



Values, Objectives, Indicators and Targets

2007 – 2017 Forest Management Plan for FMA 0200041

May 31, 2007

**Prepared by:
The Forestry Corp.**



2007 – 2017 FMP FOR FMA 0200041

FMA Resources forms one of 10 sections of the 2007 – 2017 Forest Management Plan for Manning Diversified Forest Products Ltd.'s Forest Management Agreement (FMA) 0200041. The Forest Management Plan (FMP) includes the following sections:

1. **Introduction and Plan Development** – Introduces the companies operating on the FMA and describes the FMP development process, including the public consultation process. Includes the FMP Standards Checklist.
 2. **FMA Area** – Describes the physical environment of the FMA Area.
 3. **FMA Resources** – Describes the natural resources within the FMA Area.
 4. **Values, Objectives, Indicators and Targets (VOITs)** – Details the values, objectives, indicators and targets that were instrumental in selecting the Preferred Forest Management Strategy and in developing forest management strategies for the FMP.
 5. **Forest Landscape Metrics** – Presents specific information regarding forest vegetation composition and natural disturbance within the FMA Area and/or northwestern Alberta to address VOIT requirements.
 6. **Landbase Netdown** – Provides a detailed description of the landbase netdown process, in preparation for the Timber Supply Analysis.
 7. **Yield Curves** – Documents the volume sampling and yield curve development process.
 8. **Timber Supply Analysis** – Describes how the Preferred Forest Management Strategy, which was selected to meet Values and Objectives, was incorporated into the Timber Supply Analysis and provides an Annual Allowable Cut for both the coniferous and deciduous landbases.
 9. **Implementation** – Describes the forest management strategies and operations that will be used to implement the FMP and help ensure that indicators and targets are met.
 10. **Monitoring and Research** – Describes monitoring commitments required to ensure indicators and targets are tracked and describes Manning Diversified's approach to supporting research.
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1. Background

In 1992, the Canadian Council of Forest Ministers developed a series of criteria and indicators related to sustainable forest management. This framework was subsequently revised in 2003. The framework identified six criteria, which were subsequently incorporated into the Alberta Forest Management Planning Standard (Planning Standard) in 2004. These six criteria are:

- Biological diversity.
- Ecosystem condition and productivity.
- Soil and water.
- Role in global ecological cycles.
- Economic and social benefits.
- Society's responsibility.

In February 2004, to facilitate the identification of values, objectives, indicators and targets for the DFMP, Manning Diversified met individually with public stakeholders to solicit input. Input from these stakeholder meetings was used to identify initial values, objectives, indicators and targets (VOITs) for the DFMP. These were subsequently modified to meet the requirements of the Planning Standard. The revised VOITs were discussed by the DFMP Core Team and consensus was achieved on all 34 objectives, along with their associated indicators and targets. Public stakeholders were then provided with the opportunity of reviewing these revised VOITs, prior to FMP submission.

The VOITs will guide forest management within MDFP's FMA Area during the term of this management plan. This document presents each of the 54 sets of indicators and targets that were identified as part of the DFMP development process (note that two indicators/targets are utilized for two separate objectives, resulting in 52 unique indicators/targets). An indication of how the targets will be achieved, measured and reported is also included, along with some explanatory notes. These notes are not all-inclusive, and, in most cases, additional relevant strategies, programs, etc. may be located in several portions of the DFMP not listed in the notes. A summary of the values, objectives, indicators and targets which includes all information required by the Planning Standard is provided in Appendix I.



Within the Planning Standard VOITs are often assessed at the DFA, FMA or FMU level. For the FMP for FMA 0200041, the DFA is also the FMA Area (i.e., FMU P16, or FMU P6 and P9). For VOITs which were to be assessed at the FMU level, P6 and P9 are addressed separately, even though they are currently designated as one FMU (P16). This was done because of the timing of the FMP (which was initiated when the FMUs were still identified as P6 and P9 and also because P6 and P9 have very different forest landscape characteristics (see **FMA Area** and **Forest Landscape Metrics** sections of the FMP).



2. Values, Objectives, Indicators and Targets

Value 1.1.1 - Landscape scale biodiversity

Objective 1.1.1.1: Maintain biodiversity by retaining the full range of covertypes and seral stages.

Indicator

Area of old, mature and regenerating forest in each FMU by broad cover class.

Target

At 10 years, gross and active landbase area is greater than values indicated (highlighted in the tables below), for old and mature plus old forest and less than values indicated for regenerating forest. Old forest retention shall include the full natural range of ages.

Means of Achieving Objective and Target

Spatial harvest sequence.

Reporting - FMP

Tables of seral stage by broad cover class for the gross and active landbases at 0, 10, 50, 100 and 200 years and maps of indicators at 0, 10 and 50 years are provided below, along with the age class distribution for FMA at 0, 10, 50, 100 and 200 years. Regeneration is only assessed on the active landbase.

**P6 - Gross Landbase - Area of Old seral stage, by broad cover class.**

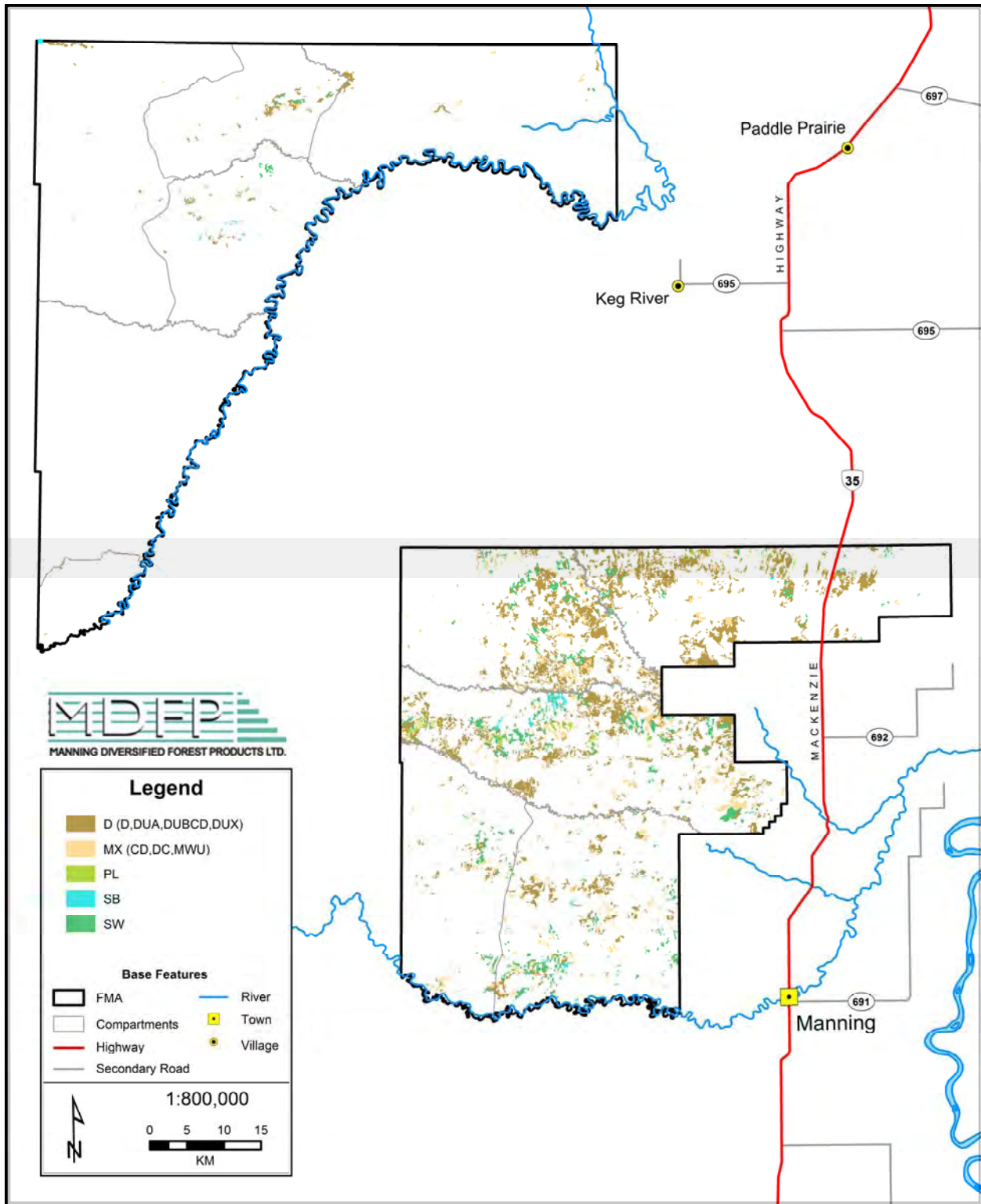
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	26,815	6,754	853	421	6,877	41,720
10	33,325	10,845	555	1,292	5,839	51,855
50	50,740	9,623	1,245	8,340	11,501	81,449
100	28,291	9,645	4,384	50,306	13,115	105,742
200	15,715	17,132	3,470	27,561	8,255	72,133

P9 - Gross Landbase - Area of Old seral stage, by broad cover class.

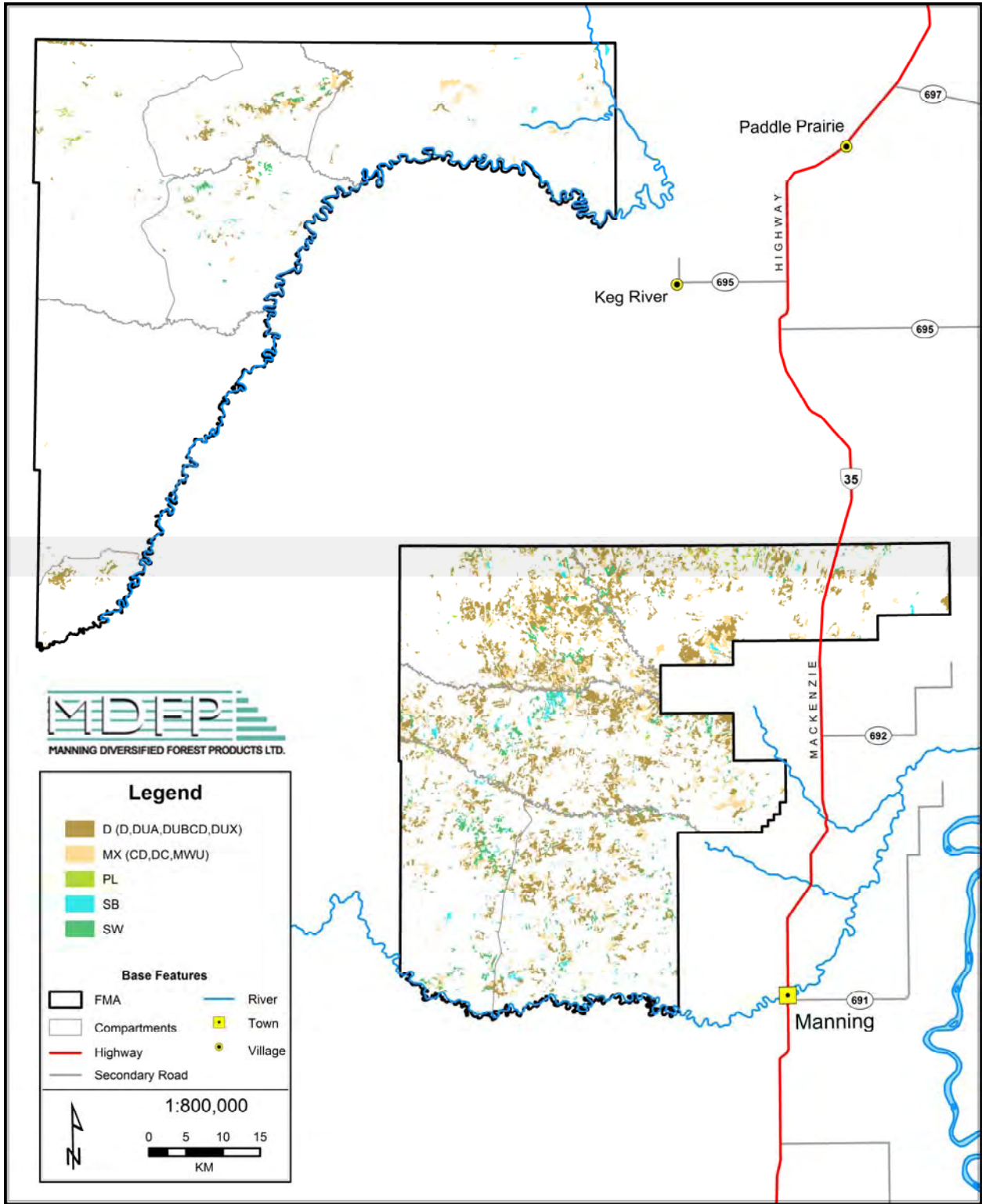
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	1,512	219	3	88	300	2,120
10	3,234	1,393	164	233	586	5,611
50	78,394	6,877	287	1,873	2,160	89,592
100	49,984	9,760	2,522	43,698	3,310	109,275
200	49,556	11,996	2,974	95,339	2,524	162,389

FMA - Gross Landbase - Area of Old seral stage, by broad cover class.

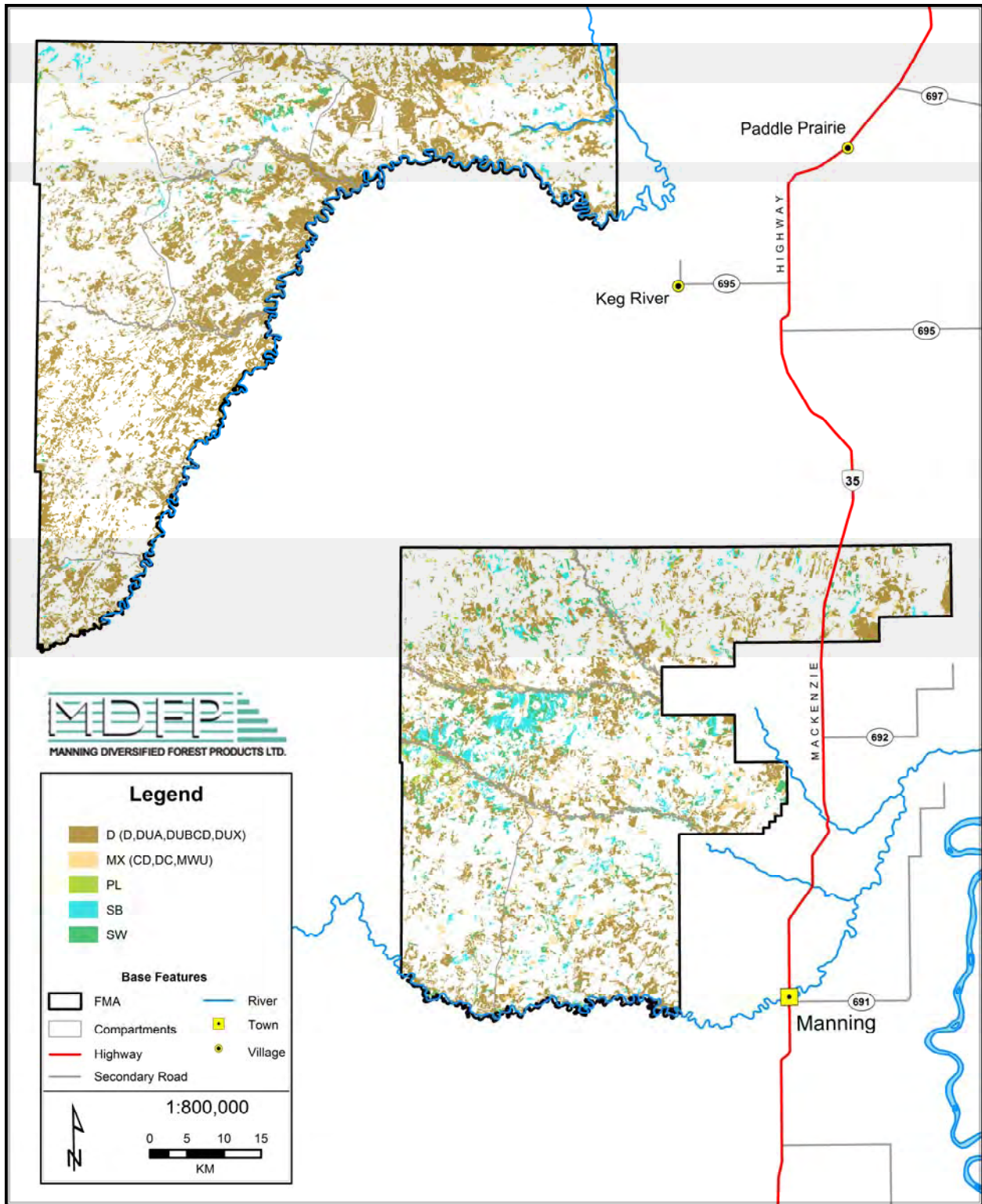
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	28,327	6,973	856	508	7,176	43,840
10	36,559	12,238	719	1,525	6,425	57,466
50	129,135	16,500	1,532	10,213	13,661	171,040
100	78,275	19,405	6,907	94,004	16,425	215,016
200	65,271	29,128	6,444	122,900	10,780	234,522



Area of Old seral stage, by broad cover class (gross landbase) - Year 0.



Area of Old seral stage, by broad cover class (gross landbase) - Year 10.



Area of Old seral stage, by broad cover class (gross landbase) - Year 50.



P6 - Active Landbase - Area of Old seral stage, by broad cover class.

