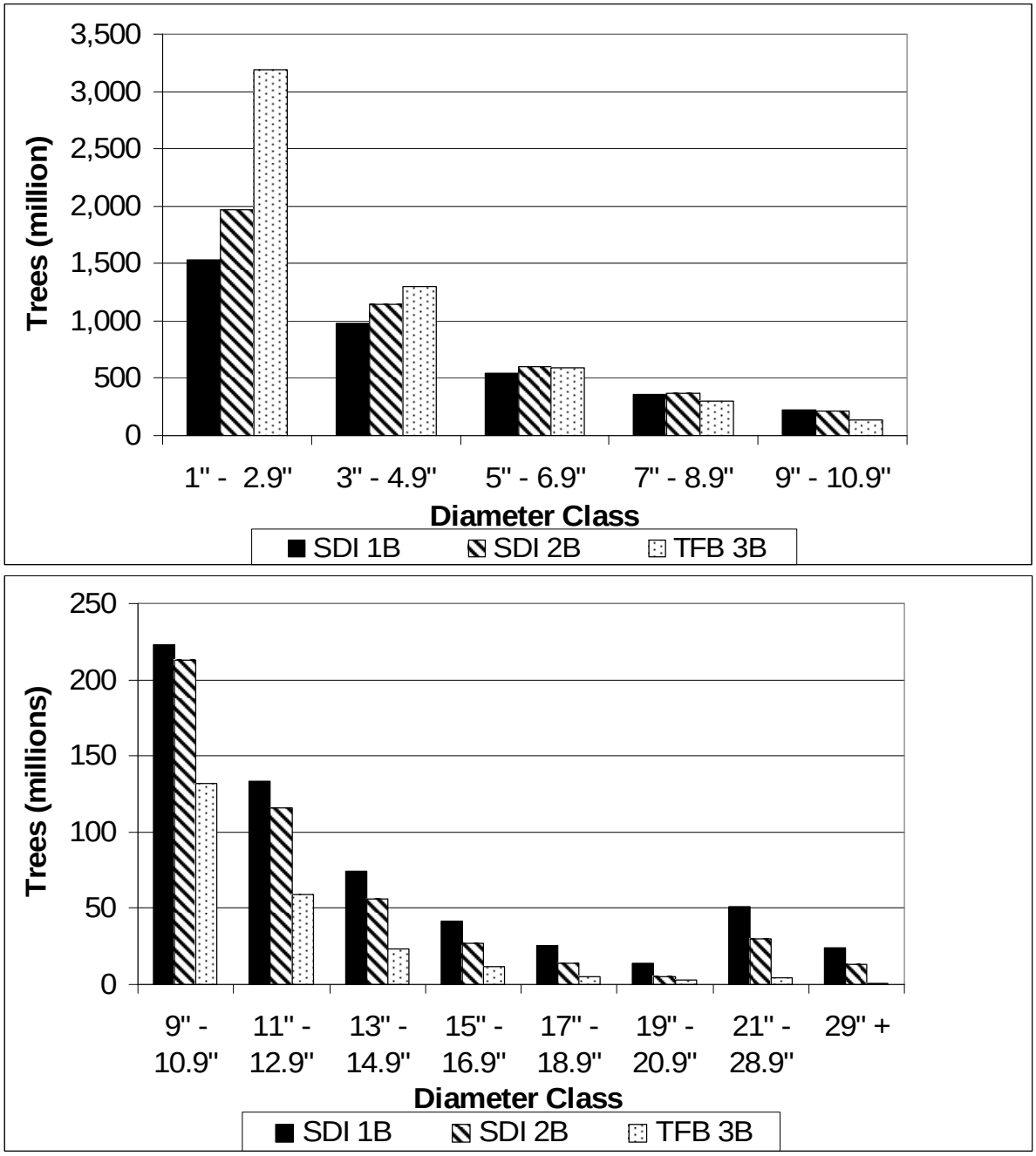


Figure 11: Treatments SDI 1B, SDI 2B, and TFB 3B for All Ownerships: Sawlog volume removed by diameter class for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

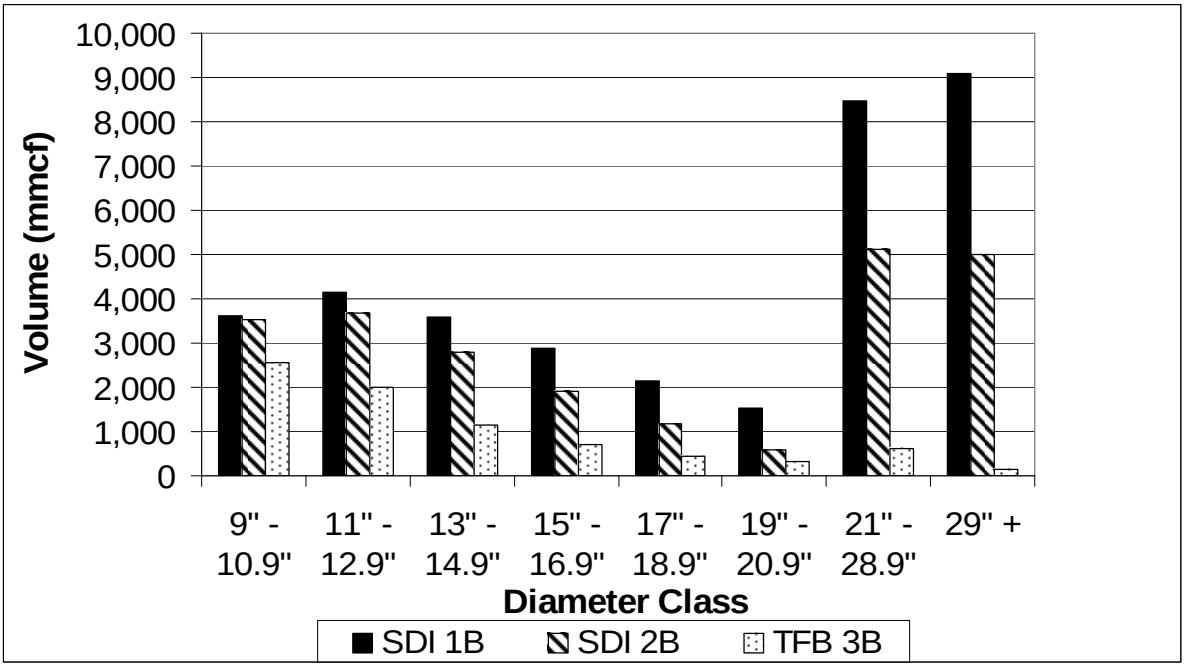


Figure 12: Treatments SDI 1B, SDI 2B, and TFB 3B for Federal Ownership: Sawlog volume removed by diameter class for forest types other than lodgepole and fir-spruce. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

