

Forest Industry Competitiveness

Current Facts & Statistics

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Sustainable Resource Development

Alberta Biomass Opportunities

The Alberta government is committed to maintaining a healthy forest industry sector. The development of innovative products, including renewable fuels and green sources of energy are ways to diversify forest product streams.

In Alberta, currently under-utilized forest biomass offers opportunity for such diversification. Potential sources of available biomass include:

- Roadside residue (e.g. low quality trees or parts of the tree not collected during traditional harvesting);
- Chipping of undersized trees and tops (whole tree utilization) not included in the AAC within merchantable stands;
- Trees killed by insects and disease outbreaks or fire;
- Non-merchantable salvage;
- Woody waste located at mill sites and log sort yards;
- Hog fuel;
- Pulp mill black liquor and separated lignin;
- Existing peat harvesting licences.

The Province is interested in under-utilized forest biomass being used to its fullest extent. Business arrangements for these volumes are the responsibility of the tenure holder and interested third parties.

Figure 1. Harvesting roadside residue.



Figure 2. Woody waste at mill site.



Current Statistics

Figures 3, 4 and 5, and Tables 1 and 2 summarize the current statistics, using existing information, for the first two forest biomass sources listed above.

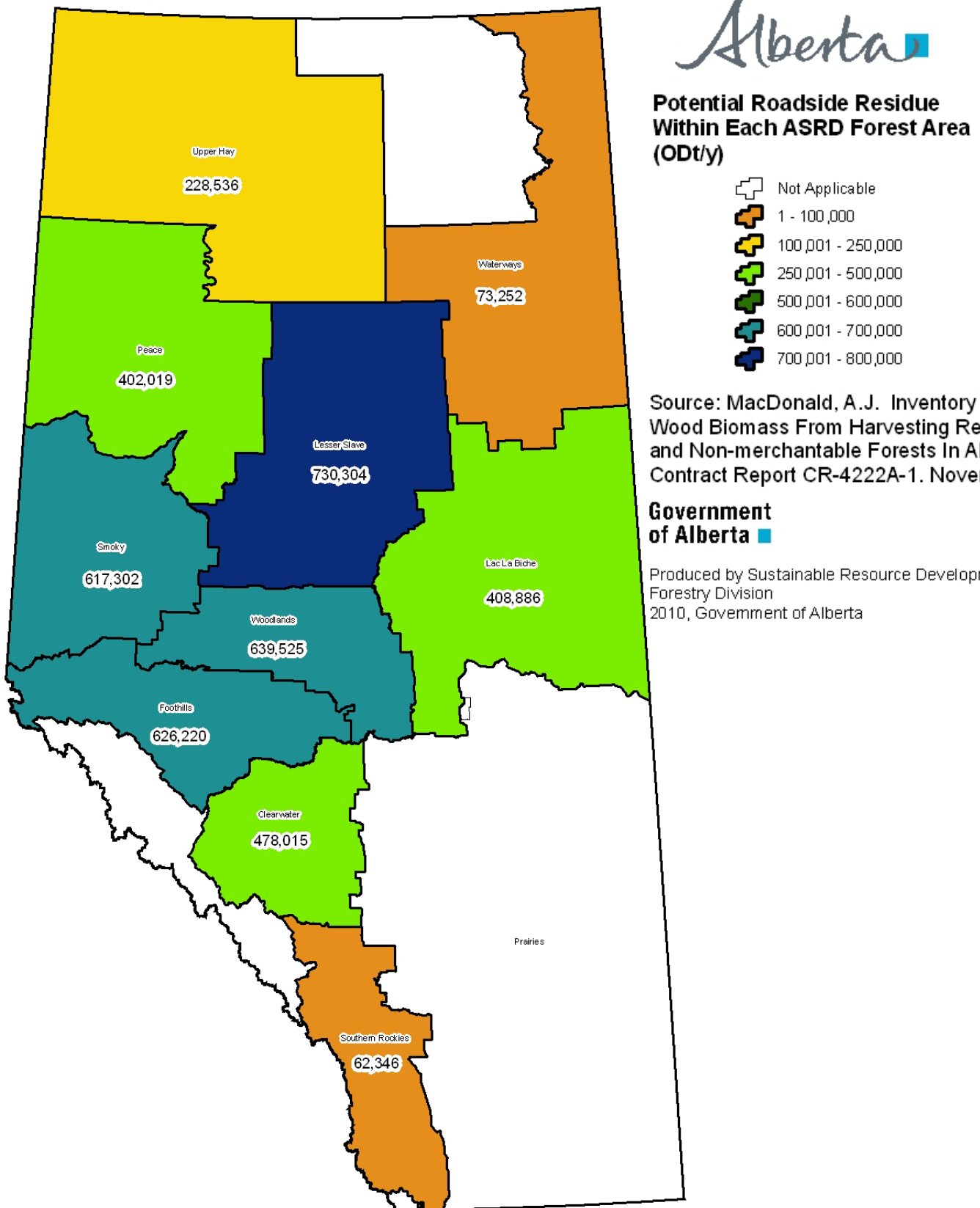
Figure 3 shows the potential roadside residue within each Sustainable Resource Development Forest Area.