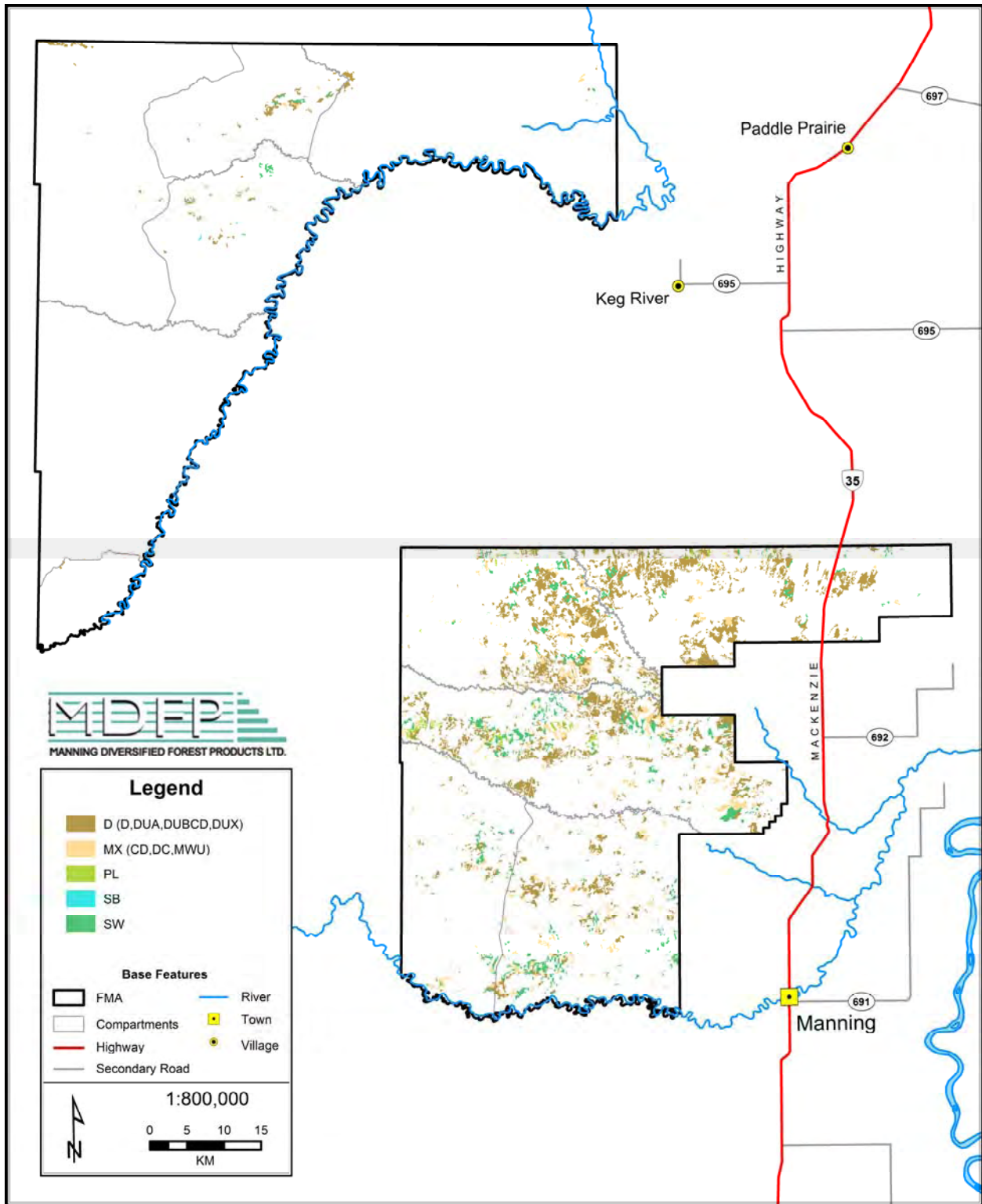
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	24,744	6,409	779		6,239	38,170
10	30,593	10,228	435	75	4,760	46,091
50	43,741	8,098	982	114	6,373	59,309
100	18,455	5,663	1,326	211	4,369	30,024
200	7,951	13,726	517	166	2,557	24,916

P9 - Active Landbase - Area of Old seral stage, by broad cover class.

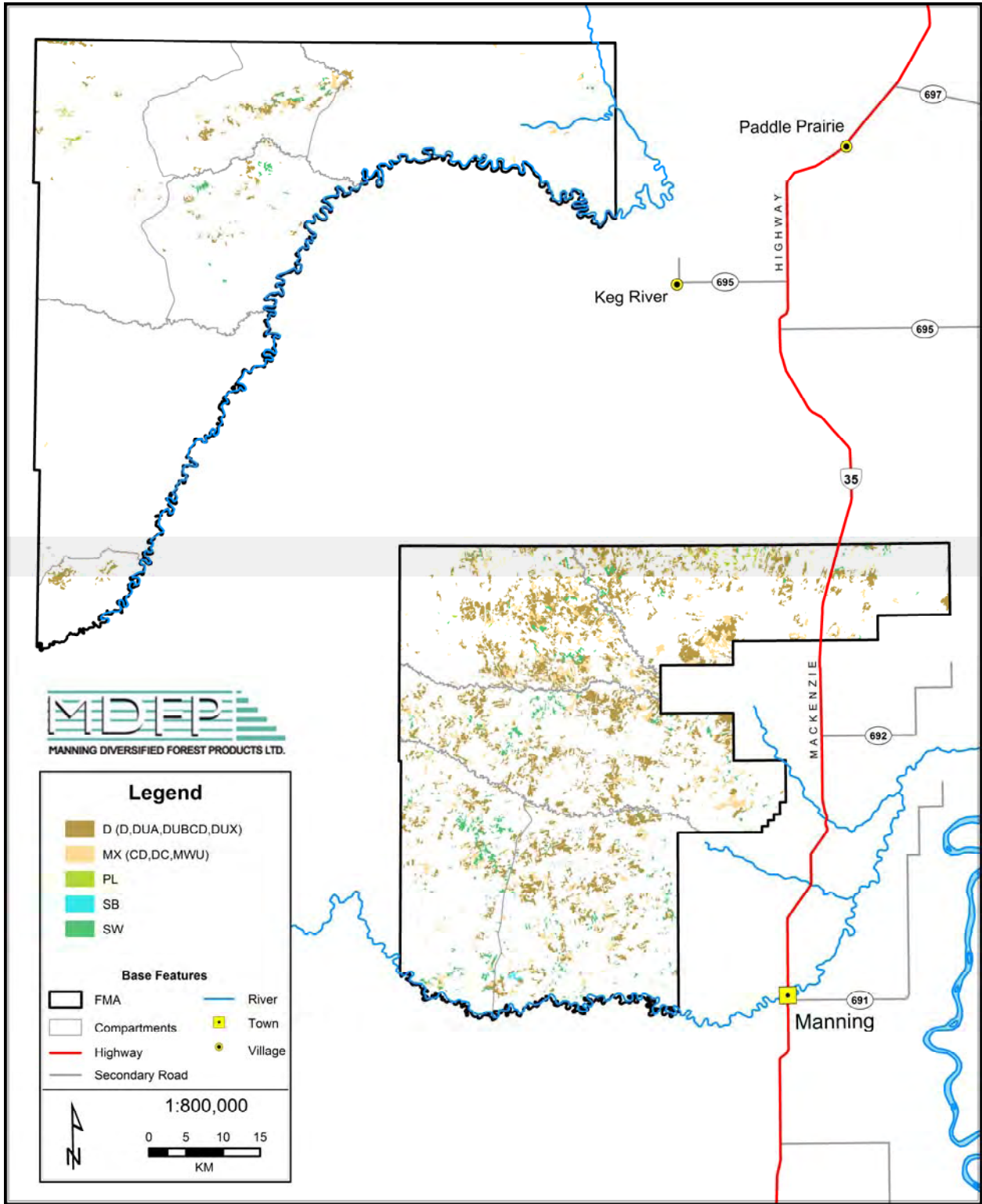
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	1,284	147		17	287	1,735
10	2,837	776	156	17	525	4,311
50	53,444	3,473	216	0	1,379	58,513
100	23,165	3,178	1,182	125	449	28,098
200	22,964	6,030	1,645	4	201	30,845

FMA - Active Landbase - Area of Old seral stage, by broad cover class.

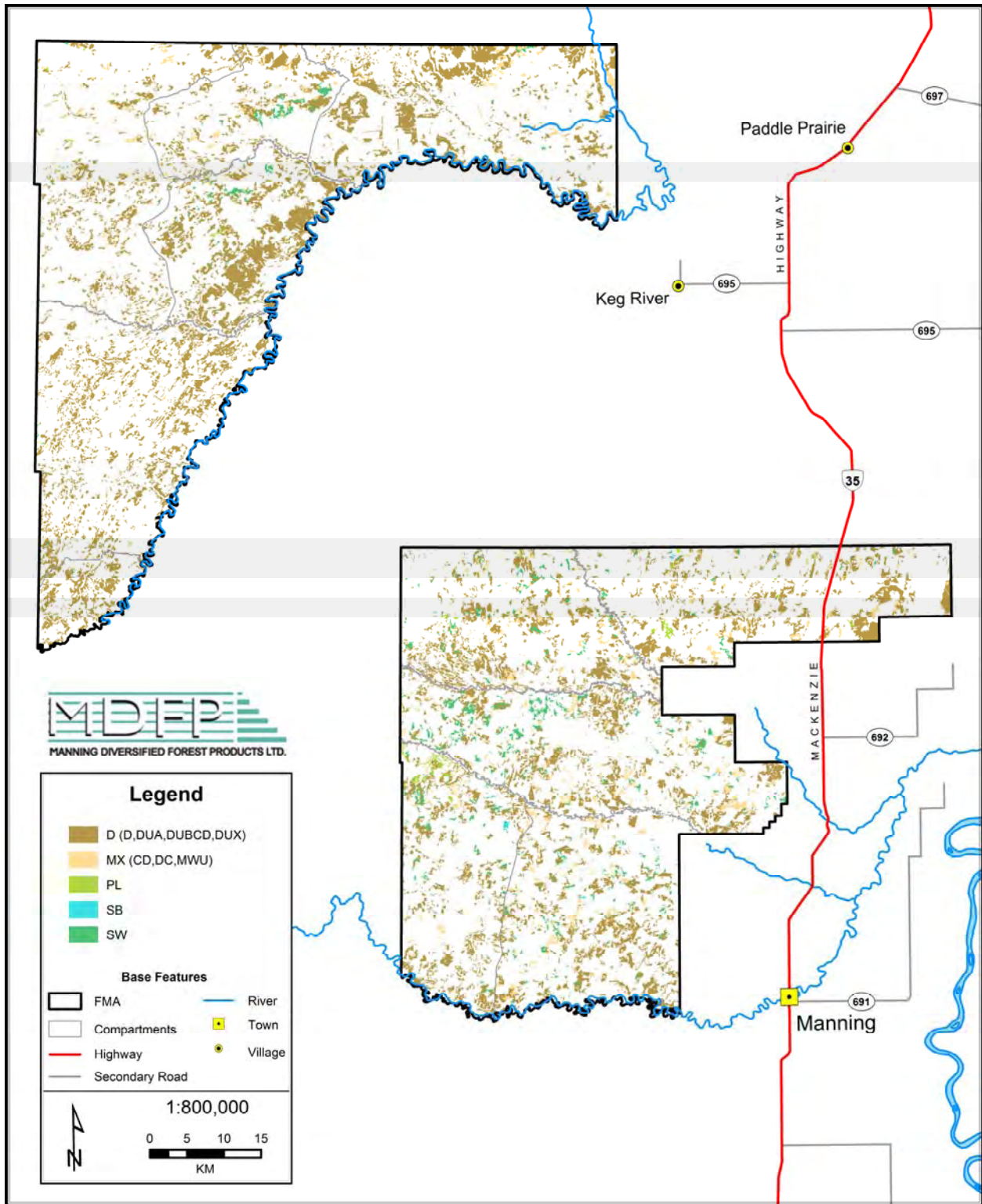
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	26,028	6,556	0	796	6,526	39,905
10	33,429	11,005	591	91	5,285	50,402
50	97,185	11,571	1,198	114	7,753	117,822
100	41,620	8,841	2,508	336	4,818	58,122
200	30,915	19,756	2,161	170	2,758	55,760



Area of Old seral stage, by broad cover class (active landbase) - Year 0.



Area of Old seral stage, by broad cover class (active landbase) - Year 10.



Area of Old seral stage, by broad cover class (active landbase) - Year 50.



P6 - Gross Landbase - Area of Old and Mature seral stage, by broad cover class.

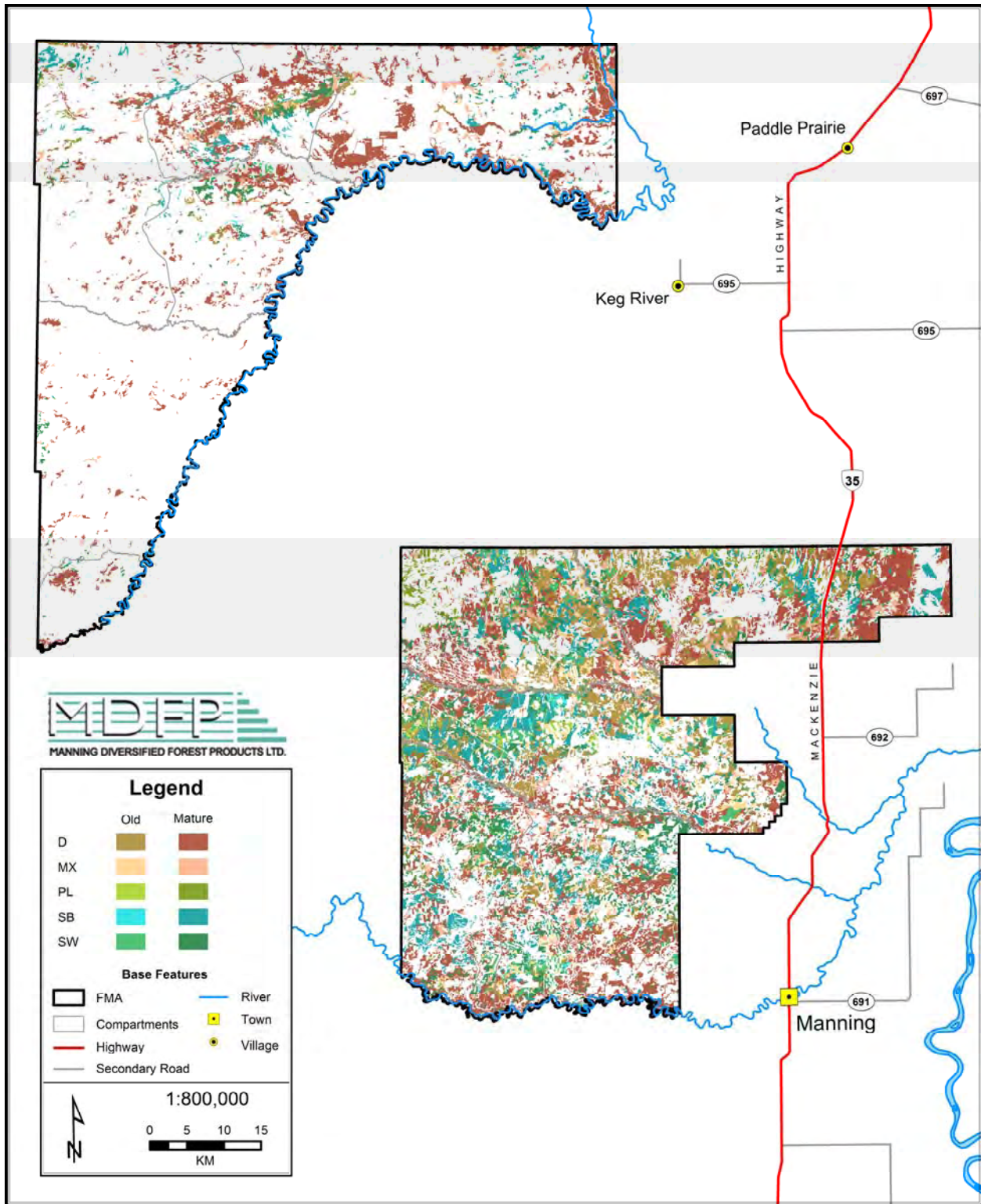
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	83,810	19,667	5,739	24,964	29,799	163,979
10	74,343	18,489	3,343	30,802	25,421	152,397
50	57,660	15,384	5,639	51,843	24,226	154,752
100	31,713	32,507	8,399	51,563	16,210	140,393
200	19,382	40,711	6,868	27,755	10,687	105,403

P9 - Gross Landbase - Area of Old and Mature seral stage, by broad cover class.