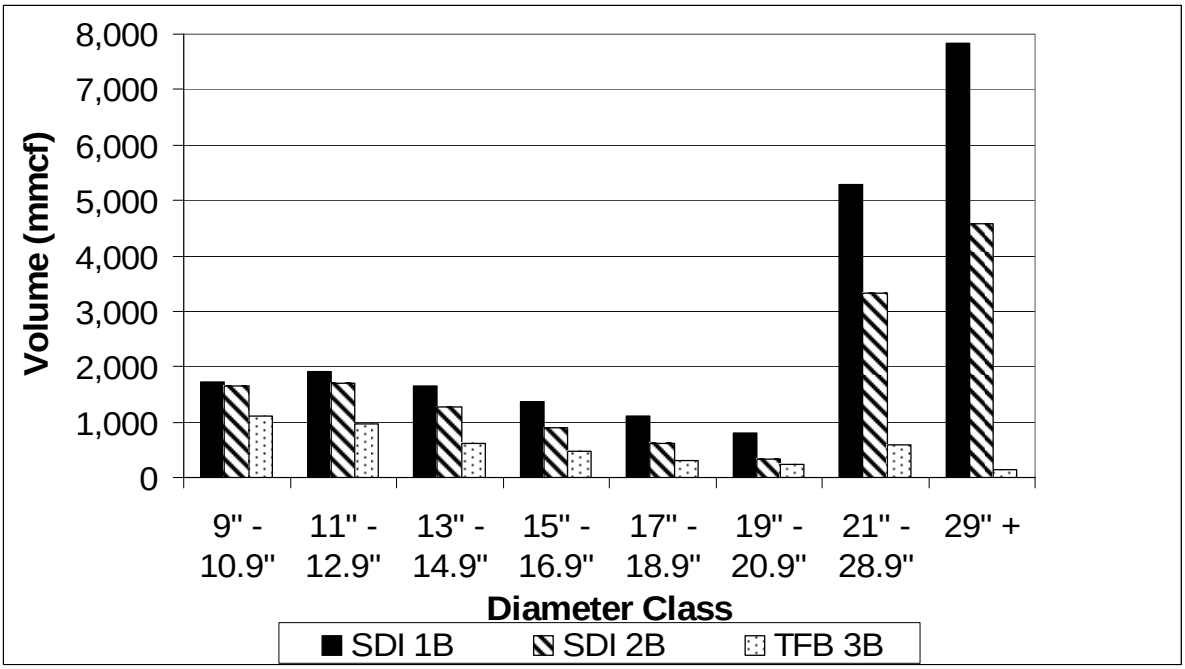


Figure 13: Treatments SDI 1B, SDI 2B, and TFB 3B for All Ownerships: Total volume removed by diameter class for forest types other than lodgepole and fir-spruce. Volumes assume all juniper and red cedar species are left on site (and not included in total volume).

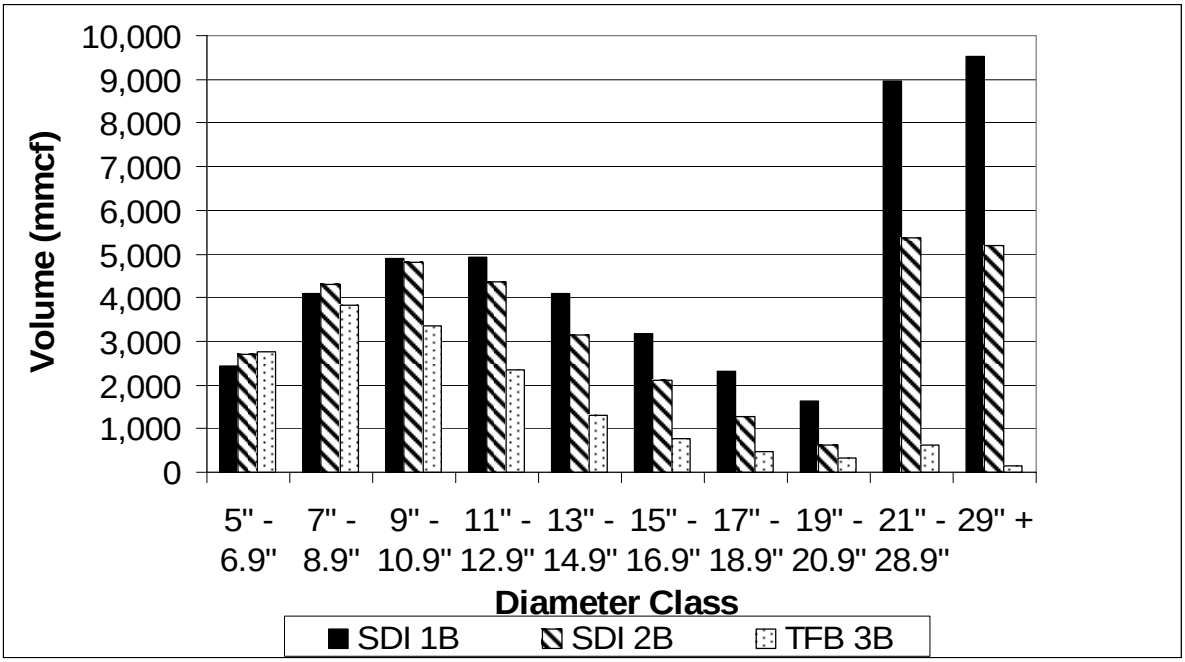


Figure 14: Treatments SDI 1B, SDI 2B, and TFB 3B for Federal Ownership: Total volume removed by diameter class for forest types other than lodgepole and fir-spruce. Volumes assume all juniper and red cedar species are left on site (and not included in total volume).

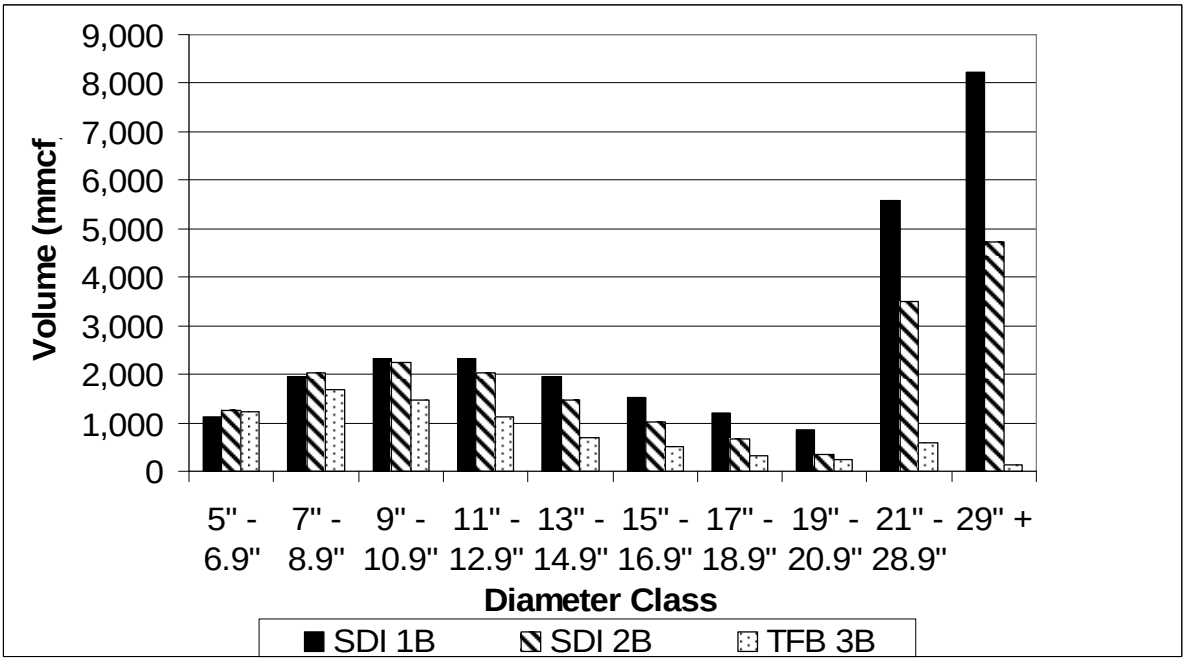
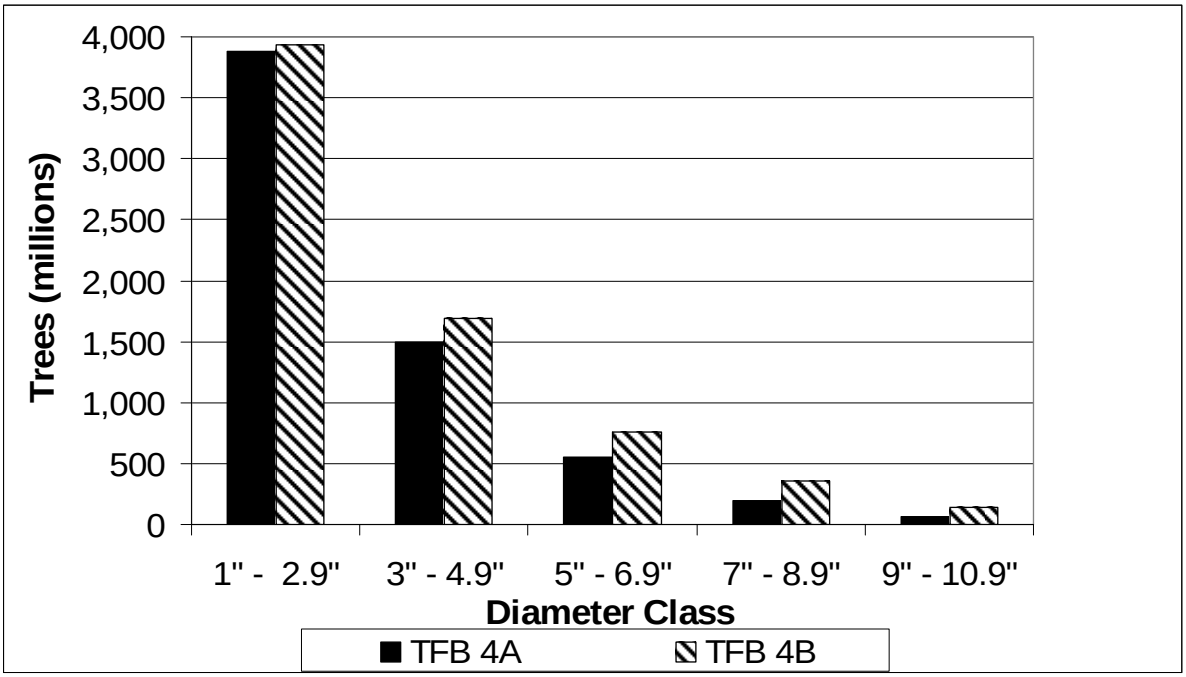