Tables 1 and 2, and Figures 4 and 5 show the potential biomass opportunities of whole tree chipping. Tables 1 and 2 show the approved

Annual Allowable Cut (AAC) and the potential increase in volume by whole tree chipping in Forest Management Agreement areas and Crown Forest Management Unit areas, respectively.

Figures 4 and 5 show maps of the locations of these potential opportunities that could be realized in coniferous and deciduous volume above the approved AAC when using whole tree chipping at a 0/0 cm utilization standard.

Figure 3. Potential roadside residue within each Alberta Sustainable Resource Development Forest Area.



Potential Roadside Residue Within Each ASRD Forest Area (ODt/y)

- Not Applicable
- 1 - 100,000
- 100,001 - 250,000
- 250,001 - 500,000
- 500,001 - 600,000
- 600,001 - 700,000
- 700,001 - 800,000

Source: MacDonald, A.J. Inventory of Wood Biomass From Harvesting Residues and Non-merchantable Forests In Alberta Contract Report CR-4222A-1. November, 2007

Government of Alberta

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Forest Industry Competitiveness: Current Facts & Statistics

Table 1. Approved Annual Allowable Cut and biomass opportunities by whole tree chipping in Forest Management Agreement areas in Alberta.¹

Forest Management Agreement Holder ²	Forest Management Unit (AAC Unit) ³	Approved Annual Allowable Cuts (AAC) (m ³ /yr)		Biomass Opportunities Whole Tree Chipping 0/0 cm Utilization - increase in volume (m ³ /yr) over approved AAC using provincial average ⁴	
		Coniferous	Deciduous	Coniferous	Deciduous
ALPAC Forest Products Incorporated & Crestbrook Forest Industries Ltd. & MC Forest Investment Incorporated & Kanzaki Paper Canada Inc. (Boyle)	A14	286,843	223,365	49,624	31,048
	A15	540,650	710,348	93,532	98,738
	L1	87,460	177,403	15,131	24,659
	L11	218,548	387,237	37,809	53,826
	L2	116,442	152,741	20,144	21,231
	L3	171,912	98,099	29,741	13,636
	L8	39,528	65,751	6,838	9,139
	S11	123,926	175,687	21,439	24,420
	S18	215,199	279,997	37,229	38,920
	S22	182,008	376,721	31,487	52,364
	S7	44,679	102,740	7,729	14,281
ANC Timber Ltd. (Whitecourt)	W15	1,170,000	97,500	202,410	13,553
Blue Ridge Lumber Inc. (Whitecourt)	W14	795,750	389,682	137,665	54,166
Canadian Forest Products Ltd. (Grande Prairie)	G15	640,000	453,712	110,720	63,066
Daishowa-Marubeni International Ltd. (Peace River)	F1/P3/P4/P5/S15	N/A	546,764	N/A	76,000
	F1D	35,646	N/A	6,167	N/A
	P10D	N/A	146,000	N/A	20,294
	P13	231,840	255,520	40,108	35,517
	P3D	49,545	N/A	8,571	N/A
	P4D	56,831	N/A	9,832	N/A
	P5D	70,000	N/A	12,110	N/A
	S15D	86,151	N/A	14,904	N/A
Gordon Buchanan Enterprises Ltd. and Tolko Industries Ltd. (High Prairie)	S21	203,679	280,000	35,236	38,920
Manning Diversified Forest Products Ltd. (Manning)	P16	314,553	252,917	54,418	35,155
Millar Western Forest Products Ltd. (Whitecourt)	W11	94,903	106,049	16,418	14,741
	W13	435,844	209,412	75,401	29,108
Slave Lake Pulp Corporation (Slave Lake)	S20/S20S	586,378	N/A	101,443	N/A
	S20S	N/A	541,021	N/A	75,202
Spray Lake Sawmills (1980) Ltd. (Cochrane)	B10	144,944	N/A	25,075	N/A
	B9	173,056	53,677	29,939	7,461
Sundance Forest Industries Ltd. (Edson)	R13	841,666	60,041	145,608	8,346
Sundre Forest Products Inc. (Sundre)	R10	1,410,825	157,505	244,073	21,893
Tolko Industries Ltd. (High Prairie)	S19	167,031	506,322	28,896	70,379
Tolko Industries Ltd. and Footner Forest Products Ltd. (High Level)	F26	1,450,000 ⁵	1,000,000 ⁶	250,850	139,000
Tolko Industries Ltd., Vanderwell Contractors (1971) Ltd. and Alberta Plywood Ltd. (Slave Lake)	S17W	283,688	602,543	49,078	83,753
Vanderwell Contractors (1971) Ltd. (Slave Lake)	S7V	6,581	3,915	1,139	544
West Fraser Mills Ltd. (Hinton)	E1N/E3N/E4N/E5N/E6N/E7N/E11N	1,936,129	169,449	265,549	21,097
Weyerhaeuser Company Limited (Drayton Valley)	R12	954,301	278,372	165,094	38,694
Weyerhaeuser Company Limited (Edson)	E1	142,037	40,178	24,572	5,585
	E2	97,268	90,572	16,827	12,590
	W5	30,169	46,386	5,219	6,448
	W6	245,382	151,528	42,451	21,062
Weyerhaeuser Company Limited (Grande Prairie)	G16	2,042,835	900,109	353,410	125,115
TOTAL		16,724,227	10,089,263	2,823,890	1,399,951