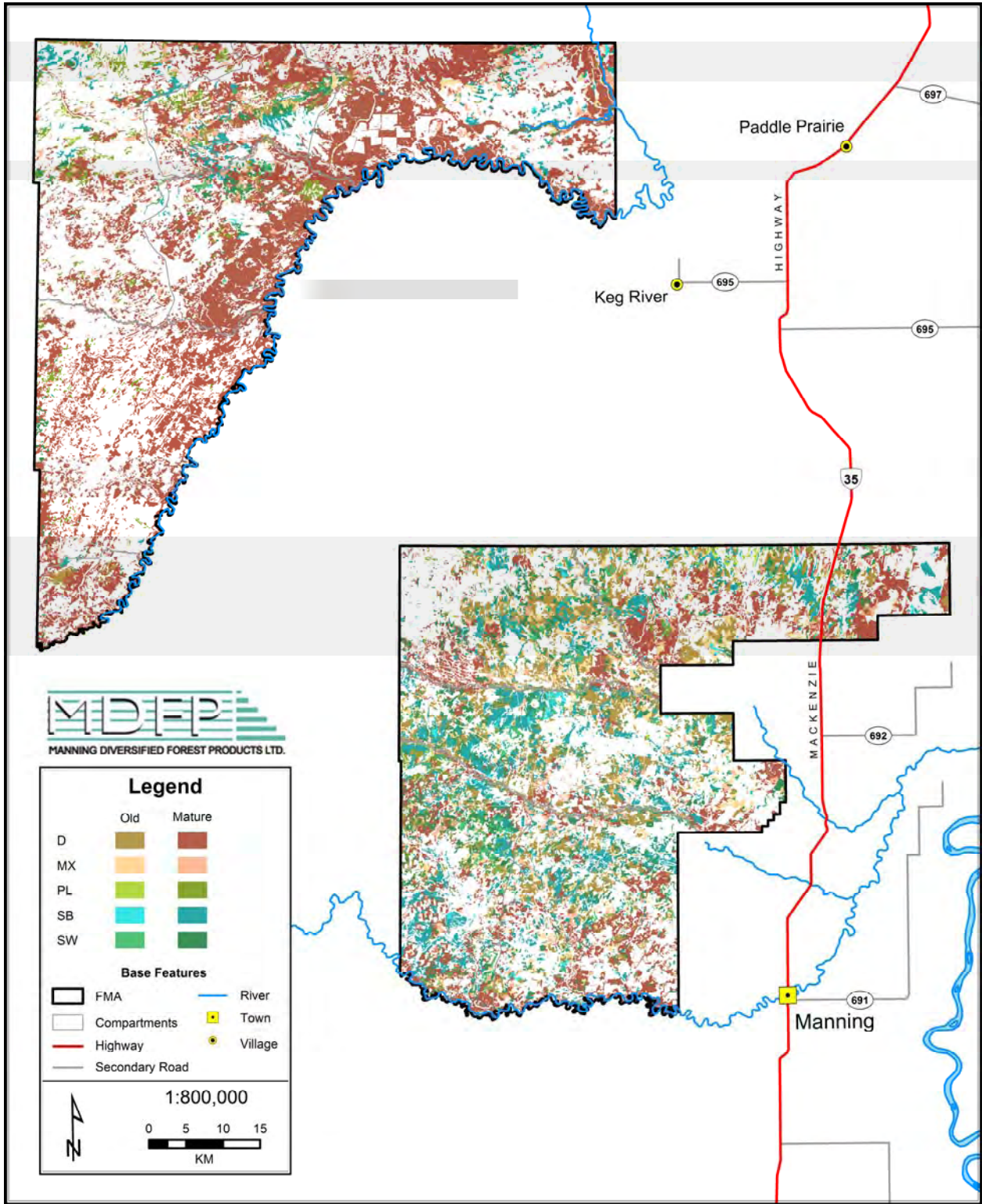
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	33,979	4,717	704	4,375	4,019	47,793
10	102,729	9,498	6,585	6,294	5,243	130,349
50	85,725	13,481	12,006	82,933	6,214	200,358
100	62,544	13,480	5,279	100,133	3,619	185,055
200	64,860	20,764	6,613	95,572	2,711	190,520

FMA - Gross Landbase - Area of Old and Mature seral stage, by broad cover class.

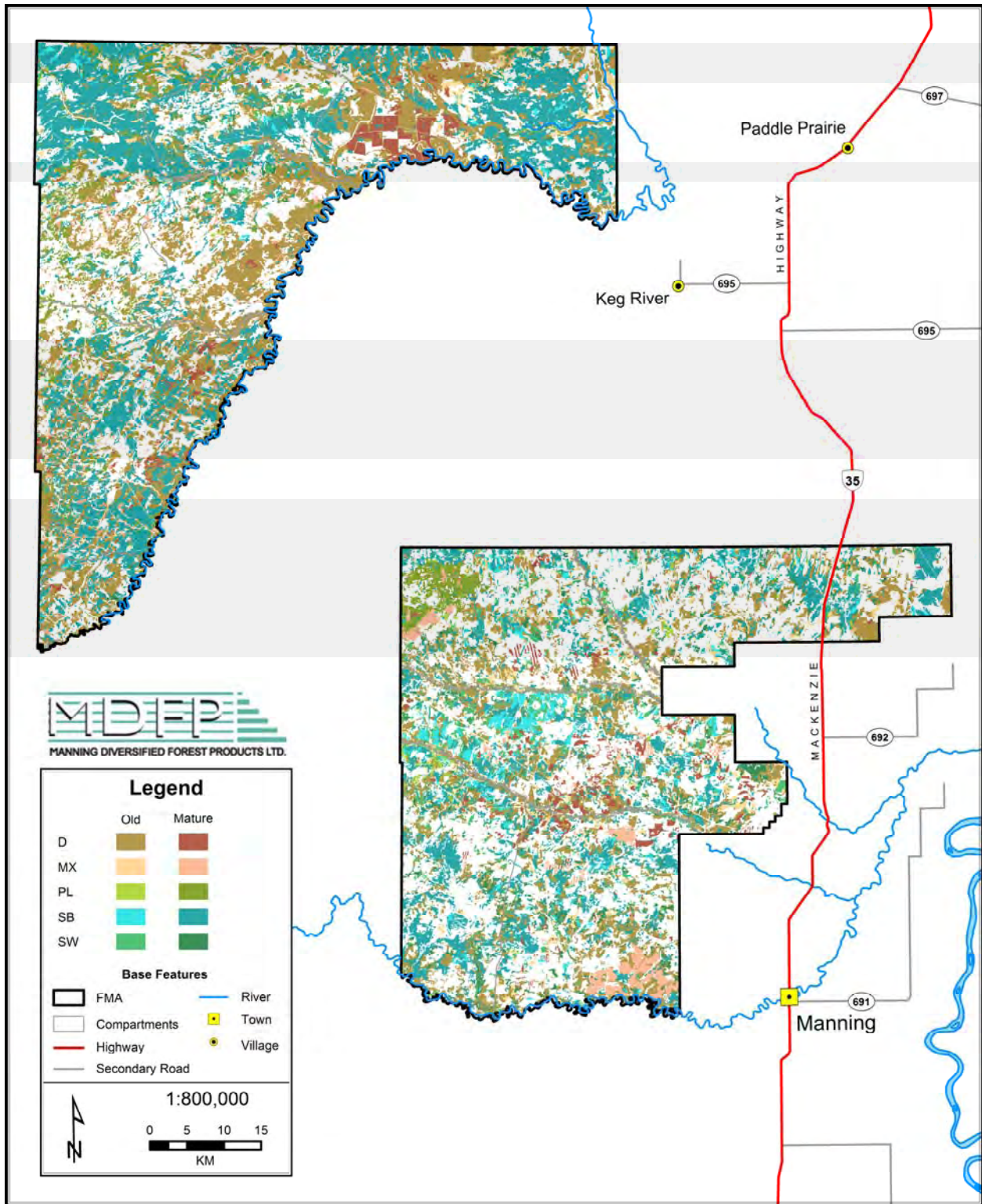
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	117,789	24,384	6,443	29,338	33,818	211,772
10	177,072	27,987	9,928	37,095	30,664	282,746
50	143,385	28,865	17,645	134,776	30,439	355,110
100	94,257	45,987	13,678	151,696	19,829	325,448
200	84,242	61,475	13,481	123,326	13,398	295,923



Area of Old and Mature seral stage, by broad cover class (gross landbase) - Year 0.



Area of Old and Mature seral stage, by broad cover class (gross landbase) - Year 10.



Area of Old and Mature seral stage, by broad cover class (gross landbase) - Year 50.



P6 - Active Landbase - Area of Old and Mature seral stage, by broad cover class.

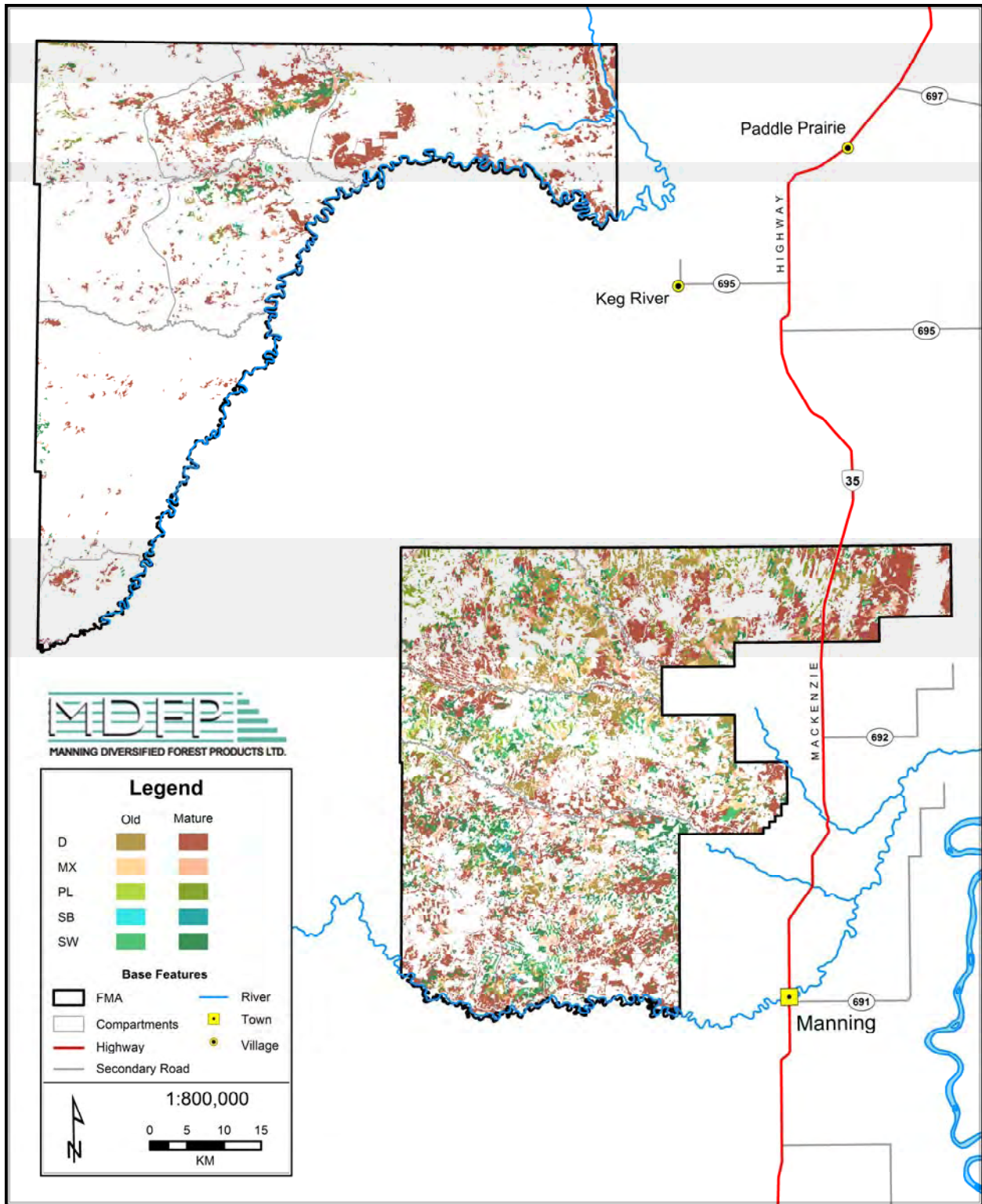
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	77,111	18,463	5,476	921	24,671	126,642
10	67,344	16,965	3,079	1,014	19,679	108,081
50	47,864	13,534	2,580	1,049	15,479	80,507
100	21,878	28,485	5,292	316	5,441	61,410
200	11,606	37,305	3,877	359	4,989	58,136

P9 - Active Landbase - Area of Old and Mature seral stage, by broad cover class.

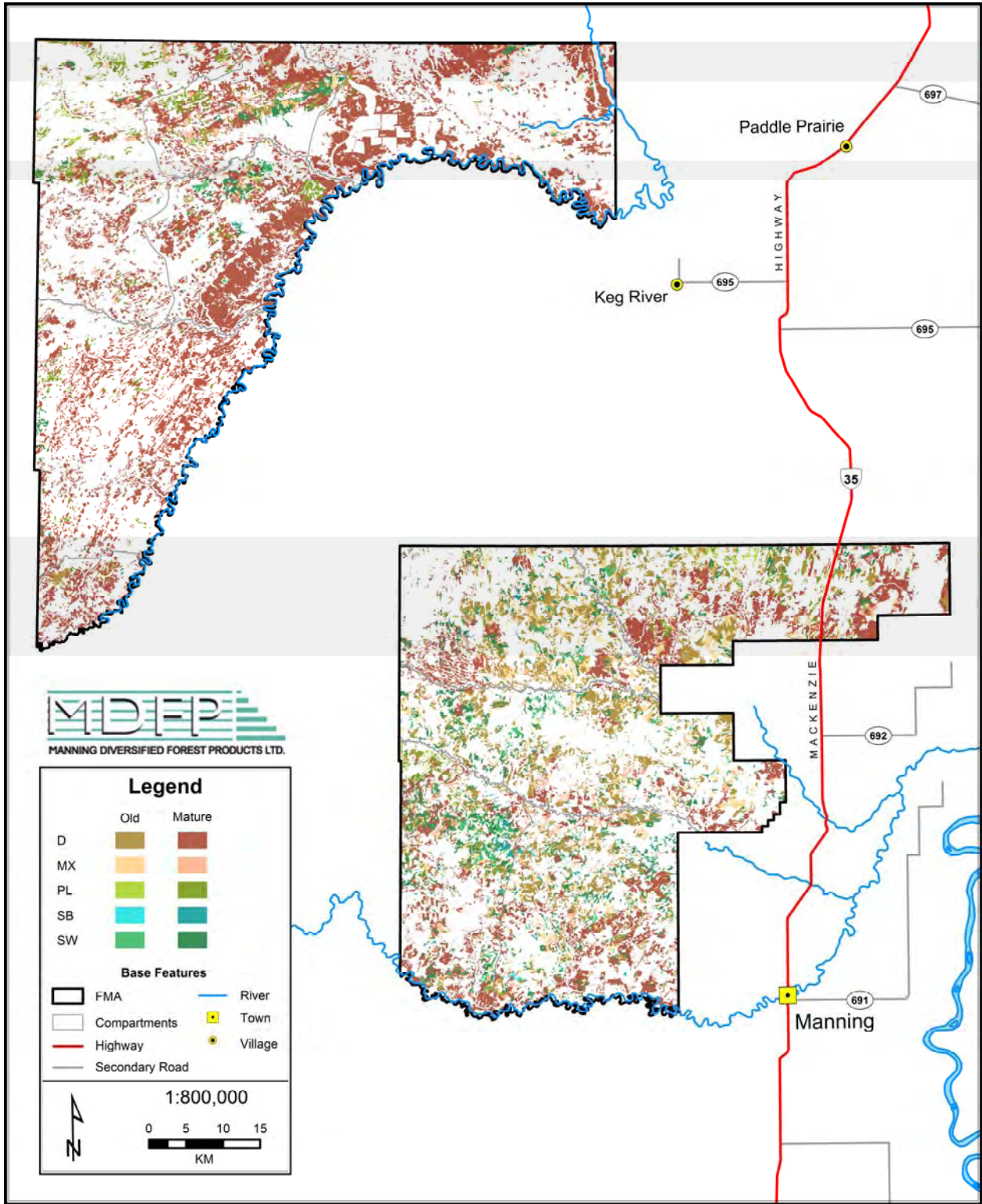
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	24,973	2,746	633	70	3,238	31,660
10	77,779	6,094	6,271	70	4,192	94,405
50	58,906	6,899	10,665	1,027	3,352	80,849
100	35,725	6,897	3,938	495	515	47,571
200	38,269	14,799	5,283	237	388	58,976

FMA - Active Landbase - Area of Old and Mature seral stage, by broad cover class.

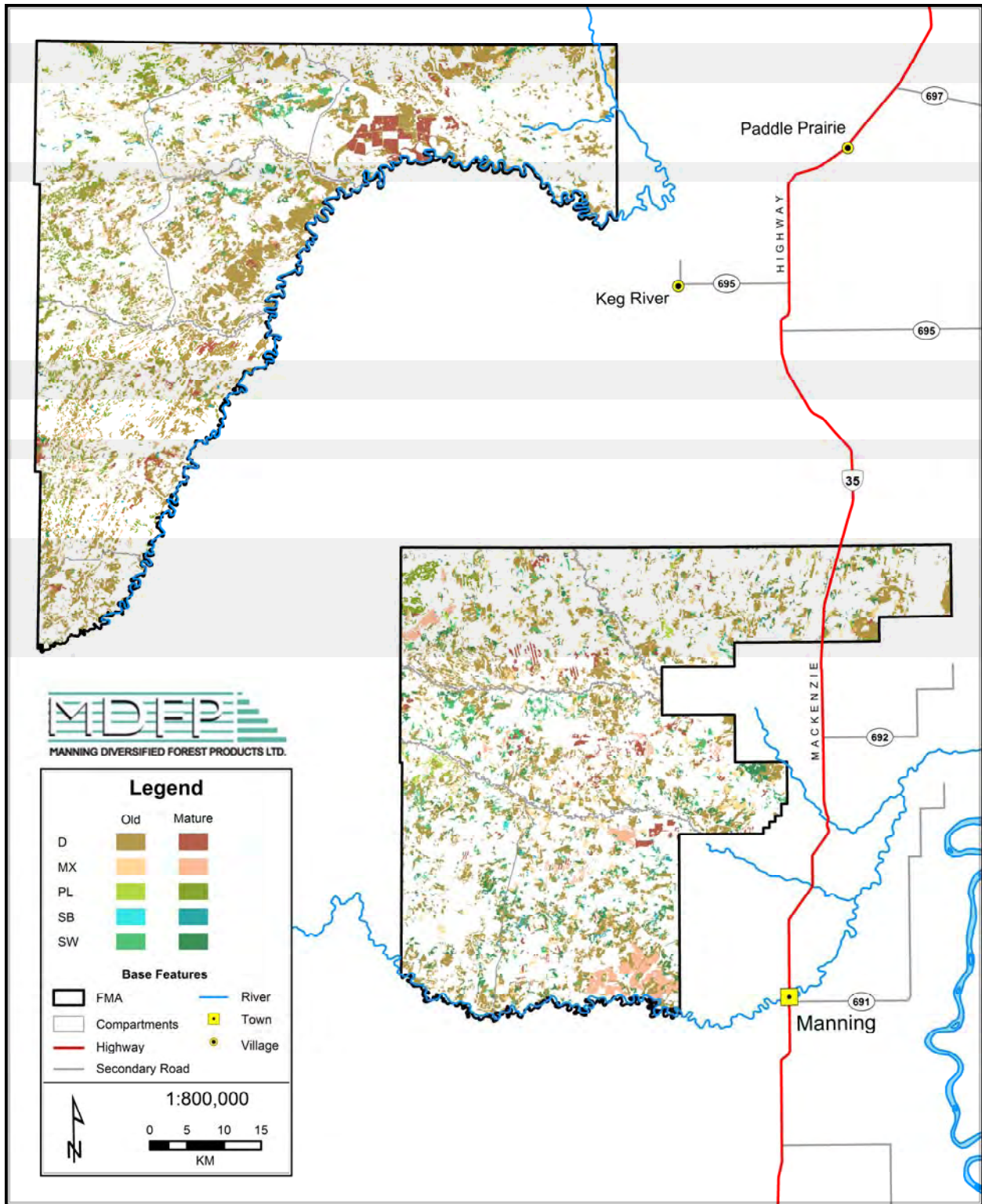
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	102,085	21,208	6,109	991	27,909	158,302
10	145,122	23,059	9,350	1,084	23,871	202,486
50	106,769	20,433	13,245	2,077	18,831	161,356
100	57,602	35,382	9,230	811	5,956	108,981
200	49,875	52,104	9,160	597	5,377	117,112



Area of Old and Mature seral stage, by broad cover class (active landbase) - Year 0.