Figure 15: Treatments SDI 4A and SDI 4B for All Ownerships: Trees removed (softwood and hardwood) on lodgepole and fir-spruce forest types.



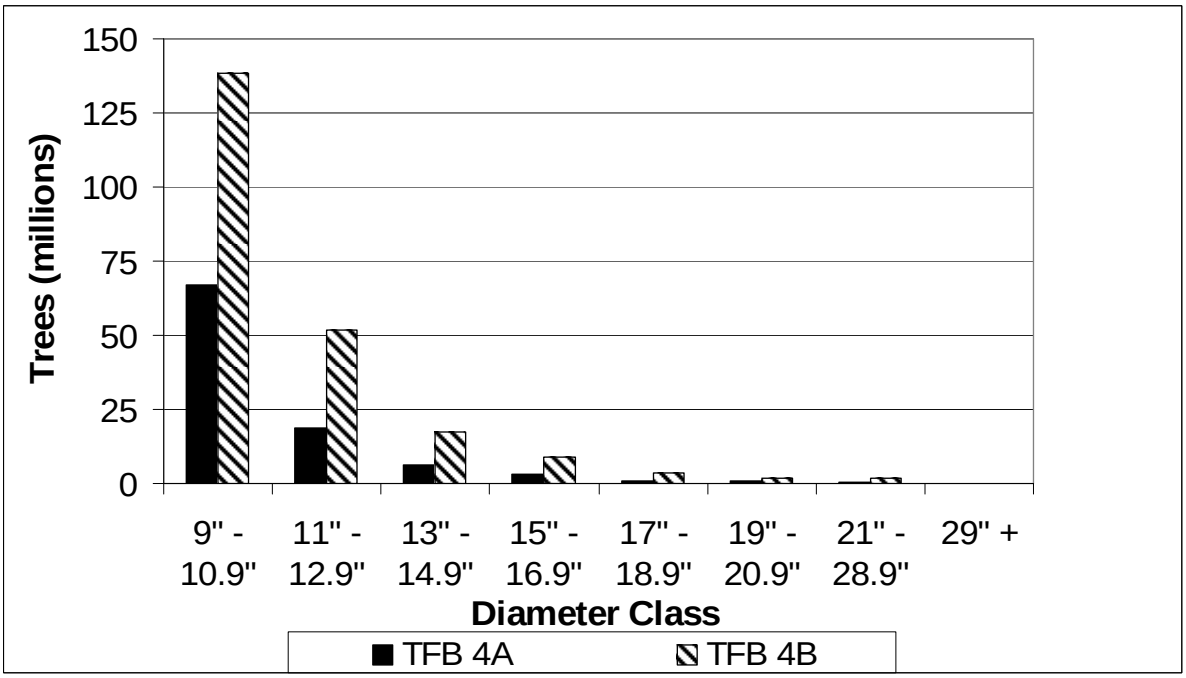


Figure 16: Treatments SDI 4A and SDI 4B for Federal Ownership: Trees removed (softwood and hardwood) on lodgepole and fir-spruce forest types.

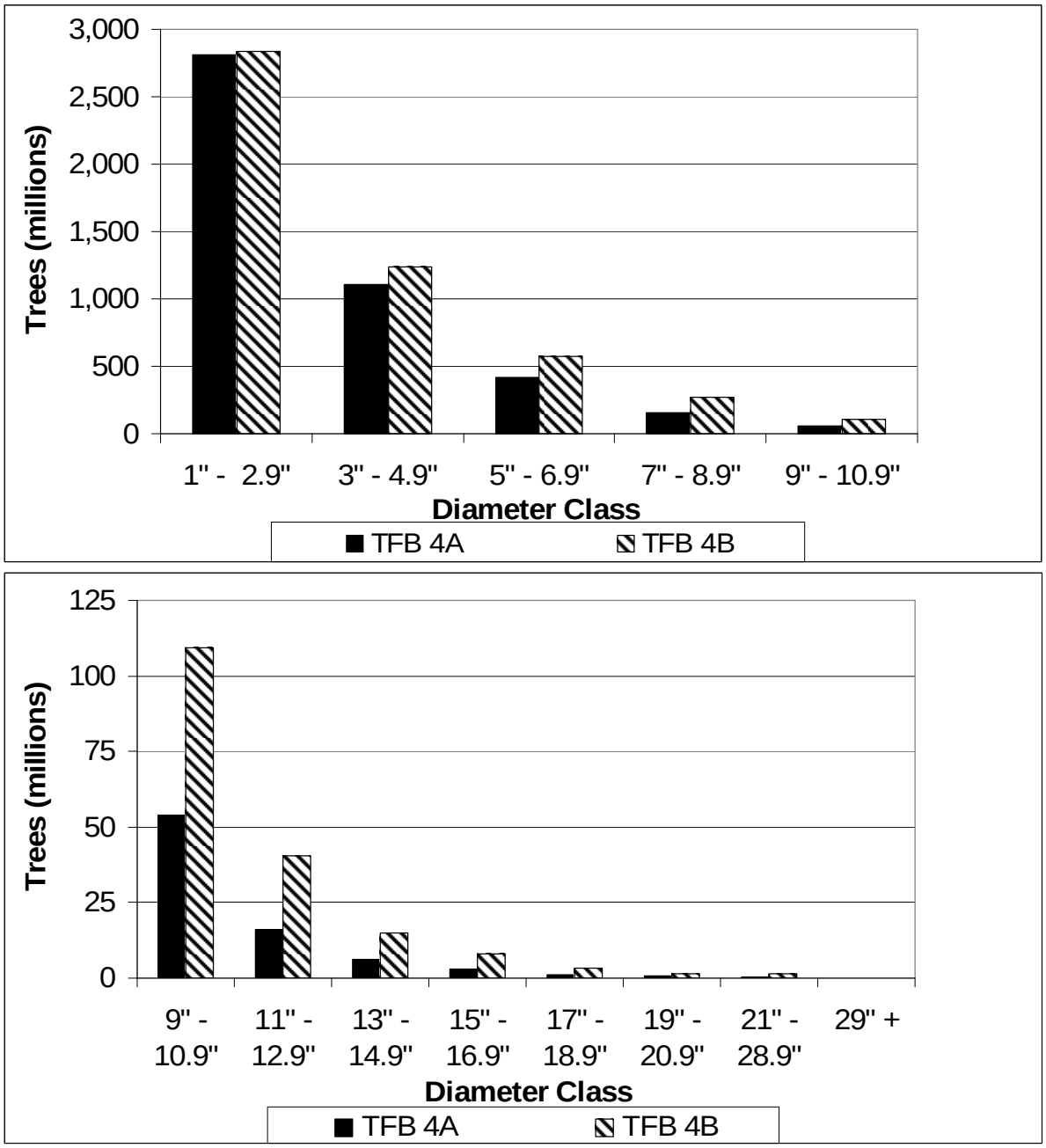


Figure 17: Treatments SDI 4A and SDI 4B for All Ownerships: Sawlog volume removed by diameter class lodgepole and fir-spruce forest types. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