Table 1. Approved Annual Allowable Cut and biomass opportunities by whole tree chipping in Forest Management Agreement areas in Alberta cont'd.

¹ All numbers have been rounded to the nearest whole number.

² The FMA areas include Crown portions of the FMA Forest Management Plan defined forest area.

³ Approved AACs up to and including March 31, 2009.

⁴ Difference between 15+/10-11 cm and 0/0 cm utilization estimated using provincial level yield curves segregated by Foothills and Boreal Natural Regions and the following yield strata: Deciduous, Mixed Pine, Mixed Spruce, White Spruce, Pine and Black Spruce (coniferous = 17.3% increase, deciduous = 13.9% increase in volume).

⁵ Tolko Industries Ltd. and Footner Forest Products Ltd. FMA (FMU: F26) coniferous AAC was established at 1,450,000 m³/yr, although the harvest level was expected to ramp up to 1,680,000 m³/yr which would result in an additional 39,790 m³/yr (Total Additional - 39,790 + 250,850 = 290,640 m³/yr) of coniferous volume when a 0/0 utilization standard is considered.

⁶ Tolko Industries Ltd. and Footner Forest Products Ltd. FMA (FMU: F26) deciduous AAC was established at 1,000,000 m³/yr, although the harvest level was expected to ramp up to 1,880,000 m³/yr which would result in an additional 122,320 m³/yr (Total Additional - 122,320 + 139,000 = 261,320 m³/yr) of deciduous volume when a 0/0 utilization standard is considered.

Table 2. Approved Annual Allowable Cut and biomass opportunities by whole tree chipping in Crown Forest Management Unit areas (non-FMA) in Alberta.¹

Forest Management Unit (AAC unit) ²	Approved Annual Allowable Cuts (AAC) (m ³ /yr)		Biomass Opportunities Whole Tree Chipping 0/0 cm Utilization - increase in volume (m ³ /yr) over approved AAC using provincial average ³	
	Coniferous	Deciduous	Coniferous	Deciduous
A10	12,800	0	2,214	0
A9	23,298	18,670	4,031	2,595
C4	1,536	0	266	0
C5	174,920	0	30,261	0
E8	452,716	13,621	67,488	369
E9	1,600	2,100	277	292
F11	43,281	N/A	7,488	N/A
F11-East	N/A	89,691	N/A	12,467
F11-West	N/A	47,969	N/A	6,668
F14	78,856	77,771	13,642	10,810
F20	0	1,500	0	209
F23	270,798	304,251	46,848	42,291
G11	9,000	9,000	1,557	1,251
G12	6,569	33,000	1,136	4,587
G13	1,795	18,257	311	2,538
G14	15,897	21,000	2,750	2,919
G9	11,600	11,000	2,007	1,529
P10	61,000	0	10,553	0
P14	39,560	84,793	6,844	11,786
P15	178,842	53,925	30,940	7,496
P8	N/A	73,400	N/A	10,203
PO1-Green	3,723	5,183	644	720
PO2-Green	20,491	32,954	3,545	4,581
PO3	1,712	0	296	0
R14	9,122	8,170	1,578	1,136
S10	122,903	139,702	21,262	19,419
S14	77,903	175,230	13,477	24,357
S16	8,018	13,330	1,387	1,853
TOTAL	1,627,940	1,234,517	270,802	170,074

¹ All numbers have been rounded to the nearest whole number.