Area of Old and Mature seral stage, by broad cover class (active landbase) - Year 10.



Area of Old and Mature seral stage, by broad cover class (active landbase) - Year 50.



P6 - Active Landbase - Area of Regeneration seral stage, by broad cover class.

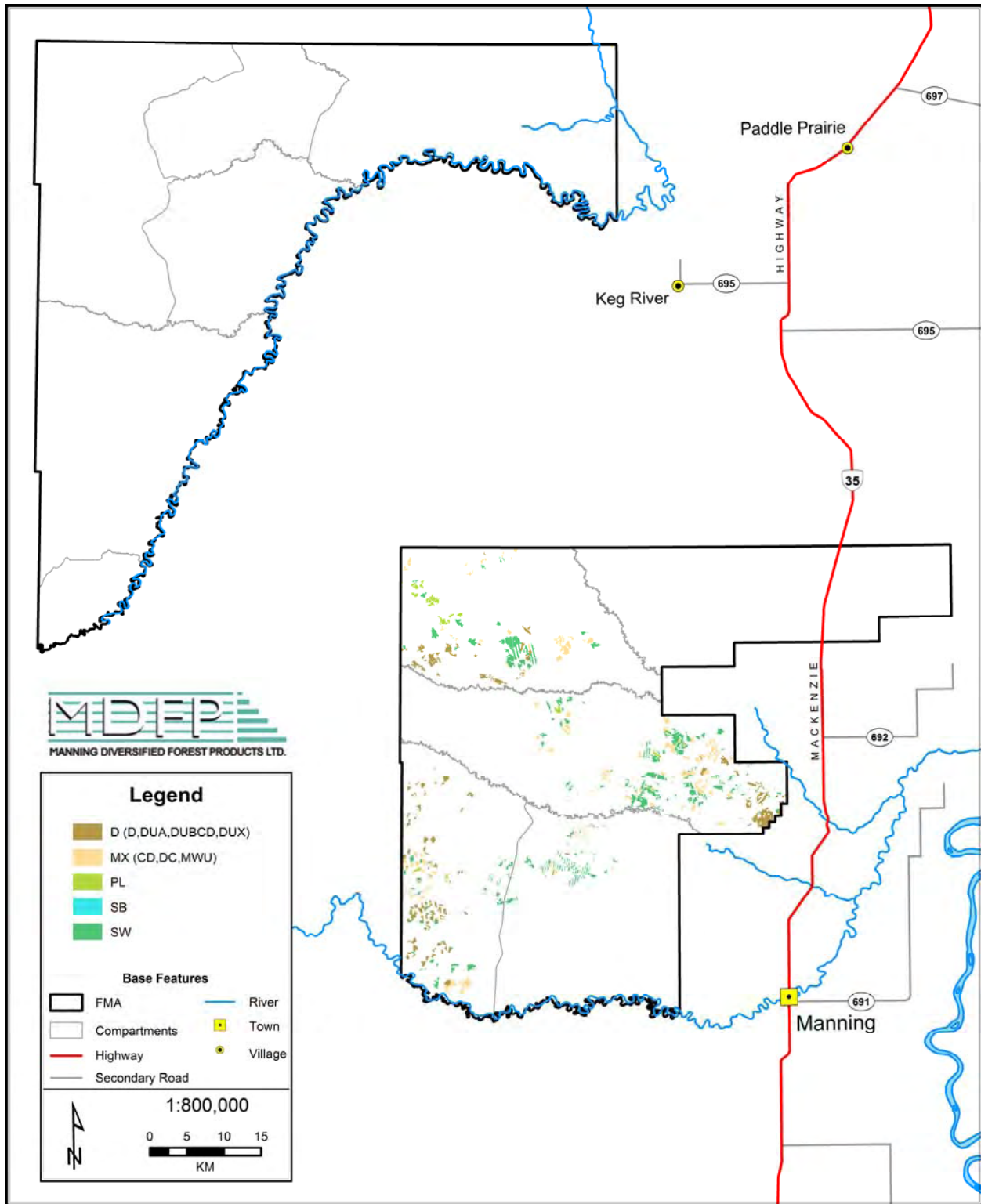
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	2,906	2,821	546	26	4,451	10,748
10	7,421	11,125	2,975	68	11,522	33,111
50	539	12,723	136	484	4,528	18,410
100	5,169	14,334	1,105	380	6,442	27,429
200	2,949	18,431	1,600	233	8,565	31,777

P9 - Active Landbase - Area of Regeneration seral stage, by broad cover class.

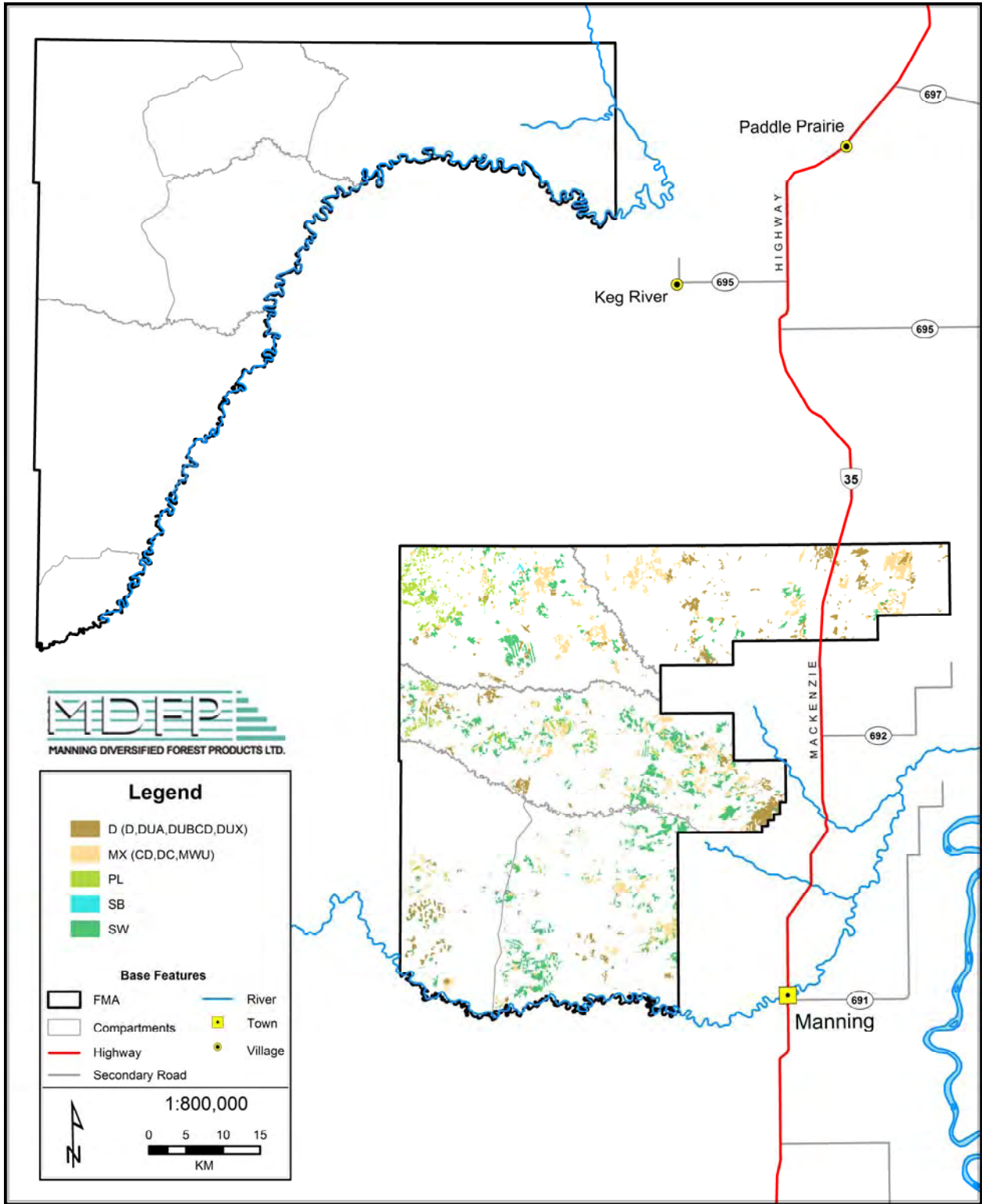
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	0	24	0	0	0	24
10	0	24	0	0	0	24
50	7,402	4,491	3,659	224	2,379	18,155
100	4,991	3,659	1,415	301	403	10,768
200	6,750	3,292	3,270	379	885	14,574

FMA - Active Landbase - Area of Regeneration seral stage, by broad cover class.

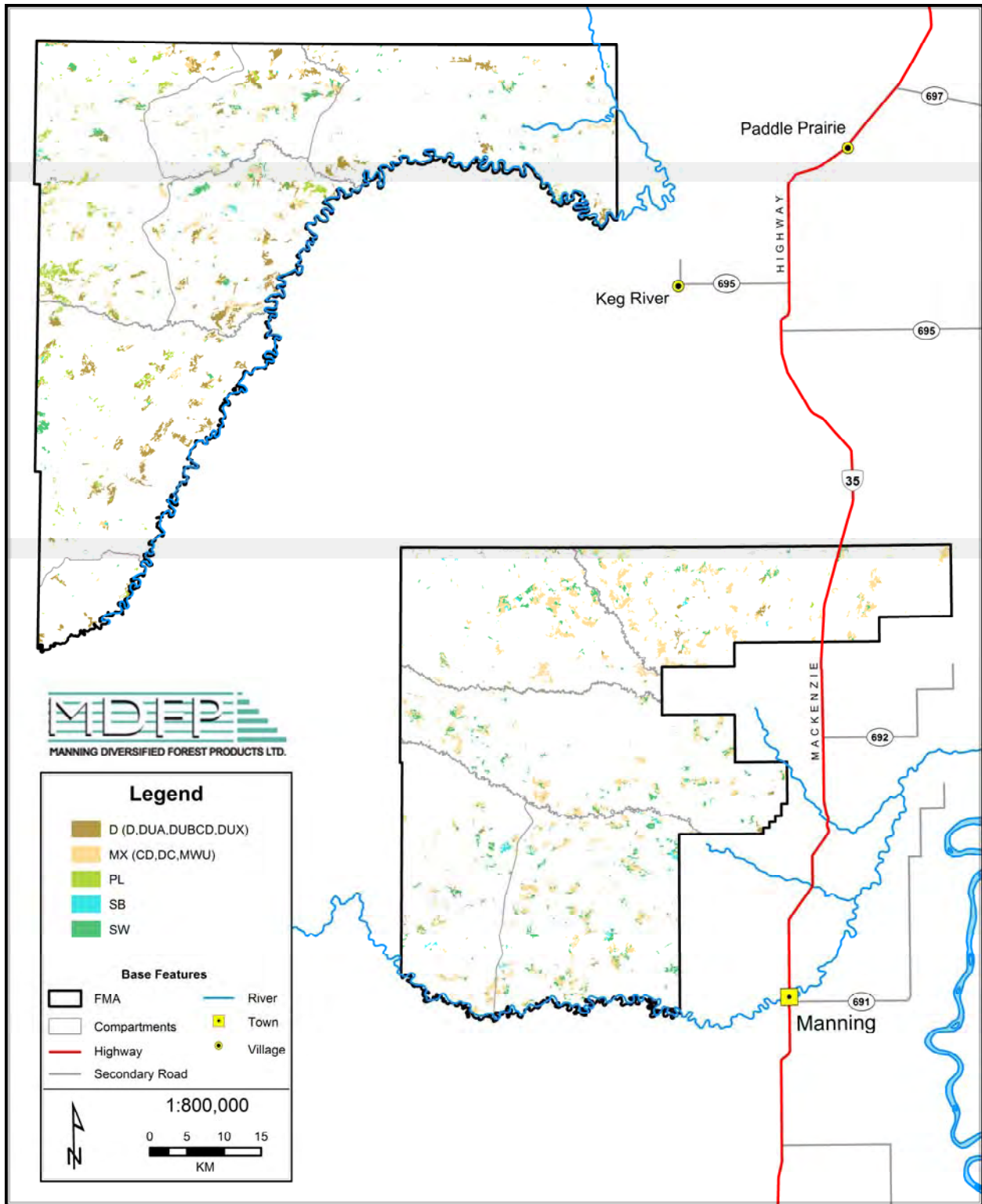
Year	Area (ha) by Stratum					Total (ha)
	D	MX	PL	SB	SW	
0	2,906	2,844	546	26	4,451	10,772
10	7,421	11,148	2,975	68	11,522	33,134
50	7,941	17,214	3,796	708	6,906	36,565
100	10,160	17,992	2,520	680	6,845	38,197
200	9,698	21,723	4,869	611	9,450	46,351



Area of Regeneration seral stage, by broad cover class (active landbase) - Year 0.



Area of Regeneration seral stage, by broad cover class (active landbase) - Year 10.



Area of Regeneration seral stage, by broad cover class (active landbase) - Year 50.



Gross Landbase - Age class distribution (hectares)

Year in Future	Age Class						Total
	0.1-20	21-40	41-60	61-100	101-140	140+	
0	17,499	25,711	154,234	204,594	91,588	18,186	511,811
10	35,711	25,055	25,807	302,514	103,778	18,890	511,755
50	46,434	50,828	34,231	49,850	246,045	84,367	511,755
100	49,902	49,283	45,220	87,031	32,369	248,118	511,923
200	77,664	52,849	49,325	86,320	30,850	214,945	511,953

Reporting - Performance

Variance reporting in the Stewardship Report.

Acceptable Variance

Area of old and mature forest in FMU by cover class shall be between 90% and 100% of target. Area of regenerating forest in FMA by broad cover class shall not exceed 110% of target area.

Response

Adjust strategies in subsequent FMP.

Monitoring and Measurement

Regular updates to inventory.

Notes

Seral stage definitions utilized for MDFP's FMA Area are defined for each cover class (i.e., each yield or TSA stratum has specific criteria). The definitions are provided in Section 4.3.7 in Timber Supply Analysis.

The current distribution of seral stages across the FMA Area strongly influences future conditions, particularly over the shorter term, such as ten years. For example, P9 currently has much less Mature and Old seral stage forest than P6 (Section 2.3 in **Forest Landscape Metrics**).

MDFP and DMI are only able to influence seral stage distribution within the active landbase. In the short term, forestry operations can only decrease the Old and Mature seral stages and increase the Regeneration seral stage (i.e., they can not 'create' Old and Mature, forests must age over time). Because the Companies only impact regeneration on the active landbase, targets have been restricted to this component of the landbase.

Seral stage distribution is considered for the full 200 year planning horizon for the Preferred Forest Management Scenario (PFMS) in the Timber Supply Analysis (TSA) (Section 5.5 in **Timber Supply Analysis** for the values over the 200 year horizon).

The TSA and the associated Spatial Harvest Sequence (SHS) incorporate seral stage distribution targets, therefore adherence to the SHS (**Timber Supply Analysis**) will ensure seral stage targets are met. Variance reporting will identify deviations from the SHS (Section 2.2 in **Monitoring and Research**).

**Objective 1.1.1.2: Maintain biodiversity by avoiding landscape fragmentation.*****Indicator A***

Range of patch¹ sizes by FMU and for the FMA.

Target

A distribution of harvest area sizes that, at year 10, are consistent with attaining a patch size pattern over the 200 year planning horizon that approximates patterns created by natural disturbances.

Means of Achieving Objective and Target

Spatial and temporal harvest planning. Patch size distribution targets are set for forest patches less than 20 years old.

Monitoring and Measurement

Regular updates to forest inventory.

Reporting- FMP

Tables of area of forest within the active landbase in each patch size class by FMU at 0, 10, and 50 years and maps of patch size classes at 0, 10 and 50 years are provided below.

¹ The Planning Standard defines a patch as a stand of forest in the same seral stage, and not split by a linear feature greater than 8 m wide. Linear features in this definition include roads, pipelines, powerlines and rivers but does not include seismic lines.

P6 - Disturbance patch sizes, by strata (Active Landbase).