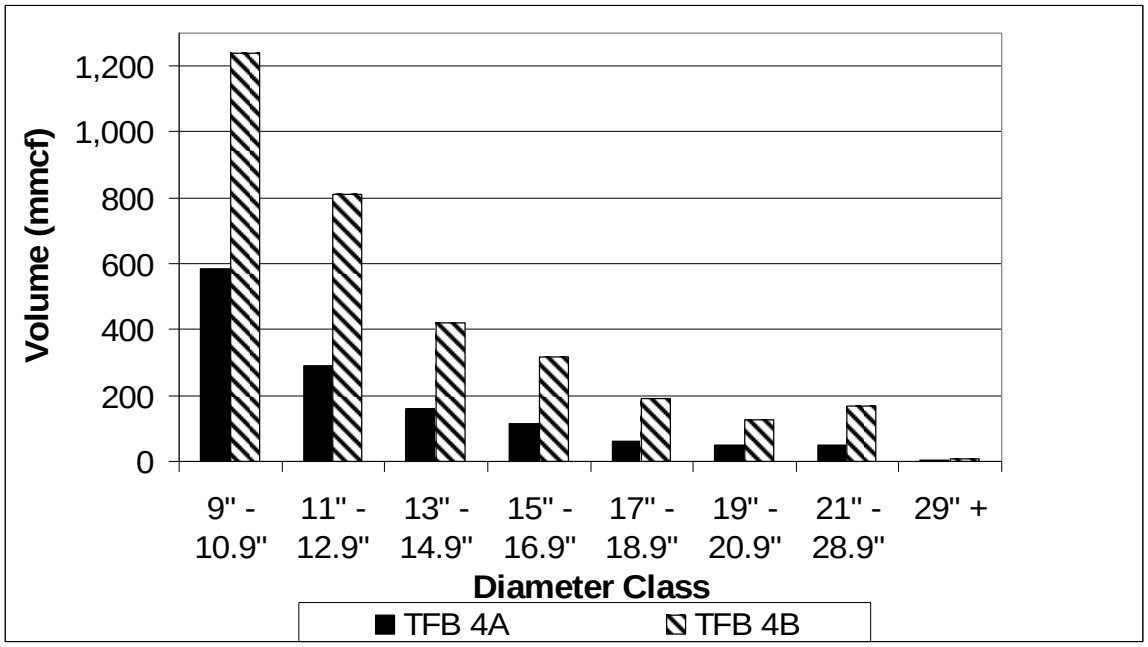


Figure 18: Treatments SDI 4A and SDI 4B for Federal Ownerships: Sawlog volume removed by diameter class lodgepole and fir-spruce forest types. Volumes assume that all hardwood and pinyon species are chipped and all juniper and red cedar species are left on site.

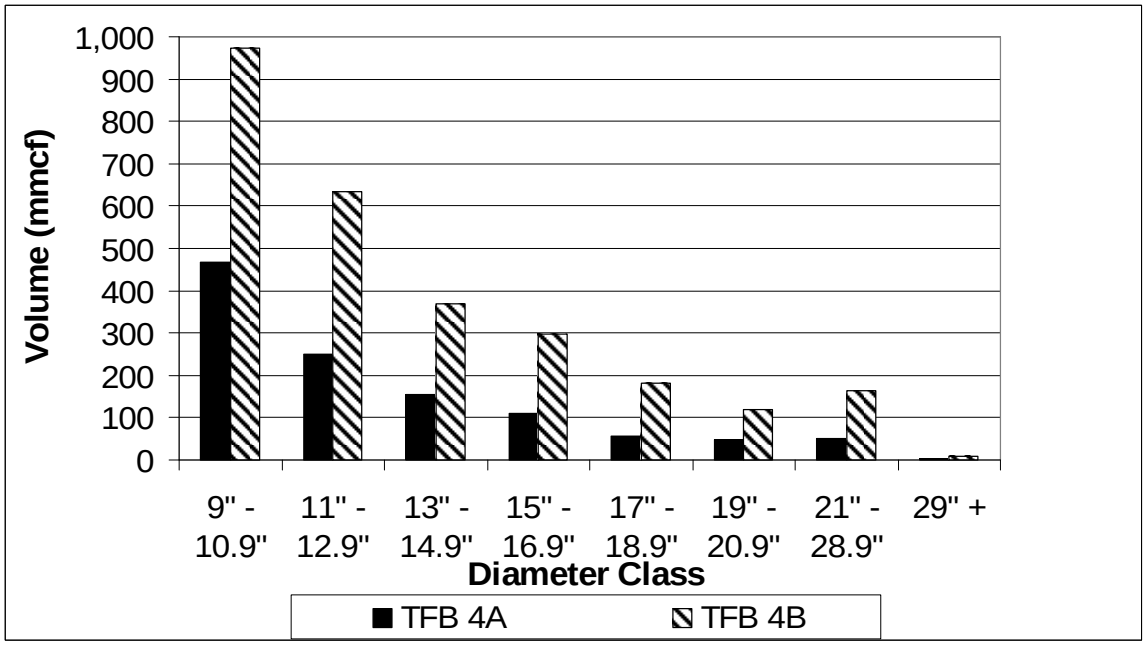


Figure 19: Treatments SDI 4A and SDI 4B for All Ownerships: Total volume removed by diameter class for lodgepole and fir-spruce forest types. Volumes assume all juniper and red cedar species are left on site (and not included in total volume).

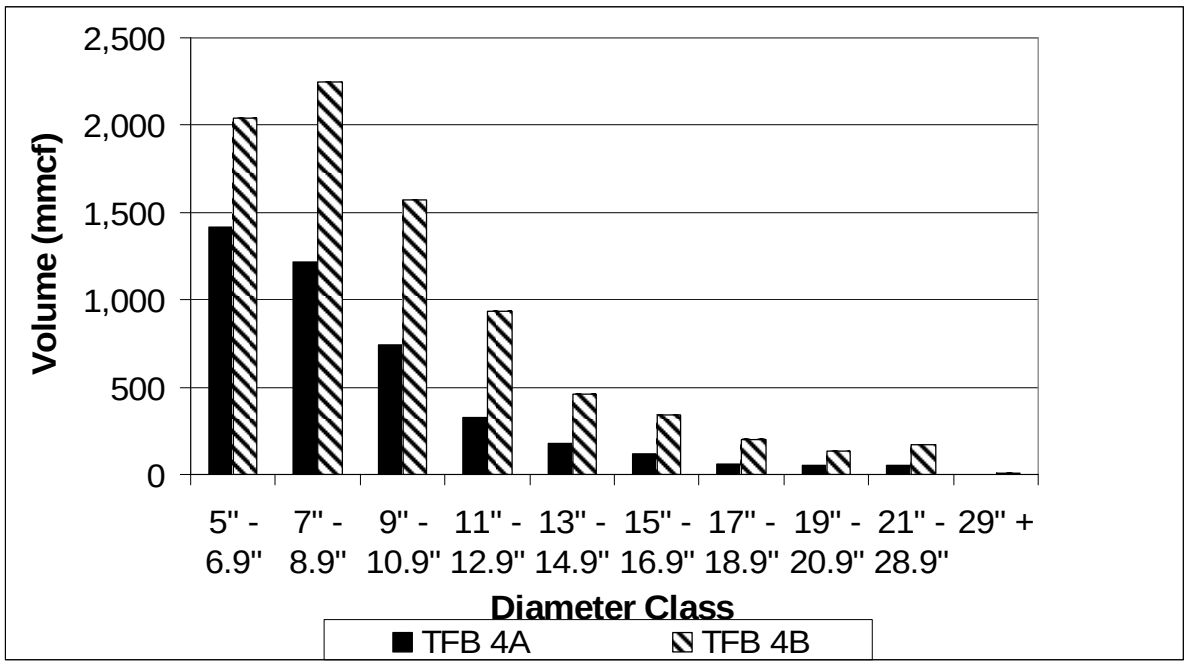


Figure 20: Treatments SDI 4A and SDI 4B for Federal Ownership: Total volume removed by diameter class for lodgepole and fir-spruce forest types. Volumes assume all juniper and red cedar species are left on site (and not included in total volume).