² Approved AACs up to and including March 31, 2009.

³ Difference between 15+/10-11 cm and 0/0 cm utilization estimated using provincial level yield curves segregated by Foothills and Boreal Natural Regions and the following yield strata: Deciduous, Mixed Pine, Mixed Spruce, White Spruce, Pine and Black Spruce (coniferous = 17.3% increase, deciduous = 13.9% increase in volume).

Figure 4. Potential increase in coniferous volume over approved Annual Allowable Cut utilizing whole tree chipping at 0/0 cm utilization standard.

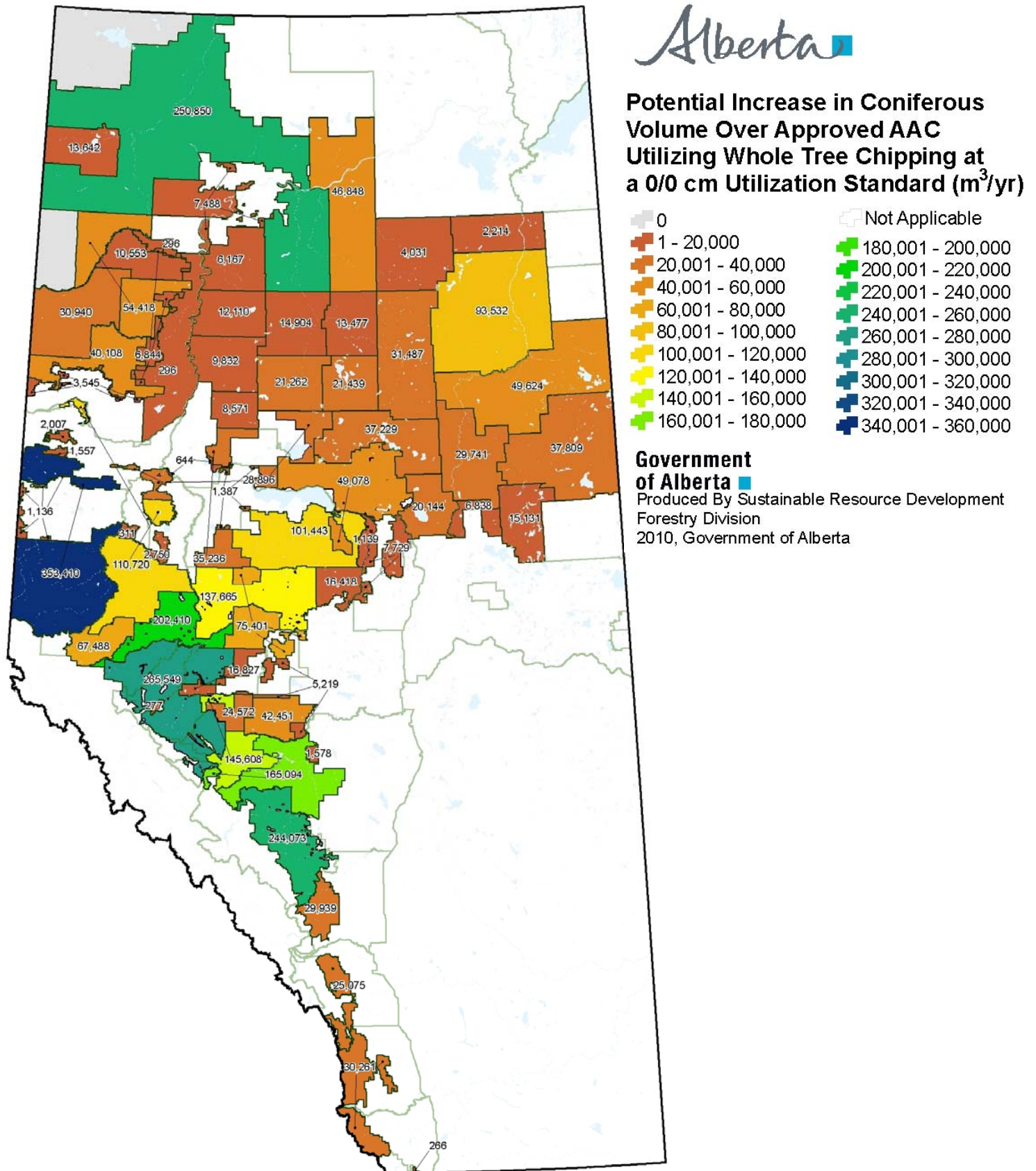


Figure 5. Potential increase in deciduous volume over approved Annual Allowable Cut utilizing whole tree chipping.