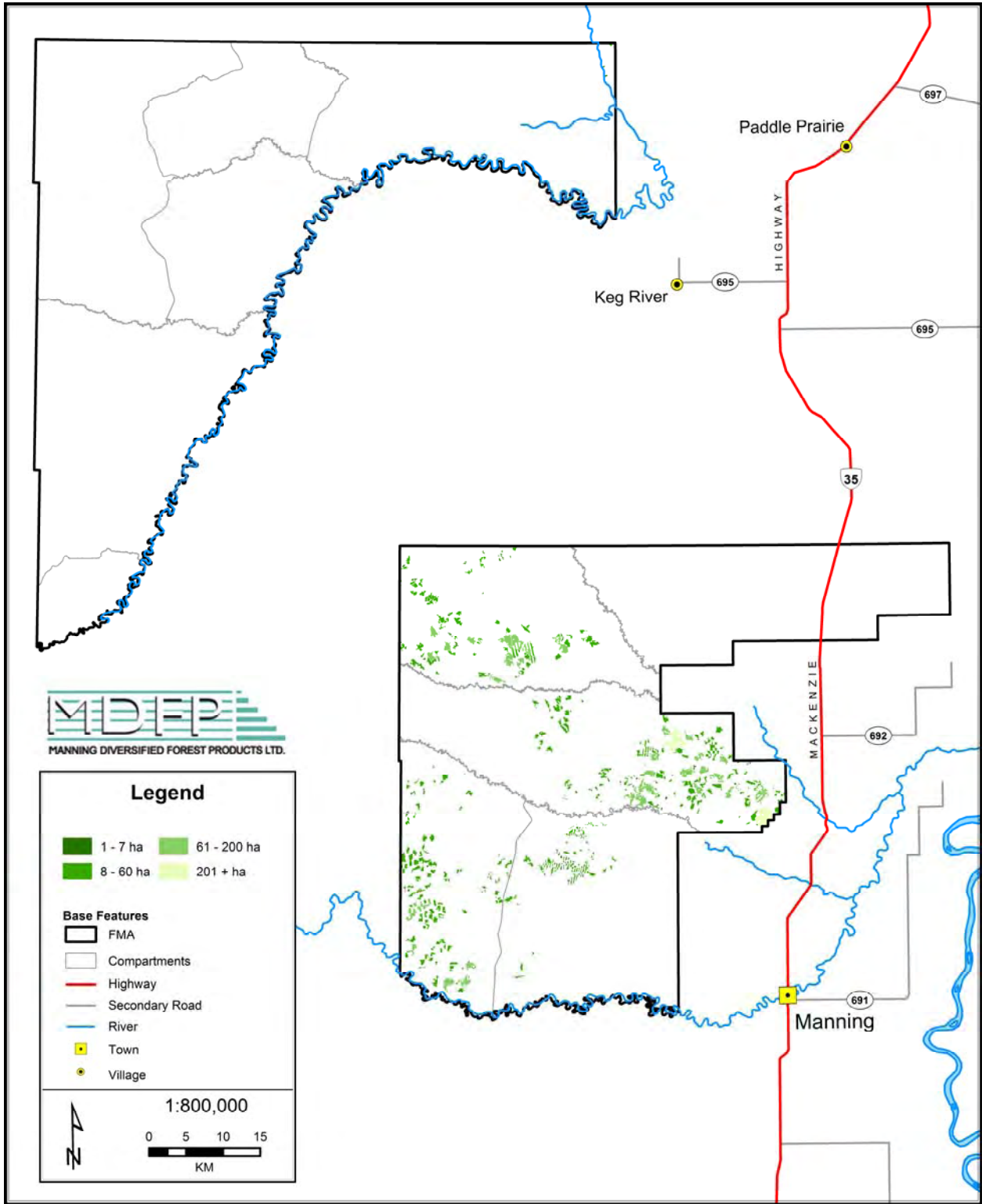
Year	Disturbance Patch Size (ha)	Area (ha) by Stratum					Total (ha)
		D	MX	PL	SB	SW	
0	0-7	140	219	34	1	403	797
	8-60	1,672	1,622	488	14	2,200	5,996
	61-200	831	848	27	10	1,581	3,298
	201+	379	131	0	0	279	789
Total		3,022	2,820	548	25	4,464	10,880
10	0-7	604	345	282	3	637	1,870
	8-60	2,860	2,877	984	31	3,302	10,055
	61-200	2,810	5,069	1,091	37	6,721	15,728
	201+	2,268	3,251	688	5	1,624	7,837
Total		8,541	11,543	3,044	76	12,285	35,490
50	0-7	273	578	147	13	322	1,335
	8-60	963	2,158	352	31	1,297	4,800
	61-200	1,902	15,397	1,003	258	7,627	26,187
	201+	17	1,962	243	0	195	2,418
Total		3,155	20,095	1,746	302	9,441	34,740

P9 - Disturbance patch sizes, by strata (Active Landbase).

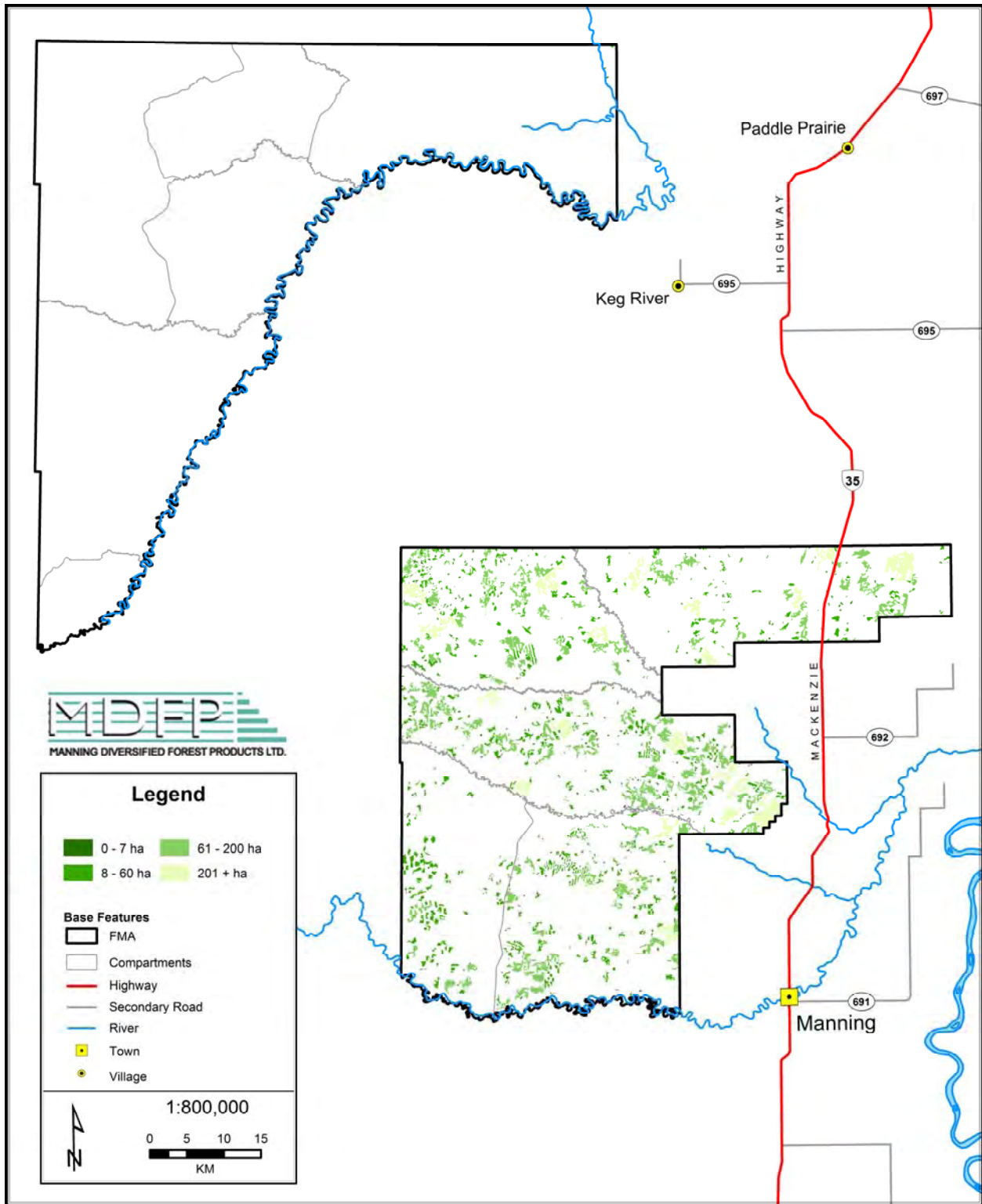
Year	Disturbance Patch Size (ha)	Area (ha) by Stratum					Total (ha)
		D	MX	PL	SB	SW	
0	0-7	0	12	0	0	0	12
	8-60	0	11	0	0	0	11
	61-200	0	0	0	0	0	0
	201+	0	0	0	0	0	0
Total		0	24	0	0	0	24
10	0-7	0	12	0	0	0	12
	8-60	0	11	0	0	0	11
	61-200	0	0	0	0	0	0
	201+	0	0	0	0	0	0
Total		0	24	0	0	0	24
50	0-7	61	202	518	10	76	867
	8-60	660	869	746	33	145	2,452
	61-200	5,798	2,660	2,543	352	1,040	12,393
	201+	2,046	174	0	0	0	2,221
Total		8,564	3,905	3,808	394	1,260	17,932

FMA - Disturbance patch sizes, by strata (Active Landbase).

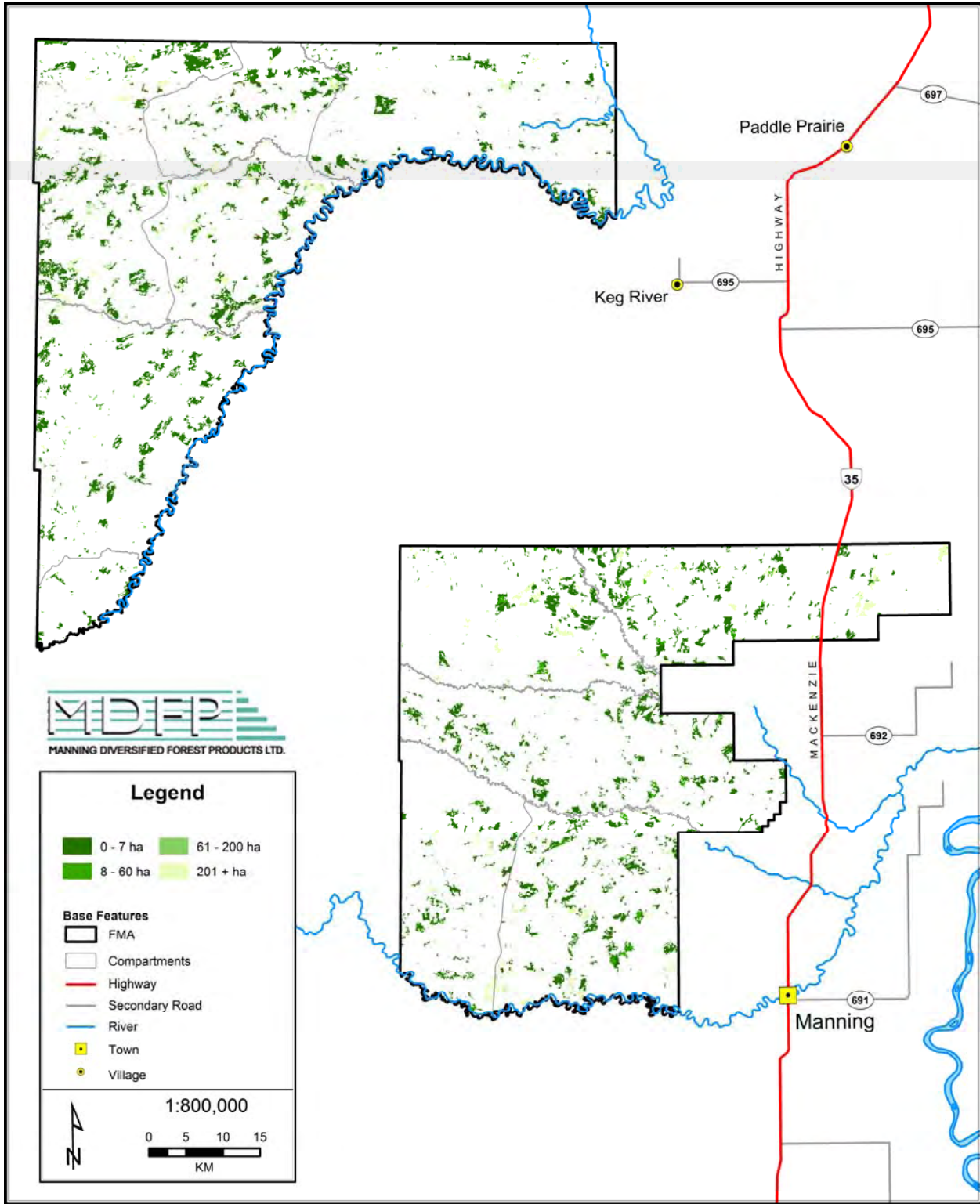
Year	Disturbance Patch Size (ha)	Area (ha) by Stratum					Total (ha)
		D	MX	PL	SB	SW	
0	0-7	140	231	34	1	403	809
	8-60	1,672	1,633	488	14	2,200	6,007
	61-200	831	848	27	10	1,581	3,298
	201+	379	131	0	0	279	789
Total		3,022	2,844	548	25	4,464	10,904
10	0-7	604	357	282	3	637	1,882
	8-60	2,860	2,889	984	31	3,302	10,066
	61-200	2,810	5,069	1,091	37	6,721	15,728
	201+	2,268	3,251	688	5	1,624	7,837
Total		8,541	11,567	3,044	76	12,285	35,513
50	0-7	334	781	666	23	398	2,201
	8-60	1,623	3,027	1,098	63	1,441	7,252
	61-200	7,700	18,057	3,546	610	8,666	38,579
	201+	2,063	2,137	243	0	196	4,639
Total		11,719	24,001	5,554	696	10,702	52,672



Disturbance Patch size (active landbase) – Year 0.



Disturbance Patch size (active landbase) – Year 10.



Disturbance Patch size (active landbase) – Year 50.

Reporting-Performance

Variance reporting in the Stewardship Report.

Acceptable Variance

At the end of the 10-year FMP term the target distribution is achieved; or demonstrated progress to achieving target in one rotation where the pattern has deviated significantly from the target.

Response

Adjust strategies in subsequent FMP.

Notes

Fire is the primary natural disturbance agent within the boreal forest. Historic fire information for northwestern Alberta and for MDFP's FMA specifically (Section 1 in FMA Area, Section 3 in Forest Landscape Metrics) indicate extreme variability in fire size and frequency. The vast majority of fires are quite small, while a few, very large fires account for much of the total area disturbed. As part of the Preferred Forest Management Strategy (PFMS) development, the Core Team targeted creation of patches 61 to 200 hectares in size (Section 5.16 in Timber Supply Analysis).

A patch is defined, by the SRD Planning Manual, as a stand of forest in the same seral stage that is not split by a linear feature greater than 8 m wide (i.e., roads, pipelines and river buffers should split patches but seismic lines should not). Because MDFP's spatial inventory did not include seismic lines, the TSA for this FMP split patches only when linear features were greater than 15 m wide so as not to cross permanent roads or watercourse buffers (see Section 6.16 in Timber Supply Analysis).

Patch size distribution is considered for the full 200 year planning horizon in the Timber Supply Analysis (TSA) (Section 6.16 in Timber Supply Analysis).

The TSA and the associated Spatial Harvest Sequence (SHS) incorporate harvest area size distribution targets, therefore adherence to the SHS will ensure size distribution targets are met (**Timber Supply Analysis**). Variance reporting will identify deviations from the SHS (Section 2.2 in **Monitoring and Research**).

**Objective 1.1.1.2: Maintain biodiversity by avoiding landscape fragmentation.*****Indicator B***

Area of Old Interior Forest² of each cover class by FMU and for the FMA.

Target

At 10 years, area of old interior forest of each cover class will not be less than the values indicated.

Means of Achieving Objective and Target

Spatial and temporal harvest planning.

Monitoring and Measurement

Regular updates to forest inventory.

Reporting - FMP

Maps and tables of Old Interior Forest within the gross landbase at 0, 10 and 50 years are provided below.

² The Planning Standard defines interior forest as a forested area greater than 100 hectares in size located beyond edge effect buffer zone along the forest edge. Edge effect buffer zone is 60 m where adjacent area is non-forested or less than 40 years old, 30 m where adjacent forest stand is 40 years of older and 0 m where adjacent stand is mature forest. A forest edge is a linear disruption in forest cover greater than 8 m wide or the line along which forest seral stage class changes.

P6 - Old Interior Forest patches, by strata (Gross Landbase).

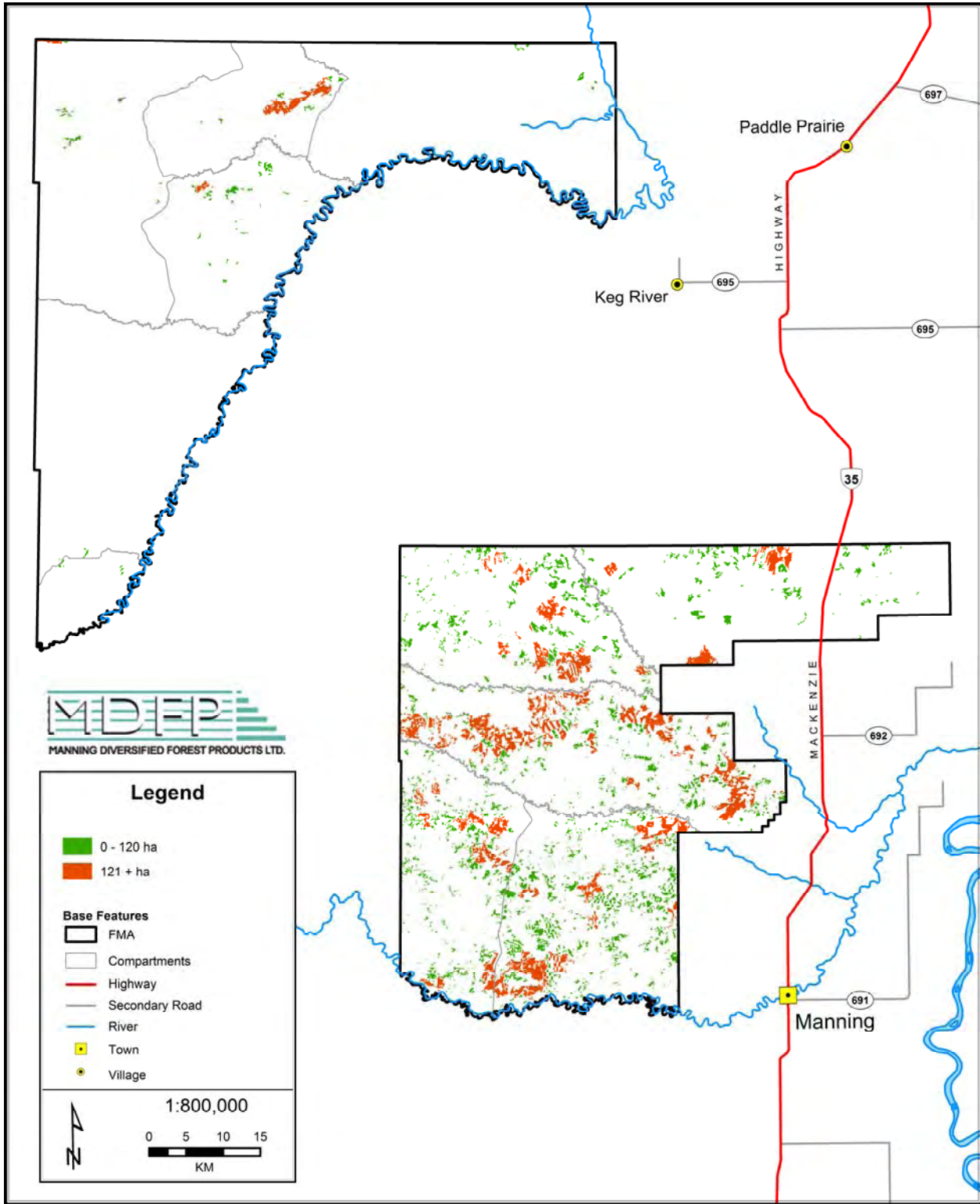
Year	Old Interior Patch Size (ha)	Area (ha) by Stratum					Total (ha)
		D	MX	PL	SB	SW	
0	0-120	1,807	3,144	796	3,983	12,846	22,576
	120+	4,452	3,598	578	4,492	9,911	23,032
Total		6,260	6,742	1,374	8,475	22,758	45,608
10	0-120	6,429	3,329	915	8,263	9,659	28,595
	120+	15,157	7,507	1,130	16,646	12,420	52,859
Total		21,586	10,835	2,045	24,909	22,080	81,454
50	0-120	7,339	8,829	623	13,220	5,833	35,844
	120+	6,068	6,539	2,888	14,526	3,793	33,814
Total		13,407	15,368	3,512	27,746	9,626	69,659

P9 - Old Interior Forest patches, by strata (Gross Landbase).