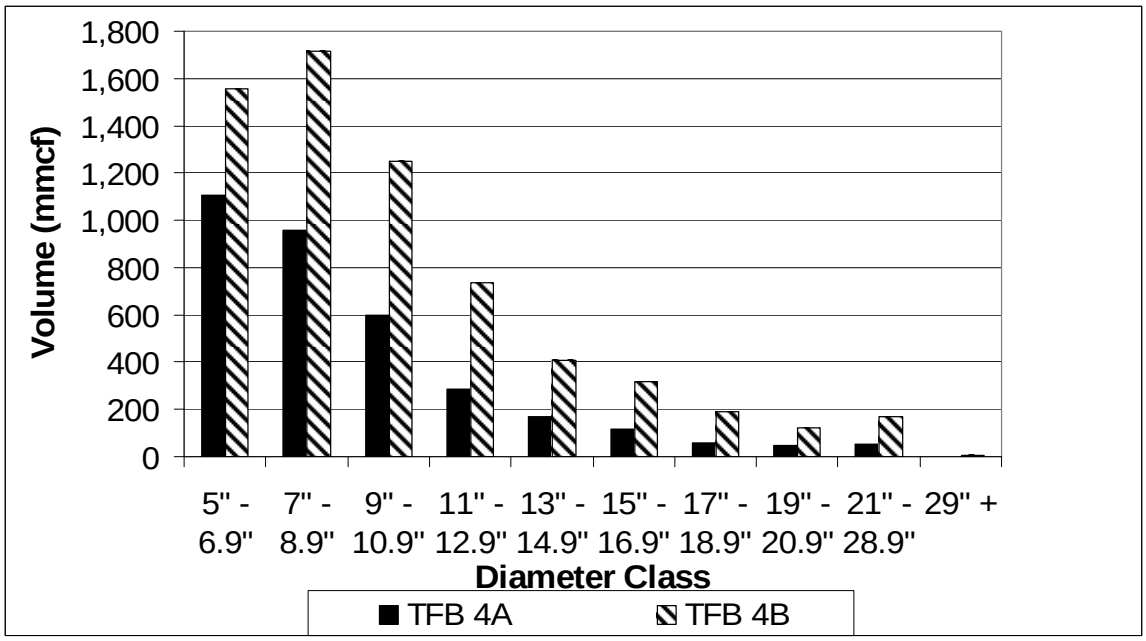


Figure 21: Arizona sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

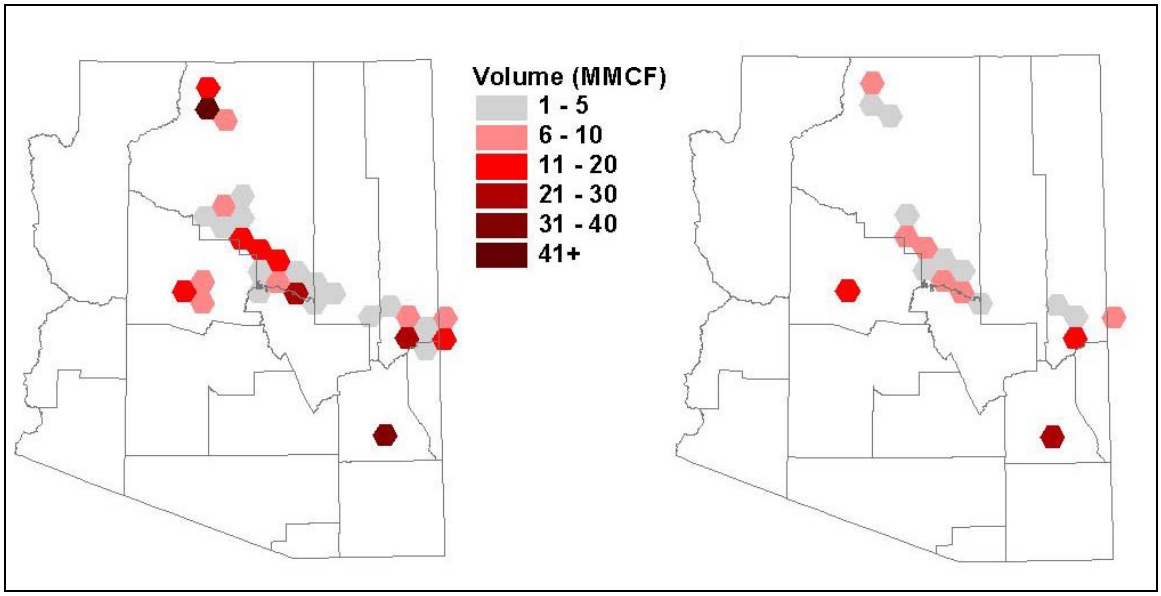


Figure 22: California sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

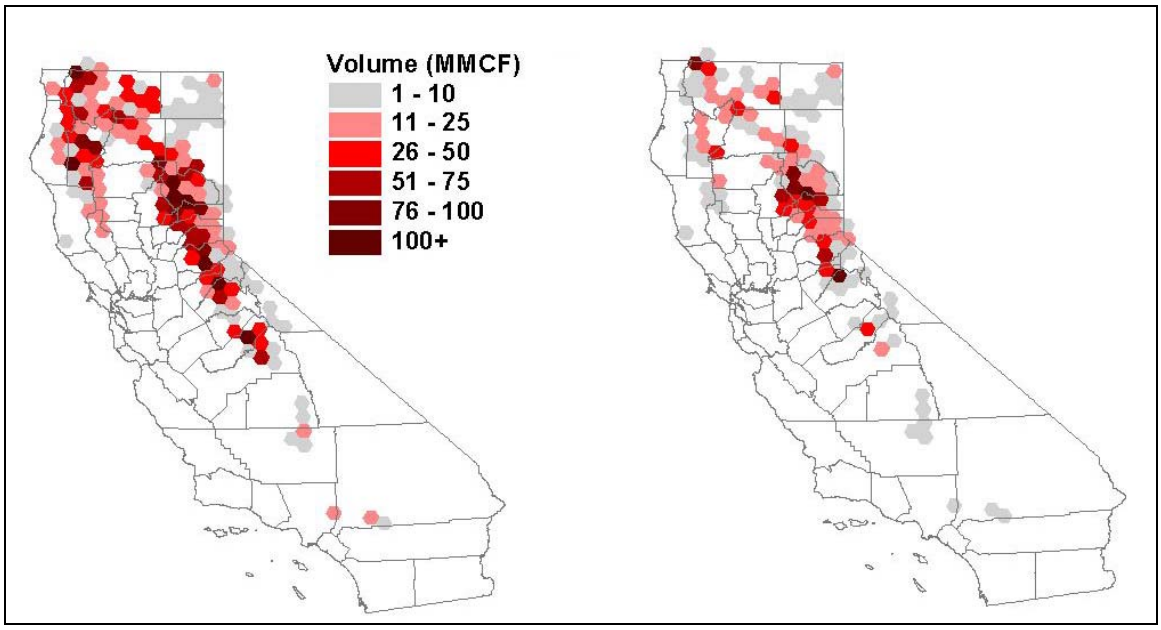


Figure 23: Colorado sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

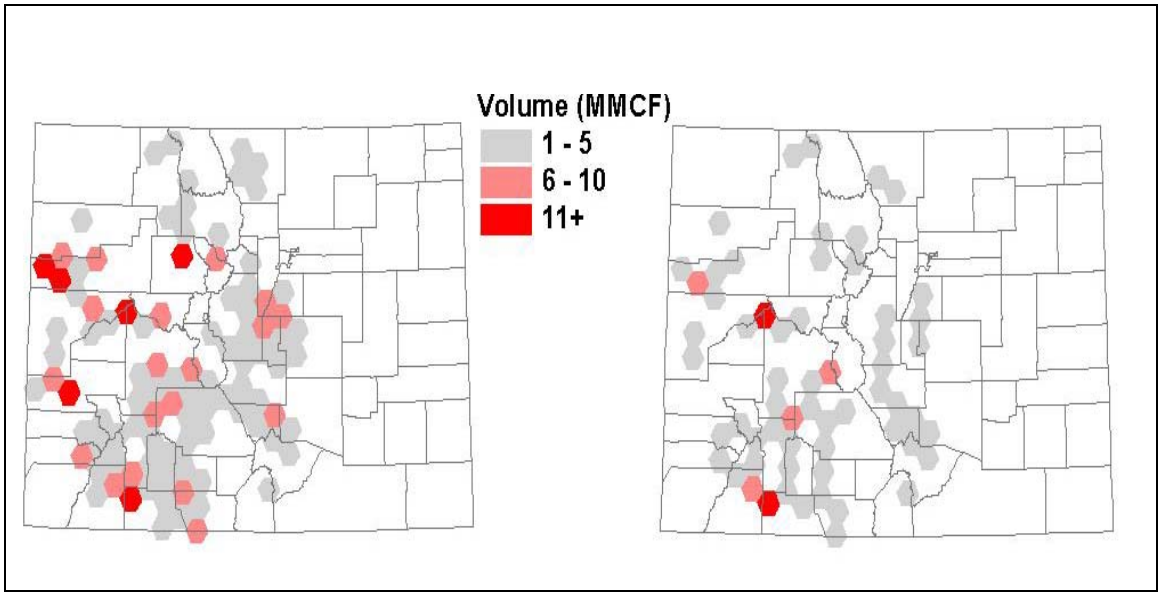


Figure 24: Idaho sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