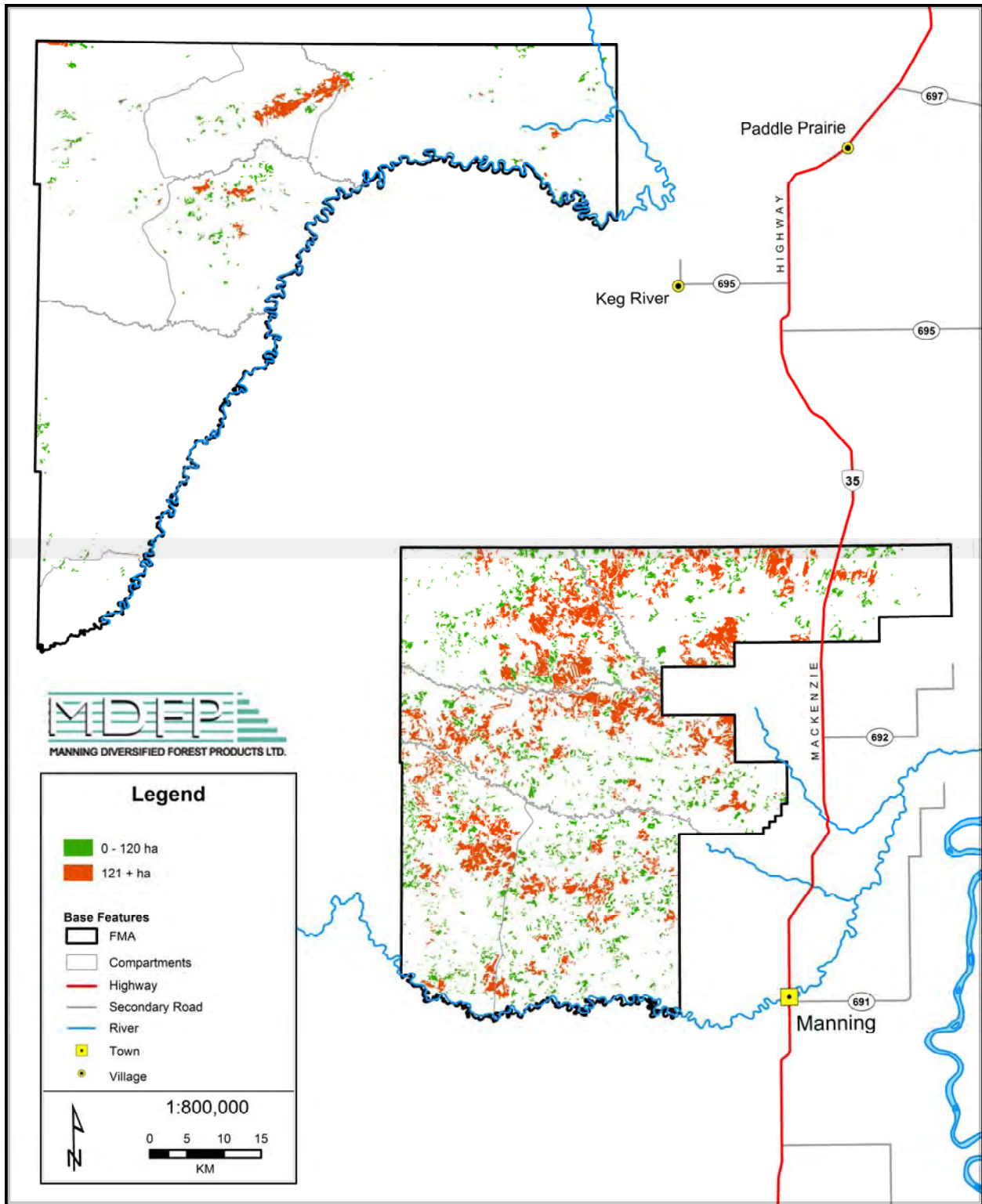
Year	Old Interior	Area (ha) by Stratum					Total (ha)
		D	MX	PL	SB	SW	
0	0-120	23	142	164	1,733	851	2,913
	120+	313	77	0	158	885	1,432
Total		336	219	164	1,891	1,736	4,345
10	0-120	827	520	274	2,653	2,254	6,528
	120+	684	873	0	1,721	1,762	5,040
Total		1,511	1,393	274	4,374	4,016	11,568
50	0-120	5,244	1,498	441	6,267	343	13,794
	120+	41,111	10,007	2,891	89,232	2,318	145,560
Total		46,355	11,506	3,333	95,500	2,661	159,353

FMA - Old Interior Forest patches, by strata (Gross Landbase).

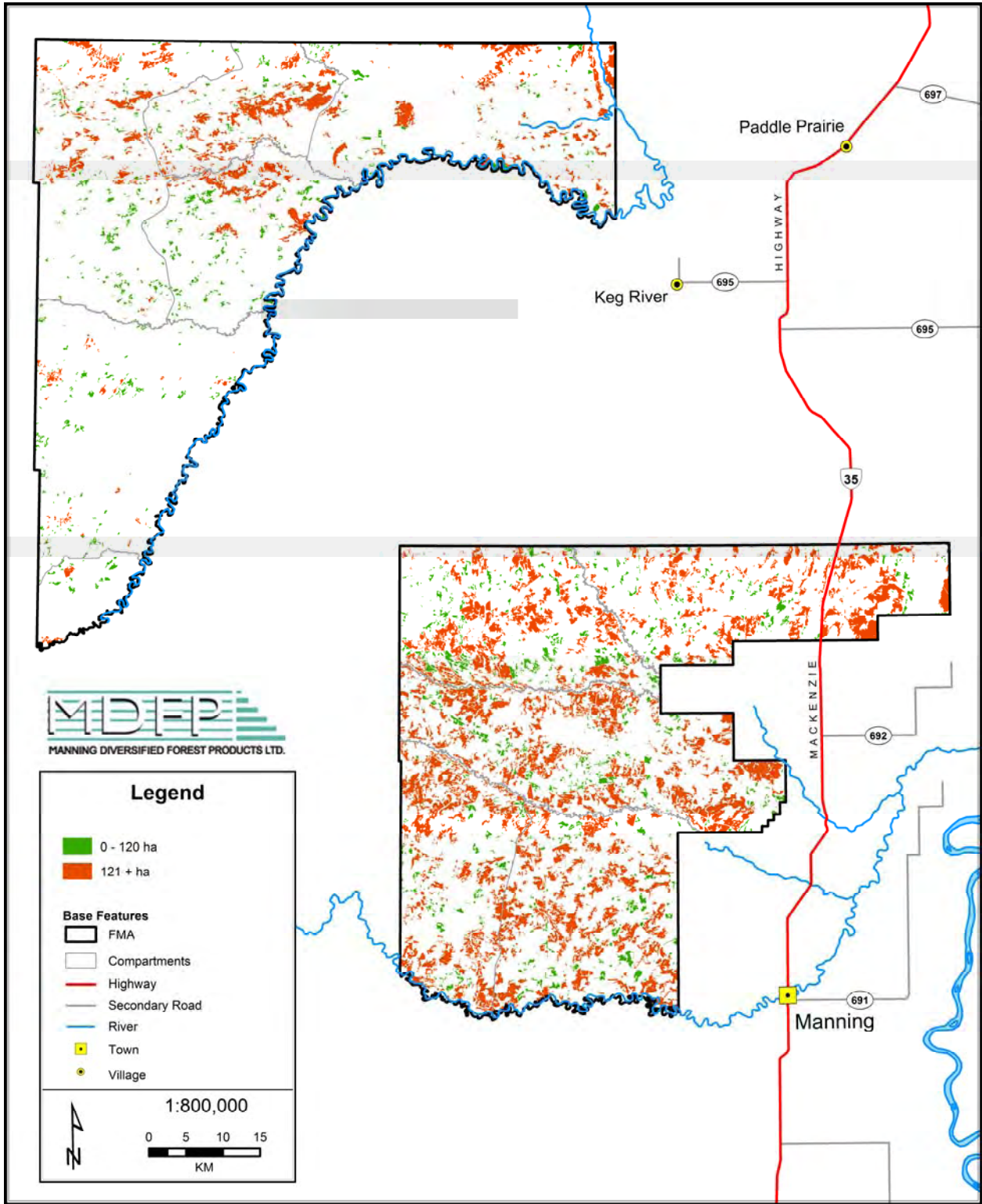
Year	Old Interior	Area (ha) by Stratum					Total (ha)
		D	MX	PL	SB	SW	
0	0-120	1,830	3,286	960	5,716	13,698	25,489
	120+	4,765	3,675	578	4,650	10,796	24,464
Total		6,596	6,961	1,537	10,366	24,494	49,954
10	0-120	7,256	3,849	1,189	10,916	11,914	35,123
	120+	15,841	8,379	1,130	18,367	14,182	57,899
Total		23,097	12,228	2,319	29,282	26,096	93,023
50	0-120	12,583	10,327	1,065	19,488	6,176	49,638
	120+	47,179	16,547	5,780	103,758	6,111	179,374
Total		59,762	26,873	6,844	123,245	12,287	229,012



Old Interior Forest patches (gross landbase) – Year 0.



Old Interior Forest patches (gross landbase) – Year 10.



Old Interior Forest patches (gross landbase) – Year 50.

Reporting - Performance

Variance reporting in the Stewardship Report.

Acceptable Variance

At the end of the 10 year FMP term, variance not exceeding 20% below target.

Response

Adjust strategies in subsequent FMP.

Notes

Unlike seral stages, Old Interior Forest is not differentiated on the basis of covertime (although it is reported by covertime). Because of this, a common age definition is used to define 'Old' to prevent breaking up areas with a common origin. For this FMP, stands 120 years or older were classified as 'Old' for purposes of identifying Old Interior Forest.

The definition of Old Interior Forest from the Planning Standard is difficult to model directly in the TSA using Patchworks© software, because of the complexity of the buffer zone rules. For purposes of incorporating the spatial requirements directly into the TSA model, a proxy of 120 hectares of forested area is utilized.

A forest edge is a linear disruption in forest cover greater than 8 m wide or the line along which forest seral stage class change

An Old Interior Forest patch as defined by the SRD Planning Manual, is not split by a linear feature greater than 8 m wide (i.e., roads, pipelines and river buffers should split patches but seismic lines should not). Because MDFP's spatial inventory did not include seismic lines, the TSA for this FMP split patches only when linear features were greater than 15 m wide so as not to cross permanent roads or watercourse buffers (see Section 6.17 in Timber Supply Analysis).

Old Interior Forest Distribution is considered for the full 200 year planning horizon in the Timber Supply Analysis (TSA) (Section 6.17 in Timber Supply Analysis).

The TSA and the associated Spatial Harvest Sequence (SHS) incorporate seral stage distribution targets, therefore adherence to the SHS will ensure Old Interior Forest targets are met (**Timber Supply Analysis**). Variance reporting will identify deviations from the SHS (Section 2.2 in **Monitoring and Research**).



Objective 1.1.1.3: Maintain biodiversity by minimizing access.

Indicator A

Open all-weather forestry road density by FMU.

Target

MDFP does not currently have any all-weather forestry roads. Density will be less than 0.017 km/km² within each FMU.

Means of Achieving Objective and Target

Develop a strategy that coordinates access with other resource users, spatial/temporal sequencing of harvest, road closures and decommissioning (SHS and long-term corridor access plan).

Monitoring and Measurement

Regular updates to forest inventory.

Reporting - FMP

A table showing existing all-weather forestry and other road density by FMU at 0 and 10 years is provided below. MDFP cannot forecast all-weather roads for other users at 10 years. No map of all-weather forestry roads is provided, since there are none currently and none are planned within the next 10 years.

FMU	Density (km/km ²) by Working Circle	MDFP/DMI		Other User	Total
		0 Years	10 Years	0 Years	0 Years
P6	WC - 1	0	0	0.07	0.07
	WC - 2	0	0	0.06	0.06
	WC - 3	0	0	0.21	0.21
	WC - 4	0	0	0.09	0.09
	WC - 5	0	0	0.02	0.02
	Total - P6	0	0	0.10	0.10
P9	WC - 6	0	0	0.26	0.26
	WC - 7	0	0	0.00	0.00
	WC - 8	0	0	0.00	0.00
	WC - 9	0	0	0.00	0.00
	WC - 10	0	0	0.00	0.00
	WC - 11	0	0	0.00	0.00
	Total - P9	0	0	0.01	0.01

Reporting - Performance

Road construction, both planned and actual, is reported in the AOP and will also be summarized in the Stewardship Report.

Acceptable Variance

A variance not exceeding $\pm 20\%$ must be achieved.

Response

Adjust strategies in subsequent FMP.

Notes

Because MDFP conducts all its harvesting and silviculture operations during the winter months and DMI conducts the majority of its operations during the winter months, the Companies do not require extensive all-weather road access. Sufficient all-weather road access is available through MD and industrial all-weather roads. MDFP and DMI currently do not have any all-weather forestry roads and there are no plans to construct any over the term of this DFMP (i.e., 2007 to 2017). However, should some access development be required, the target density of 0.017 km/km^2 will not be exceeded.

Although the acceptable variance specified by the Planning Standard places bounds on both the minimum and maximum road density (i.e., $\pm 20\%$), the Companies will minimize its road density, regardless of acceptable variance criteria.

As part of the FMP process, Manning Diversified has developed an Access Corridor Plan for the FMA Area which identifies access corridors for the term of the FMP (Section 2.3 in **FMP Implementation**). The Company's Road Planning, Construction, Maintenance Reclamation and Monitoring Strategy (Section 2 in **FMP Implementation**) details steps taken to reduce the need for construction of new access, including all-weather road access. It also provides details regarding road design, construction, etc.

MDFP has determined the total length (all user) of open all-weather roads within the FMA Area using available access information and local knowledge of road surface (i.e., spatial access information available to FMA holders does not allow accurate, up-to-date determination of the total road network or of the grade of road). Company all-weather road information is accurate. Details regarding this reporting process are provided in Section 2.2 in **Monitoring and Research**.



Objective 1.1.1.3: Maintain biodiversity by minimizing access.

Indicator B

Open seasonal/temporary forestry road length for FMA.

Target

Less than 350 km within the FMA.

Means of Achieving Objective and Target

Road construction, maintenance and reclamation activities.

Monitoring and Measurement

Road planning and construction will be addressed in the FMA's OGRs (road planning is addressed in section 11.2 of Alberta's Timber Harvest Planning and OGRs Framework for Renewal).

Reporting - Performance

Road construction, both planned and actual, is reported in the AOP and will also be summarized in the Stewardship Report.

Acceptable Variance

A variance not exceeding +/- 20% must be achieved.

Response

Adjust strategies in subsequent AOPs.

Notes

In-block roads are excluded from the determination of seasonal/temporary forestry road.

Although the acceptable variance specified by the Planning Standard places bounds on both the minimum and maximum number of kilometers of open seasonal/temporary roads (i.e., $\pm 20\%$), MDFP and DMI will minimize their open roads, regardless of acceptable variance criteria.

Manning Diversified's Road Planning, Construction, Maintenance Reclamation and Monitoring Strategy (Section 2 in **FMP Implementation**) details steps taken to reduce the need for construction of new access, including seasonal/temporary roads. It also provides details regarding road design, construction, etc.

Objective 1.1.1.4: Maintain plant communities uncommon in FMA or province.*Indicator*

Area of occurrence of each uncommon plant community within the FMA.

Target

Percentage of identified communities will be maintained as indicated. Percentage will be reviewed with ANHIC as communities are identified.

CEAB000043 – Populus balsamifera/Viburnum opulus/Matteuccia struthiopteris – 100%

CEAB000044 – Populus tremuloides/Rubus parviflorus/Aralia nudicaulis – 100%

Means of Achieving Objective and Target

Coordinating with other resource users, spatial planning of harvest and road construction, OGR.

Monitoring and Measurement

Regular updates to inventory.

Reporting - FMP

Community Characterization abstracts for both communities are located in Appendix III? In FMA Resources. No known locations of these uncommon plant communities within the FMA Area, therefore no maps of locations provided in the FMP.

Reporting - Performance

As locations are identified, they will be reported in Stewardship Report.

Acceptable Variance

At the end of the 10-year FMP term, the target is achieved.

Response

Adjust strategies in subsequent AOPs.

Notes

Uncommon plant communities within Alberta have been identified by Alberta Natural Heritage Information Centre. Communities which could potentially be found within the FMA Area were identified by ANHIC staff. Only forest/woodland communities were included in the target (Section 3 in **FMA Resources**).



Initially, a target of 100% maintenance of uncommon plant communities has been set. As additional information regarding the occurrence of these communities within northwestern Alberta and within the Province as a whole is gained, the maintenance targets will be adjusted, with input from ANHIC staff.

MDFP's Unique Finds Policy identifies Company expectations regarding reporting of finds as well as the Company's commitment to education of staff and contractors with regard to unique finds (Section 7.1 in **FMP Implementation**).

Objective 1.1.1.5: Maintain unique habitats provided by wildfire and blowdown events.

Indicator A

Area of unsalvaged burned forest.

Target

Live trees: Retain all unburned trees in green islands and retained patches, recognizing timber condition, access, non-timber needs.

Burned trees – Compartment scale: Retain greater than 10% of merchantable black trees in patches greater than 100 hectares.

Burned trees – Harvest area scale: Retain greater than 10% of merchantable black trees in patches 10-100 hectares. Retain greater than 5% of merchantable black trees in small patches, single trees according to loggers’ choice.

Means of Achieving Objective and Target

Salvage planning.

Monitoring and Measurement

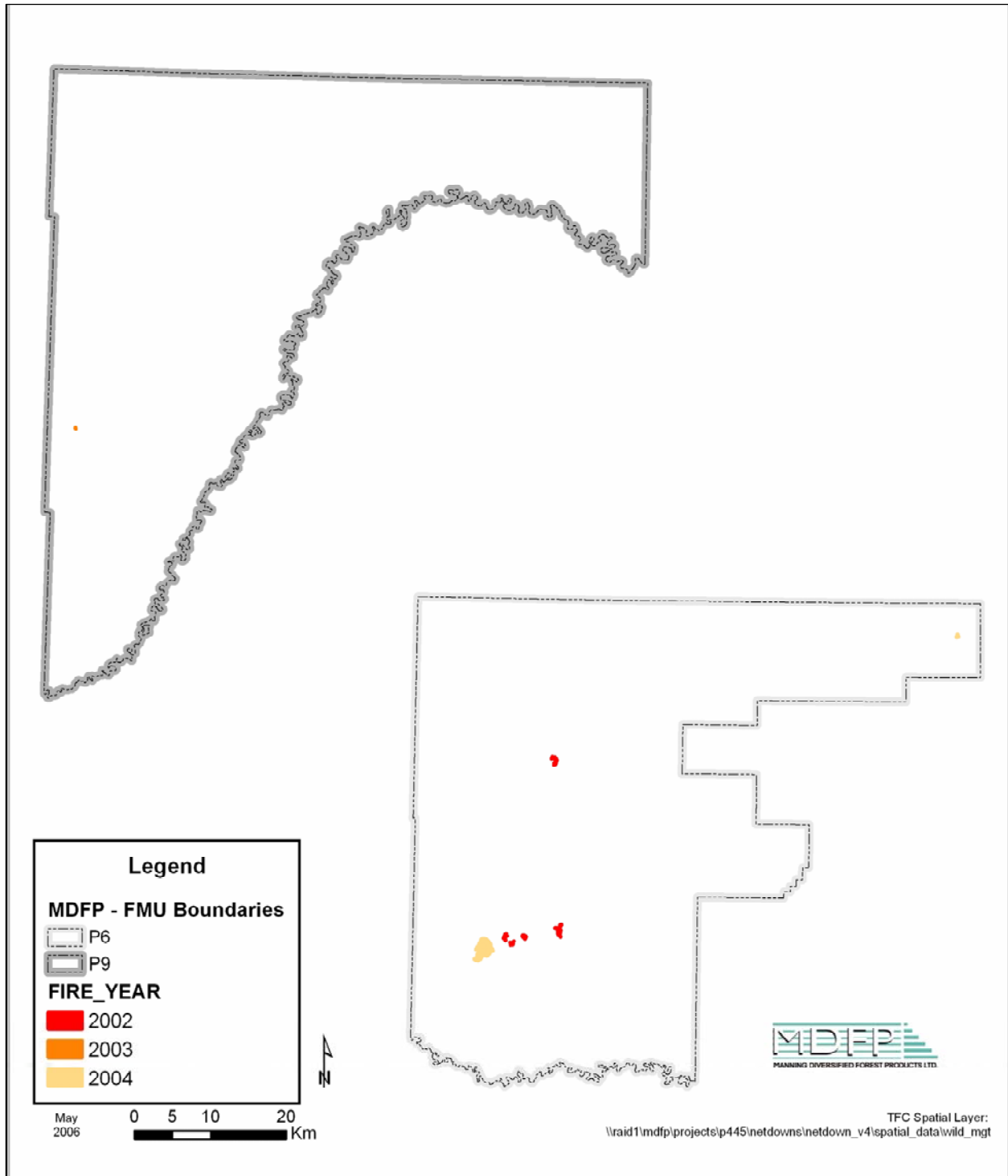
Organization reports, air photo interpretation, ground surveys, post harvest assessments.

Reporting - FMP

A table (with areas) and map of natural disturbances within the last 10 years is provided below.

Total salvage during this period was 411 m³. Since this represents an extremely small salvage area (e.g., a couple of hectares) this has not been indicate in the table or on the map.

Year	Burn Area (ha)
2002	91.5
2003	1.9
2004	368.5
Total	461.9



Natural disturbances with the FMA Area within the last 10 years.



Reporting - Performance

Area of unsalvaged burned forest is reported in the Stewardship Report.

Acceptable Variance

At the end of the 10-year FMP term the target is achieved or exceeded.

Response

Adjust strategies in subsequent AOPs.

Notes

Salvage of windthrow is addressed in section 2.4.3 in **FMP Implementation**.

Monitoring of salvage related to wildfire or windthrow is addressed in Section 2.2 in **Monitoring and Research**.



Objective 1.1.1.5: Maintain unique habitats provided by wildfire and blowdown events.

Indicator B

Area of unsalvaged blowdown.

Target

In areas of significant blowdown greater than 10% of the stems will be left unsalvaged.

Means of Achieving Objective and Target

Salvage planning.

Monitoring and Measurement

Inventory updates.

Reporting - Performance

Area of unsalvaged blowdown is reported in the Stewardship Report.

Acceptable Variance

At the end of the 10-year FMP term the target is achieved or exceeded.

Response

Adjust strategies in subsequent AOPs.

Notes

Salvage of windthrow is addressed in section 2.4.3 in **FMP Implementation**.

Monitoring of salvage related to wildfire or windthrow is addressed in section 2.2 in **Monitoring and Research**.

Objective 1.1.1.6: Retain ecological values and functions associated with riparian zones.*Indicator*

Compliance with OGRs.

Target

Consistent with OGRs.

Means of Achieving Objective and Target

Planning, TSA, OGRs.

Monitoring and Measurement

Organization reports, air photo interpretation, ground surveys, post harvest assessments or other existing compliance monitoring systems.

Reporting - Performance

Non-compliance with OGRs will be reported in the Stewardship Report.

Acceptable Variance

No variance.

Response

Immediate remedial action and/or administrative penalty.

Notes

Compliance with OGRs is a requirement.

Riparian buffers have been included in the TSA assumptions (section 2 in **Landbase Netdown**).



Value 1.1.2 - Local/stand scale biodiversity

Objective 1.1.2.1: Retain stand level structure.

Indicator A

Percentage of area with residual structure (both living and dead) within a harvest area, representative of the status (live/dead), sizes and species of the overstorey trees by FMU and FMA.

Target

A combination of single stems, clumps, and patches comprising 6% of the harvested area within FMUs. (Note: A wide range in variability in harvest area-level retention is desired as long as the target level is achieved.)

Means of Achieving Objective and Target

Implement Structural Retention Strategy and OGRs.

Monitoring and Measurement

Organization reports, air photo interpretation, retention surveys, post harvest assessments.

Reporting - Performance

Stewardship Report (as per Structural Retention Strategy).

Acceptable Variance

At the end of the 10-year FMP term, the target is achieved or exceeded.

Response

Adjust strategies in subsequent FMP.

Notes

Across the landscape, forested areas have been retained through the inclusion of various Management Zones (e.g., Twin Lakes, Notikewin), watercourse buffers and non-merchantable (non-productive) stands. These retention areas account for approximately 50% of the FMA Area (Section 5 in Landbase Netdown).

Stand level structural retention strategies are discussed in Section 3.4 in **FMP Implementation**.

The 6% retention will be comprised of up to 3% non-merchantable volume. Although some portion of the conifer target (e.g., up to 3% or half) can be derived from non-merchantable forests, the total contribution from the non-merchantable forest can not be determined with any certainty, therefore the Companies have assumed that the full 6% reduction in AAC will be derived from the productive landbase. This errs on the conservative side in terms of the AAC (i.e., the anticipated TSA drain is likely larger than the actual drain).





Objective 1.1.2.1: Retain stand level structure.

Indicator B

Percentage of harvested area, by compartment, with downed woody debris³ equivalent to pre-harvest conditions.

Target

50% of harvest areas have downed woody debris equivalent to pre-harvest conditions retained on site. Average downed woody debris in post-harvest blocks will be equivalent to pre-harvest average downed woody debris.

Means of Achieving Objective and Target

Organizational standards.

Monitoring and Measurement

MDFP has developed a monitoring protocol which involves establishment of Downed Woody Debris sample transects in a sample of its harvest blocks.

Reporting - Performance

The Stewardship Report will include the percent of harvested area that has downed woody debris levels equivalent to pre-harvest conditions.

Acceptable Variance

At the end of the 5 year term, the target will be met.

Response

Adjust strategies in subsequent FMP.

Notes

Forest harvesting operations generally result in an increase in Downed Woody Debris within a harvest block, since debris is generated but not removed. Control of excess Downed Woody Debris within harvest blocks is maintained by burning of piled debris after completion of harvest activities.

MDFP's Permanent Sample Plot program will provide pre-harvest average Downed Woody Debris density/volume for comparison with post-harvest conditions (section 2.3 in **Monitoring and Research**). Post-harvest conditions will be monitored by MDFP and DMI using the FMA's Downed Woody Debris Monitoring Protocol (Section 2.2 in **Monitoring and Research**). If average pre and post-harvest Downed Woody Debris conditions are equal, it is expected that 50% of the post-harvest blocks will meet

³ Wood lying at an angle of less than 45 degrees from the ground and having a diameter greater than 7.5 cm.



or exceed pre-harvest density/volume and 50% will have equal/lower density/volume (based on a normally distributed population).

**Objective 1.1.2.2: Maintain integrity of sensitive sites.*****Indicator***

Sensitive sites (e.g. mineral licks, major game trails) by FMU and FMA.

Target

Implement Unique Finds Policy, which is consistent with provincial guidelines/OGRs, to identify and maintain sensitive sites.

Means of Achieving Objective and Target

MDFP's Unique Finds Policy is presented in Section 7.1 in **FMP Implementation**.

Standards for sensitive site protection have been developed in the Timber Harvest Planning and Operating Ground Rules (OGRs).

Monitoring and Measurement

Organization reports, air photo interpretation, ground surveys.

Reporting - Performance

Sensitive sites protected will be reported by Operating Area.

Acceptable Variance

None.

Response

Adjust strategies in subsequent AOPs.

Notes

MDFP's Unique Finds Policy is presented in Section 7.1 in **FMP Implementation**.

Objective 1.1.2.3: Maintain aquatic biodiversity by minimizing impacts of water crossings.*Indicator*

Forestry water crossings within each FMU are in compliance with the Code of Practice for Water Course Crossings.

Target

Designs meet standards of the Code of Practice for Water Course Crossings.

Means of Achieving Objective and Target

Road construction, maintenance and reclamation activities.

Monitoring and Measurement

Water Course Crossings will be addressed in the FMA's OGRs (road planning and design is addressed in section 11.2 and watercourse crossings in section 11.4 of Alberta's Timber Harvest Planning and OGRs Framework for Renewal).

Reporting - Performance

AOPs summarize number of crossings by types within each FMU by compliance status.

Acceptable Variance

None.

Response

Act immediately to eliminate problems and adjust strategies in subsequent AOPs.

Notes

Road construction, maintenance and reclamation strategies, including monitoring and remediation, are outlined in Section 2 in **FMP Implementation**.



Value 1.2.1 - Viable populations of identified plant and animal species

Objective 1.2.1.1: Maintain habitat for identified high value species (i.e. economically valuable, socially valuable, species at risk, species of management concern).

Indicator A

Area of suitable woodland caribou habitat.

Target

- 1 - TSA and SHS incorporates caribou habitat strategy within the Caribou Zone.
- 2 - TSA and SHS incorporates caribou habitat strategy within the Caribou Zone and Alternative Patch Management Area.

Means of Achieving Objective and Target

SHS, harvest plans, road construction, OGRs, Provincial caribou guidelines.

Monitoring and Measurement

Regular updates to forest inventory.

Reporting - FMP

Tables of area (ha) of deciduous and mixedwood patches less than 30 years of age within the active landbase (see *Notes* below) at 0, 10, 50, 100 and 200 years and maps at 0, 10 and 50 years.

P6 - Deciduous and mixedwood disturbance patch size (less than 30 years old, Active Landbase within Caribou Zone).

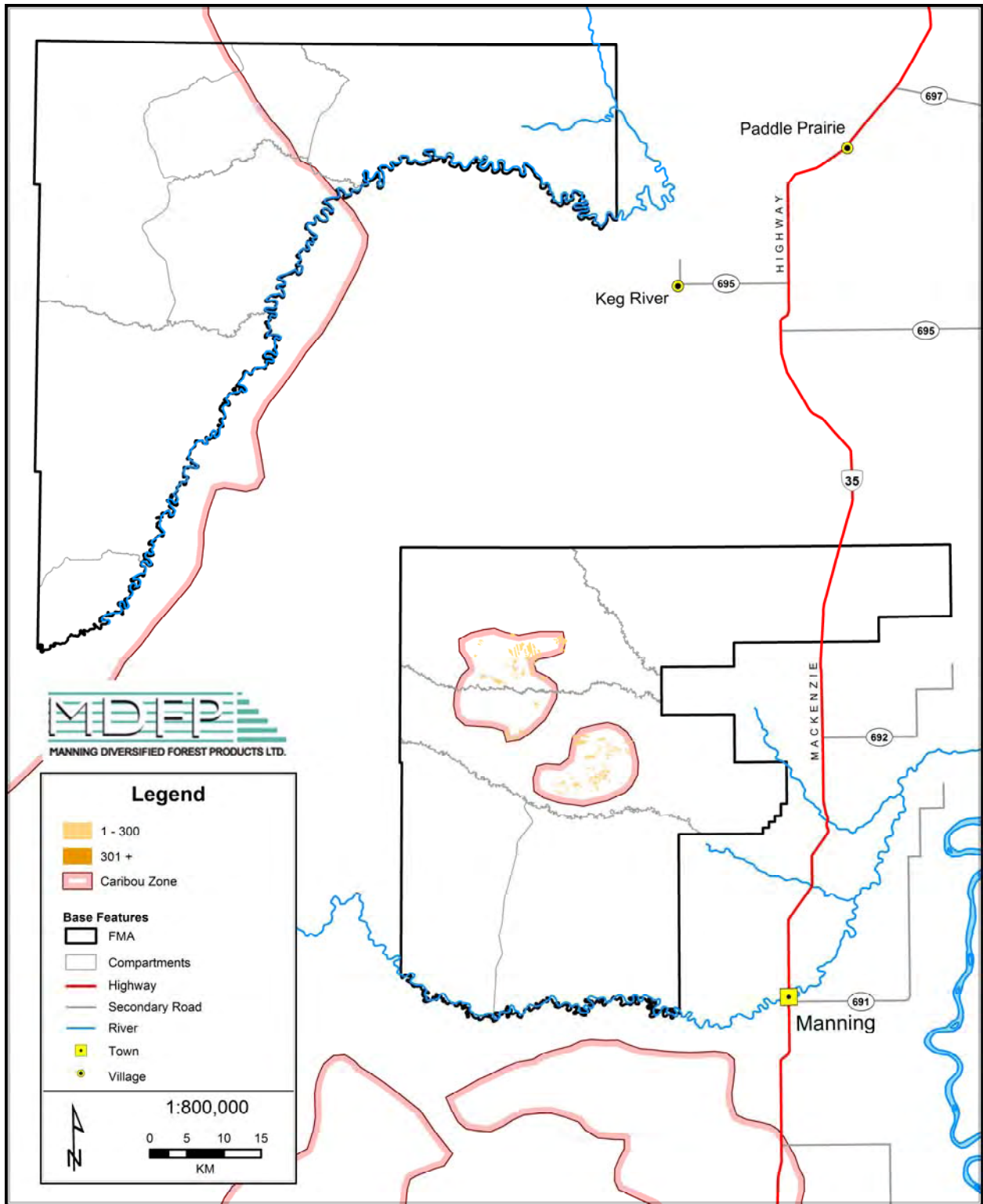
Year	Patch Size (ha)	Area (ha) by Stratum		Total (ha)
		D/MX	PL/SB/SW	
0	0-300	726	682	1,409
	301+	140	814	954
Total		866	1,497	2,363
10	0-300	1,960	691	2,650
	301+	593	874	1,467
Total		2,552	1,565	4,117
50	0-300	1,452	271	1,723
	301+	3,910	1,385	5,295
Total		5,362	1,656	7,018
100	0-300	1,836	280	2,116
	301+	1,565	528	2,093
Total		3,401	808	4,209
200	0-300	2,606	417	3,023
	301+	1,141	224	1,364
Total		3,747	641	4,387

P9 - Deciduous and mixedwood disturbance patch size (less than 30 years old, Active Landbase within Caribou Zone).