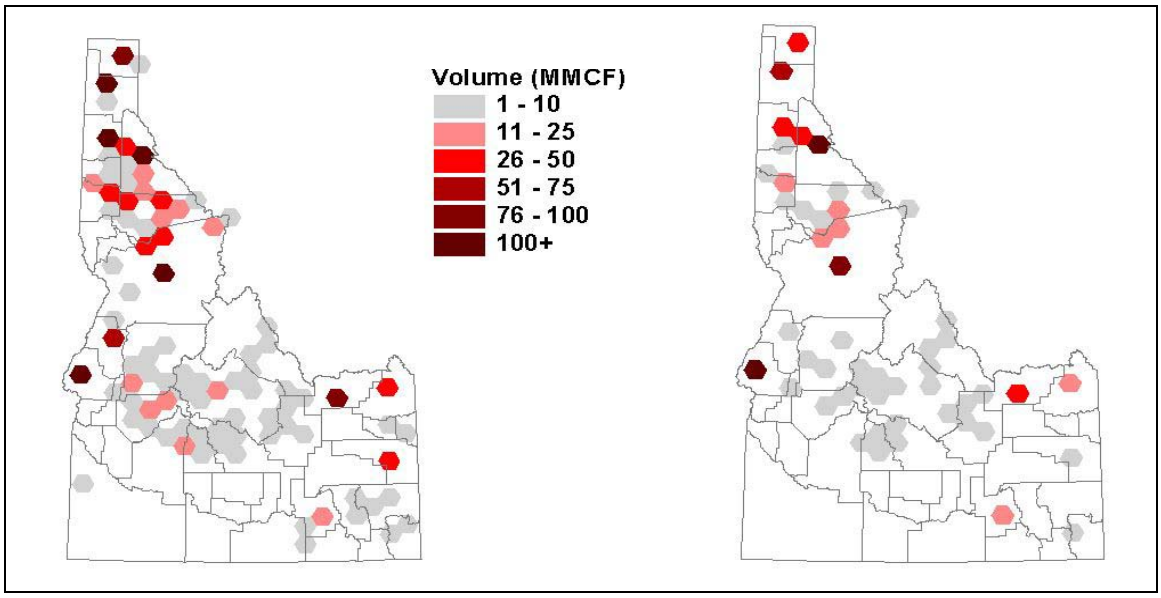


Figure 25: Montana sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

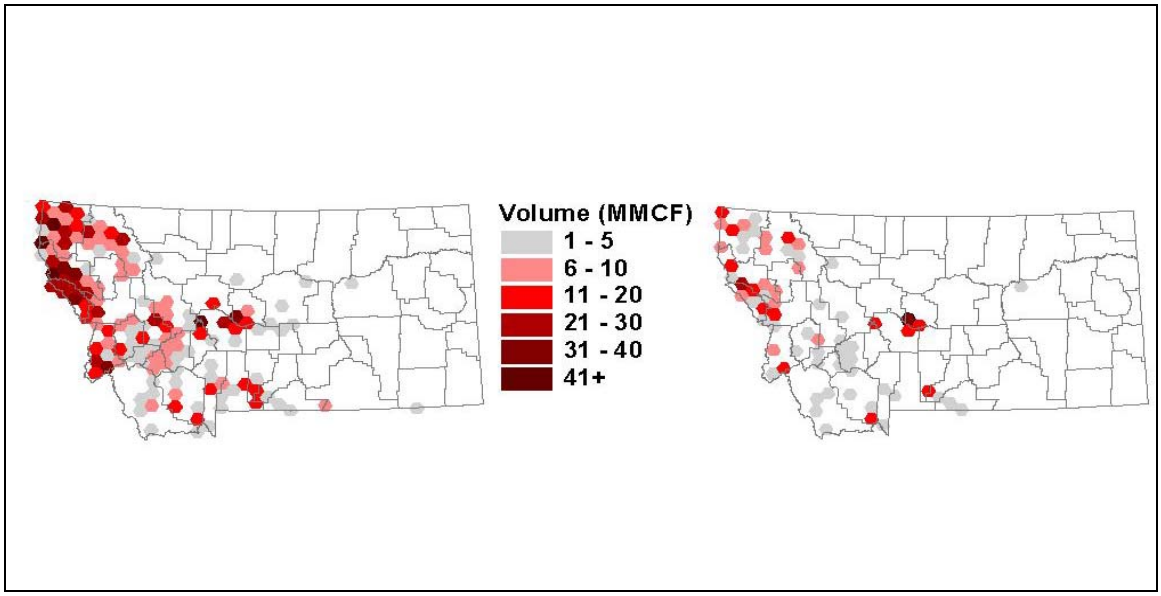


Figure 26: Nevada sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

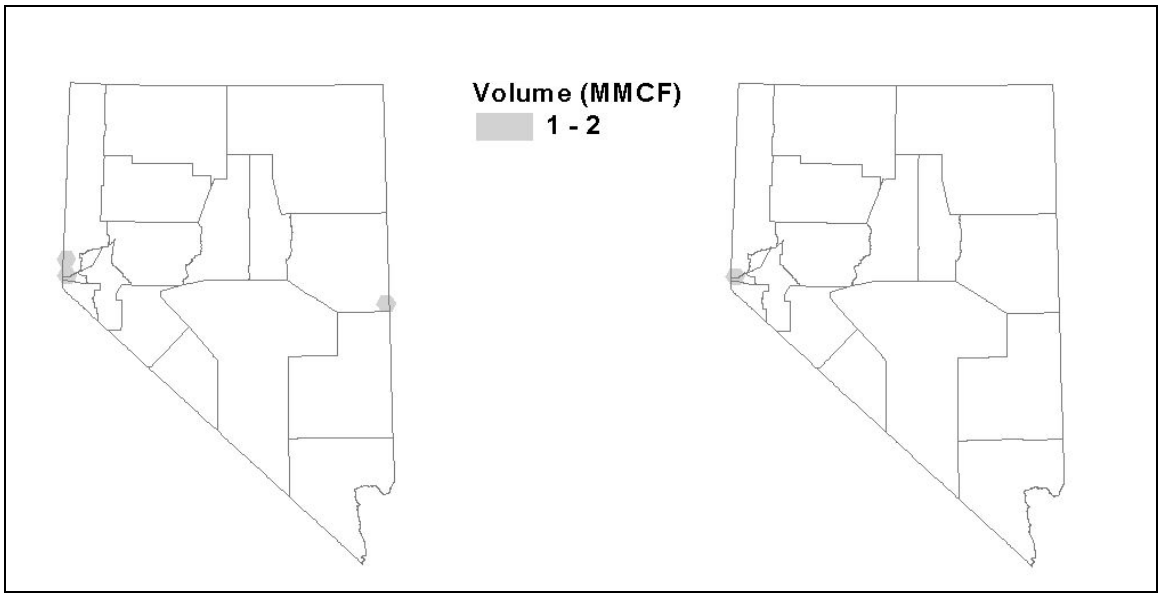


Figure 27: New Mexico sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

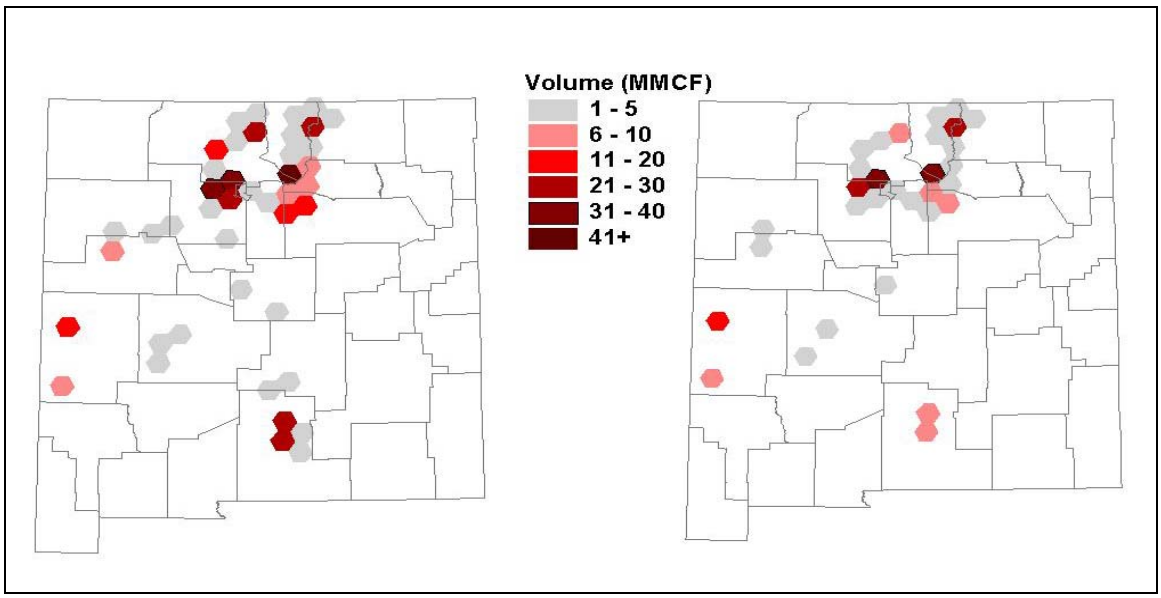


Figure 28: Oregon sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

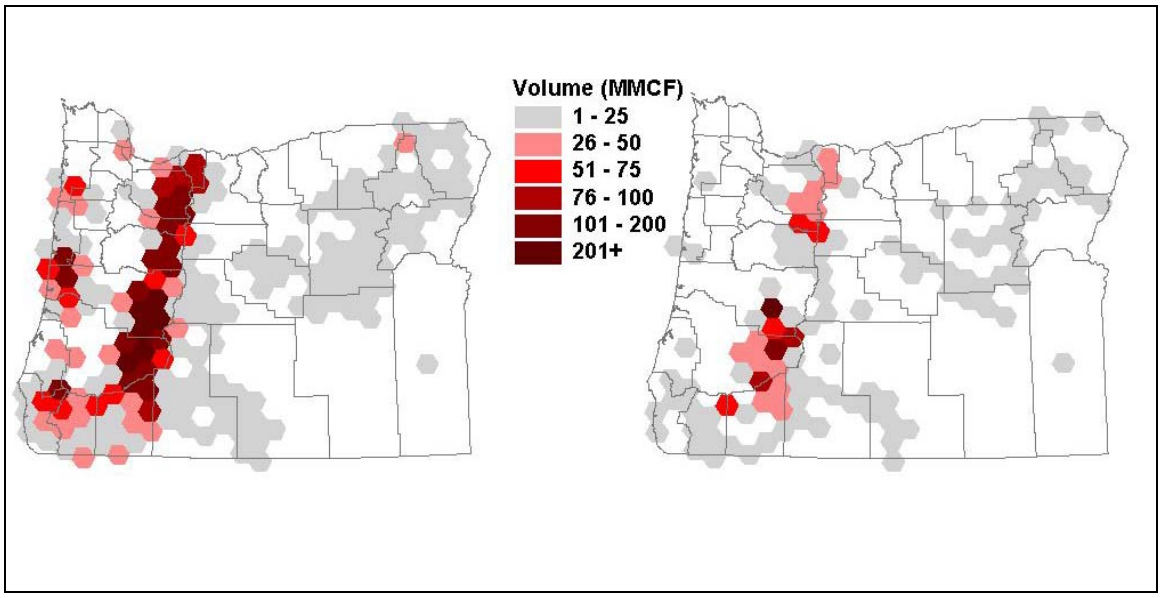


Figure 29: South Dakota sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

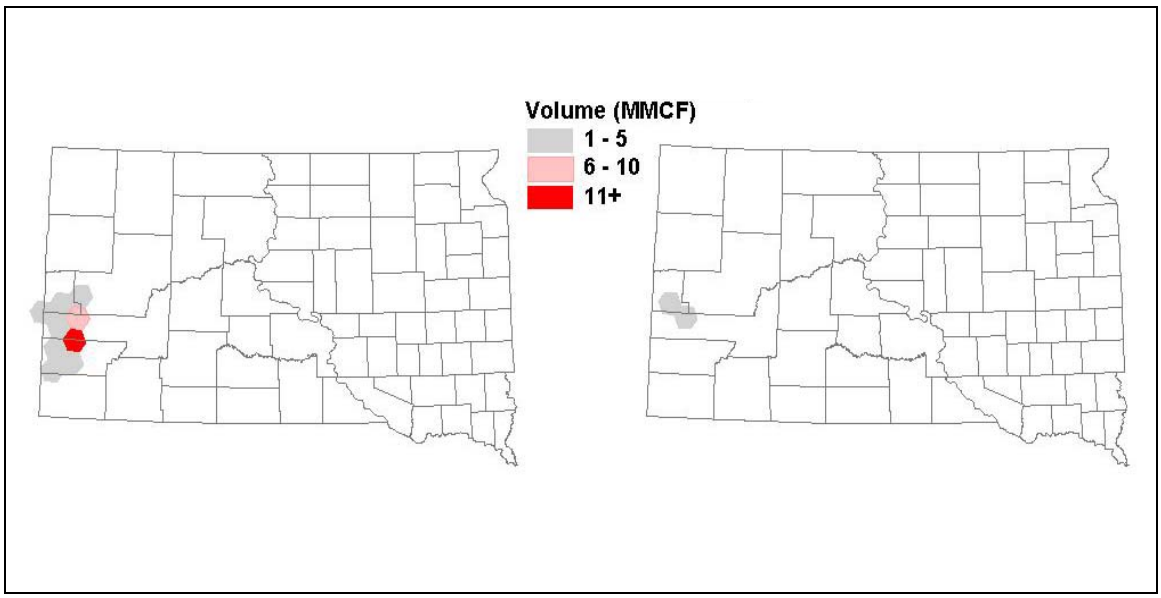


Figure 30: Utah sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

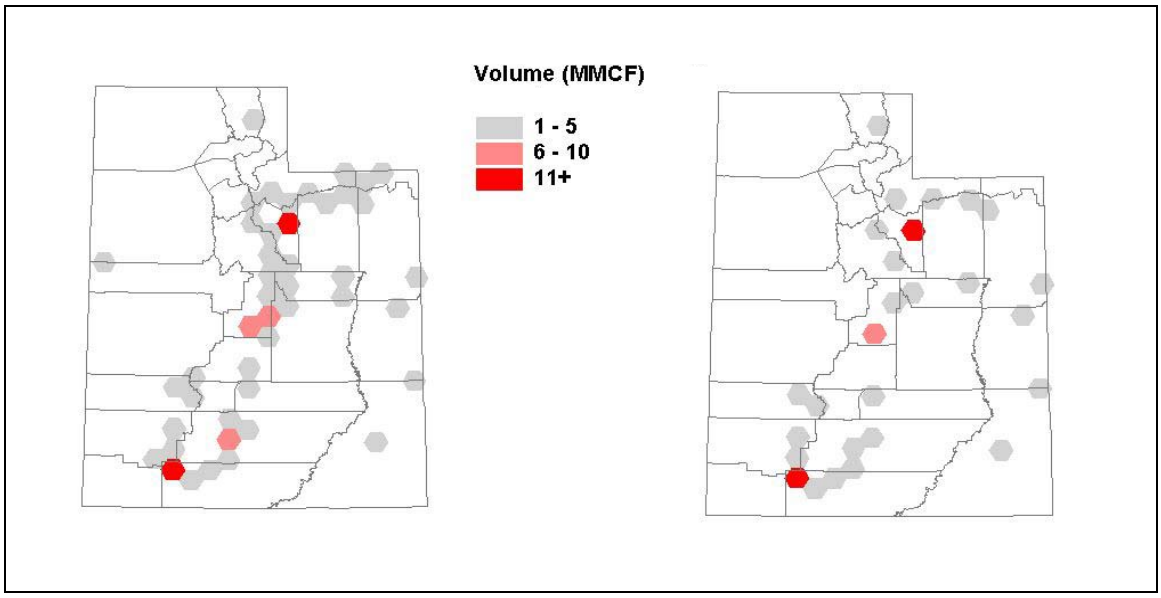


Figure 31: Washington sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

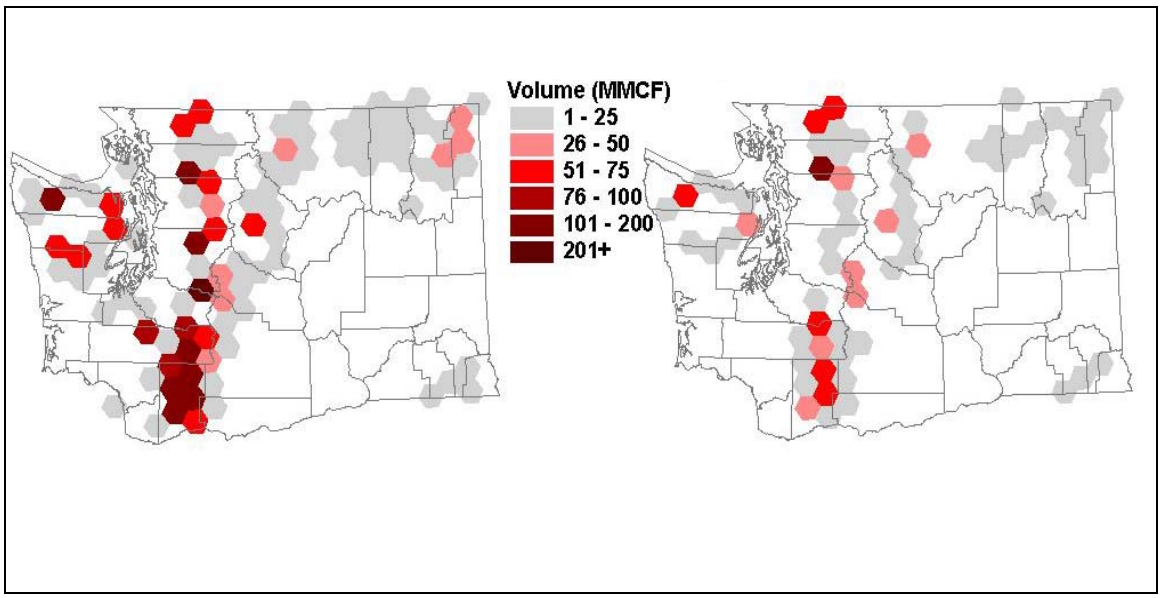


Figure 32: Wyoming sawlog volume (MMCF) available with SDI 1A and SDI 4A for federal ownership (left map) and federal ownership in high risk (right map). Shaded areas are EMAP 160,000 acre hexagons with at least 1 MMCF of sawlog volume.

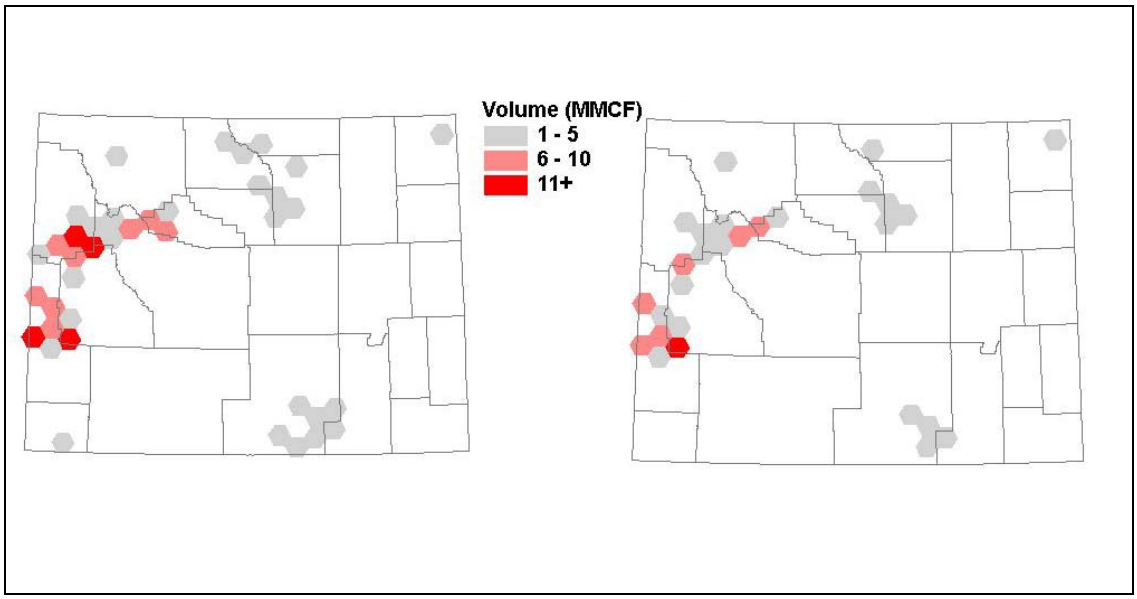


Figure 33: Tradeoff between sawlog volume (MMCF) and hazard for the basal area limited treatments, forest types other than lodgepole and fir-spruce.