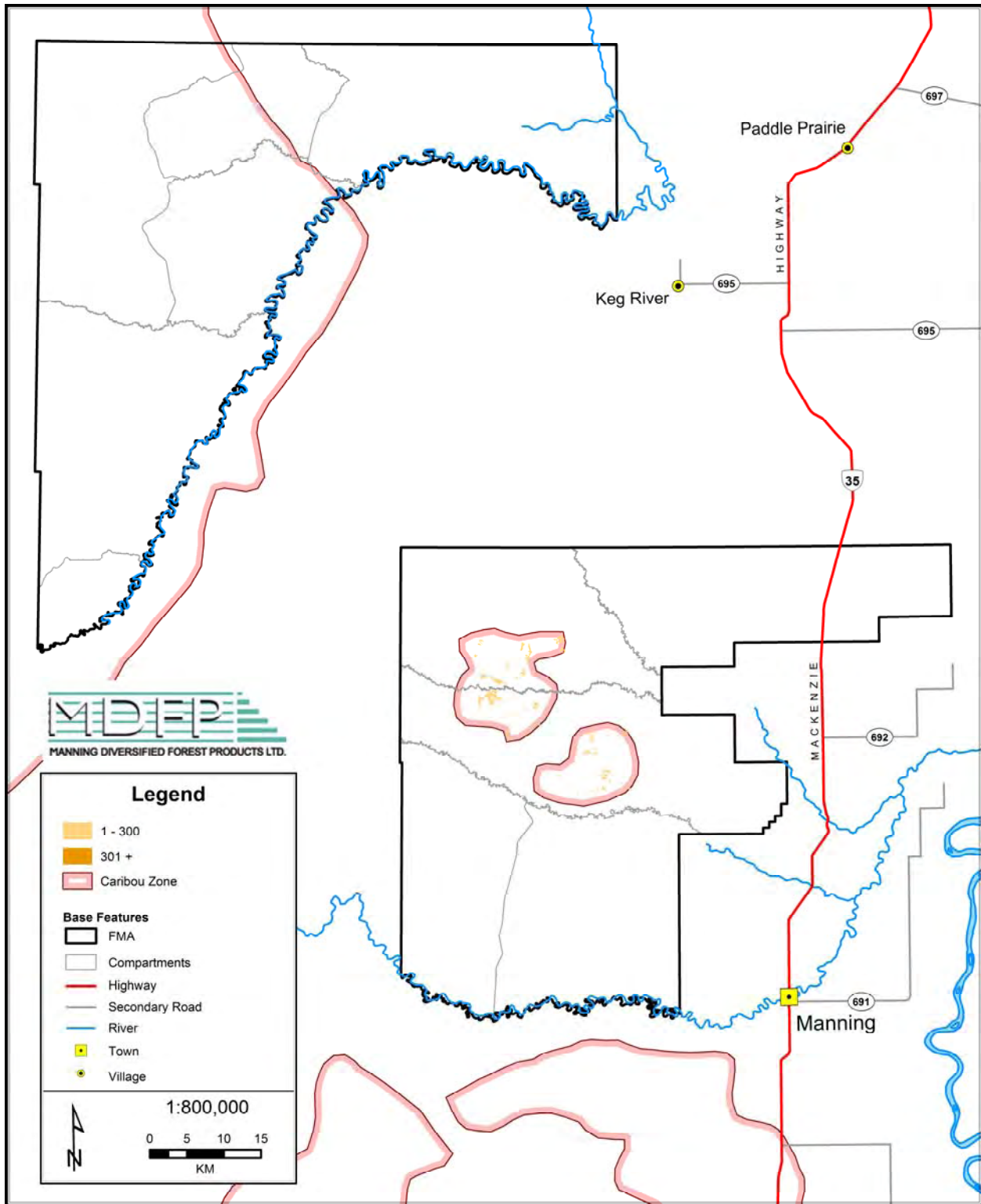
Year	Patch Size (ha)	Area (ha) by Stratum		Total (ha)
		D/MX	PL/SB/SW	
0	0-300	169	829	999
	301+	0	0	0
Total		169	829	999
10	0-300	830	2,037	2,866
	301+	73	114	187
Total		902	2,151	3,053
50	0-300	4,196	1,623	5,818
	301+	5,107	2,785	7,891
Total		9,302	4,407	13,710
100	0-300	4,024	298	4,323
	301+	17,828	1,314	19,142
Total		21,852	1,613	23,465
200	0-300	4,301	434	4,735
	301+	19,419	1,991	21,410
Total		23,719	2,425	26,145

FMA - Deciduous and mixedwood disturbance patch size (less than 30 years old, Active Landbase within Caribou Zone).

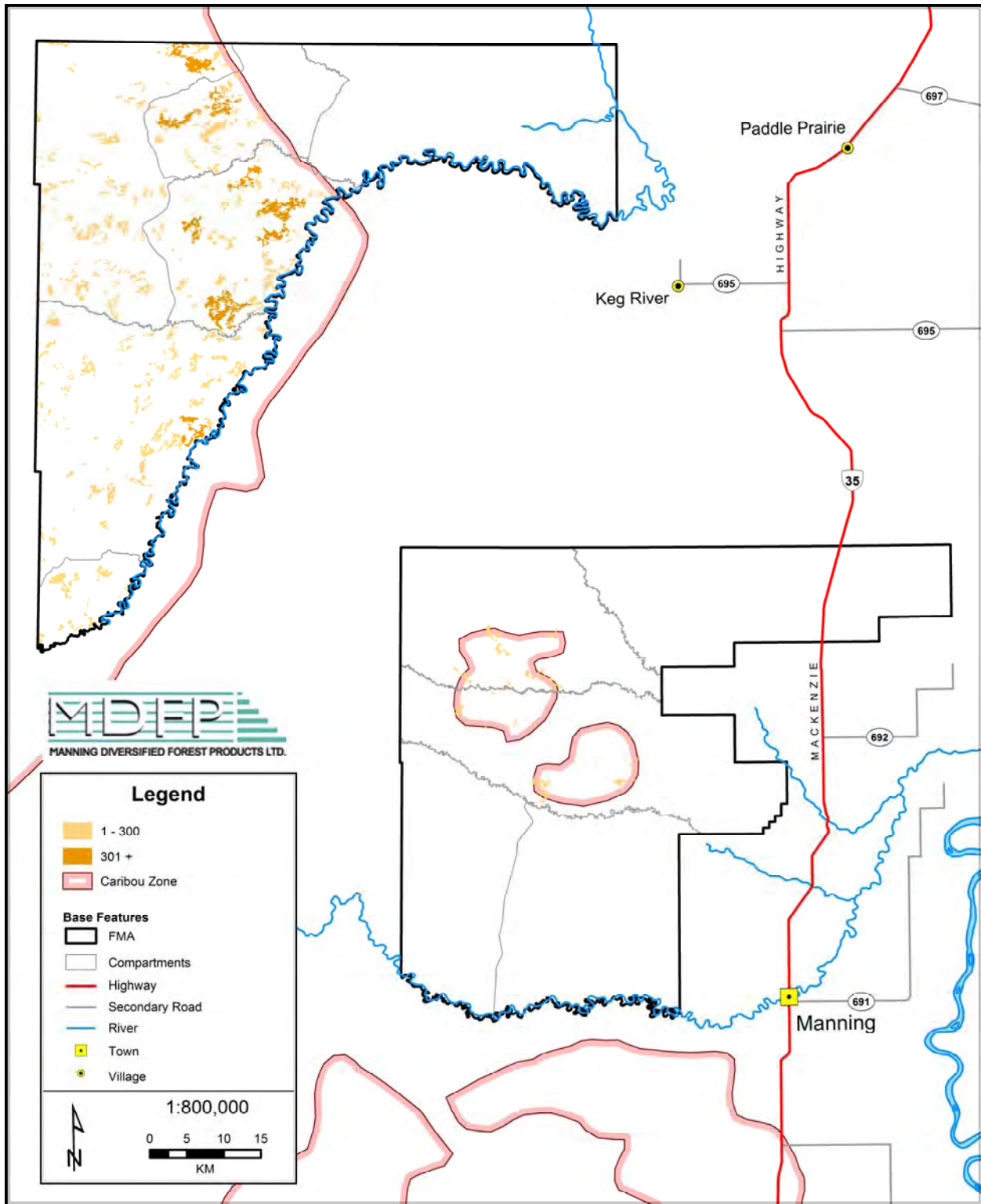
Year	Patch Size (ha)	Area (ha) by Stratum		Total (ha)
		D/MX	PL/SB/SW	
0	0-300	896	1,512	2,408
	301+	140	814	954
Total		1,036	2,326	3,362
10	0-300	2,789	2,727	5,516
	301+	665	988	1,653
Total		3,455	3,715	7,170
50	0-300	5,648	1,894	7,542
	301+	9,017	4,169	13,186
Total		14,664	6,063	20,728
100	0-300	5,860	578	6,438
	301+	19,393	1,843	21,236
Total		25,253	2,421	27,674
200	0-300	6,907	852	7,758
	301+	20,559	2,214	22,774
Total		27,466	3,066	30,532



Deciduous and mixedwood disturbance patch size (less than 30 years old) within the Caribou Zone (active landbase) – Year 0.



Deciduous and mixedwood disturbance patch size (less than 30 years old) within the Caribou Zone (active landbase) – Year 10.



Deciduous and mixedwood disturbance patch size (less than 30 years old) within the Caribou Zone (active landbase) – Year 50.

P6 - Deciduous and mixedwood disturbance patch size (less than 30 years old, Active Landbase within Caribou Zone and APMA).

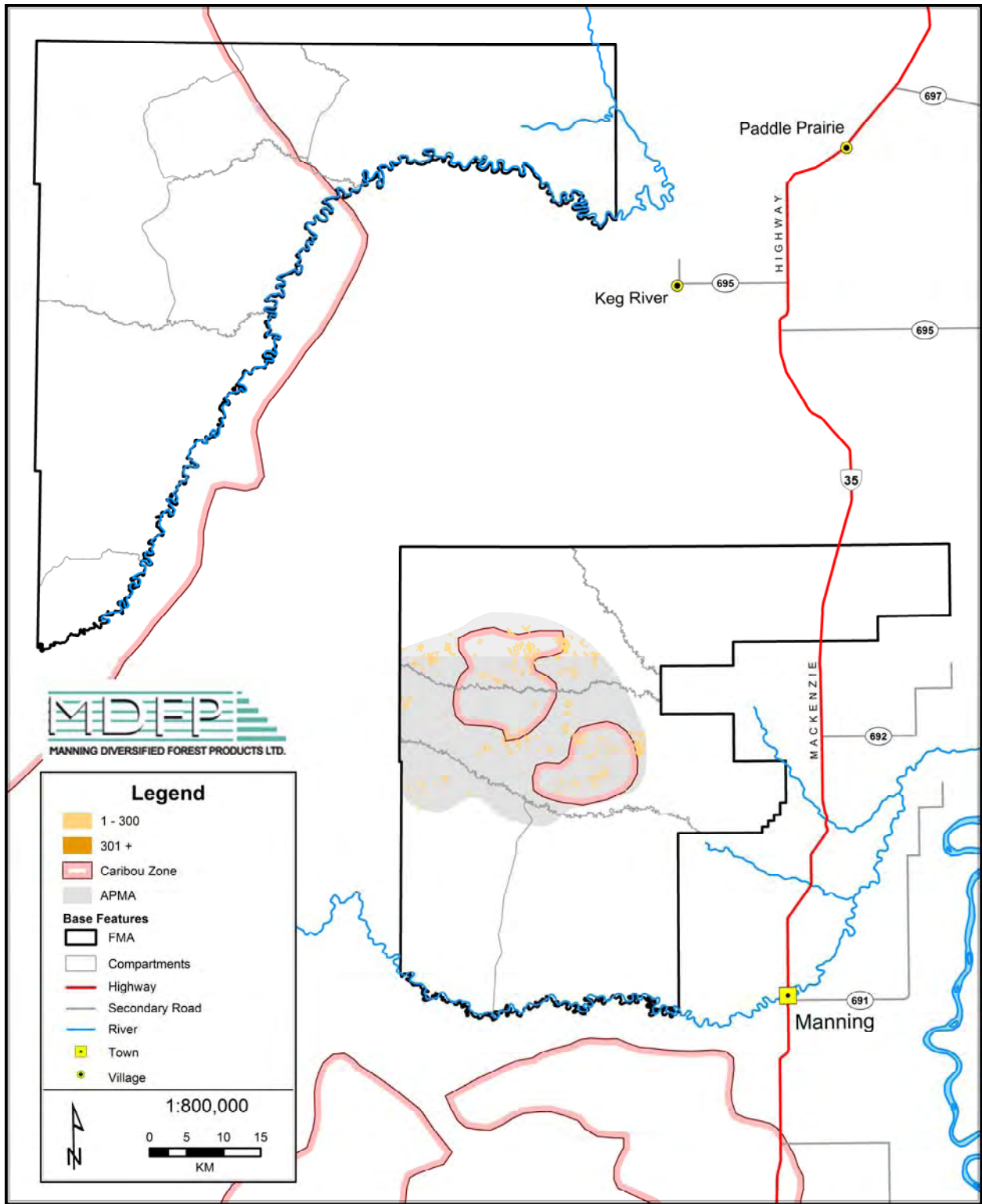
Year	Patch Size (ha)	Area (ha) by Stratum		Total (ha)
		D/MX	PL/SB/SW	
0	0-300	1,955	2,669	4,623
	301+	1,995	2,667	4,662
Total		3,950	5,336	9,285
10	0-300	4,051	2,296	6,347
	301+	5,125	3,047	8,171
Total		9,176	5,342	14,518
50	0-300	3,543	837	4,380
	301+	12,300	4,436	16,736
Total		15,843	5,274	21,117
100	0-300	4,584	757	5,342
	301+	5,016	1,205	6,221
Total		9,601	1,962	11,563
200	0-300	7,056	1,181	8,237
	301+	3,893	731	4,624
Total		10,948	1,912	12,860

P9 - Deciduous and mixedwood disturbance patch size (less than 30 years old, Active Landbase within Caribou Zone and APMA).

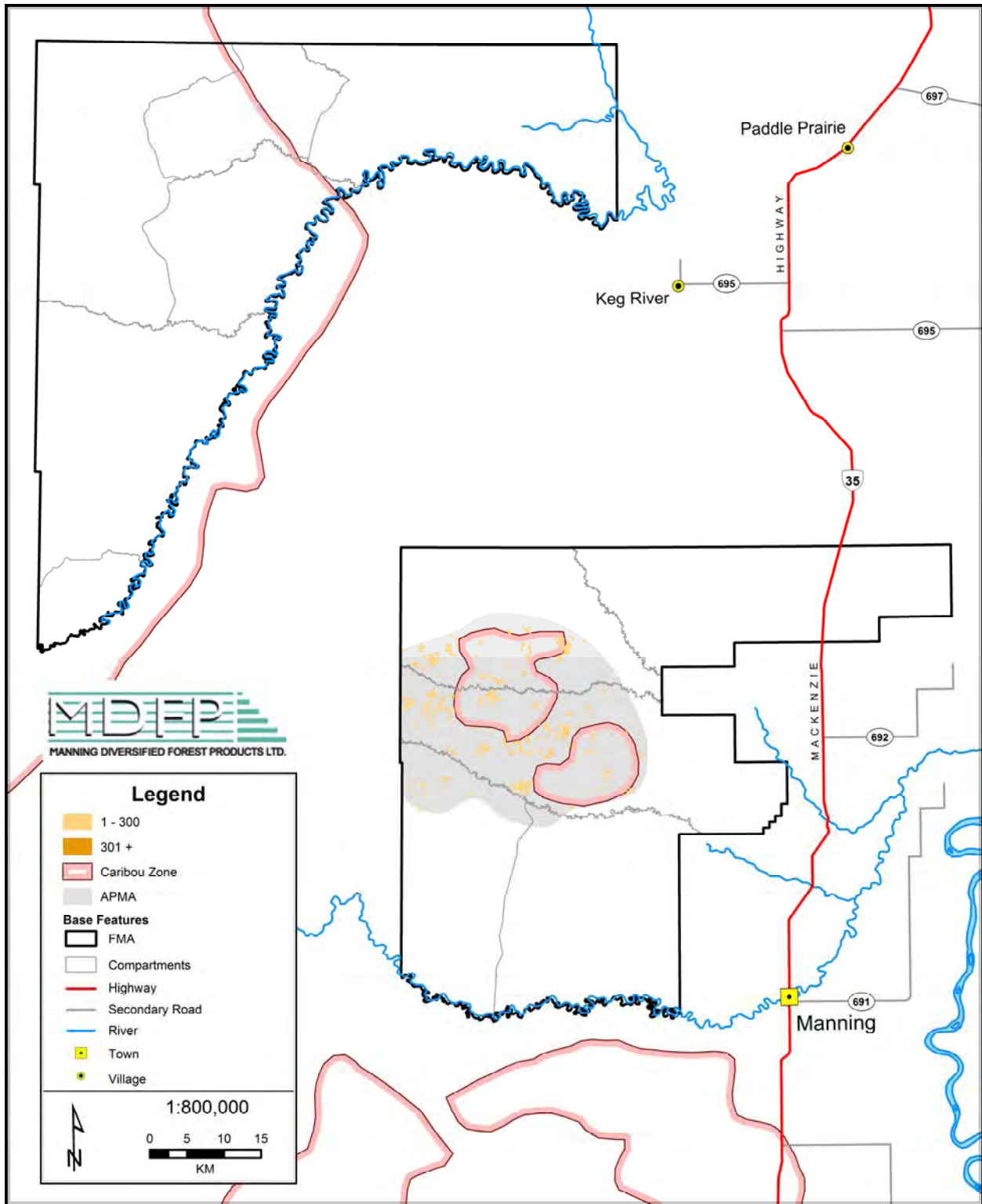
Year	Patch Size (ha)	Area (ha) by Stratum		Total (ha)
		D/MX	PL/SB/SW	
0	0-300	169	829	999
	301+	0	0	0
Total		169	829	999
10	0-300	830	2,037	2,866
	301+	73	114	187
Total		902	2,151	3,053
50	0-300	4,196	1,623	5,818
	301+	5,107	2,785	7,891
Total		9,302	4,407	13,710
100	0-300	4,024	298	4,323
	301+	17,828	1,314	19,142
Total		21,852	1,613	23,465
200	0-300	4,301	434	4,735
	301+	19,419	1,991	21,410
Total		23,719	2,425	26,145

FMA - Deciduous and mixedwood disturbance patch size (less than 30 years old, Active Landbase within Caribou Zone and APMA).

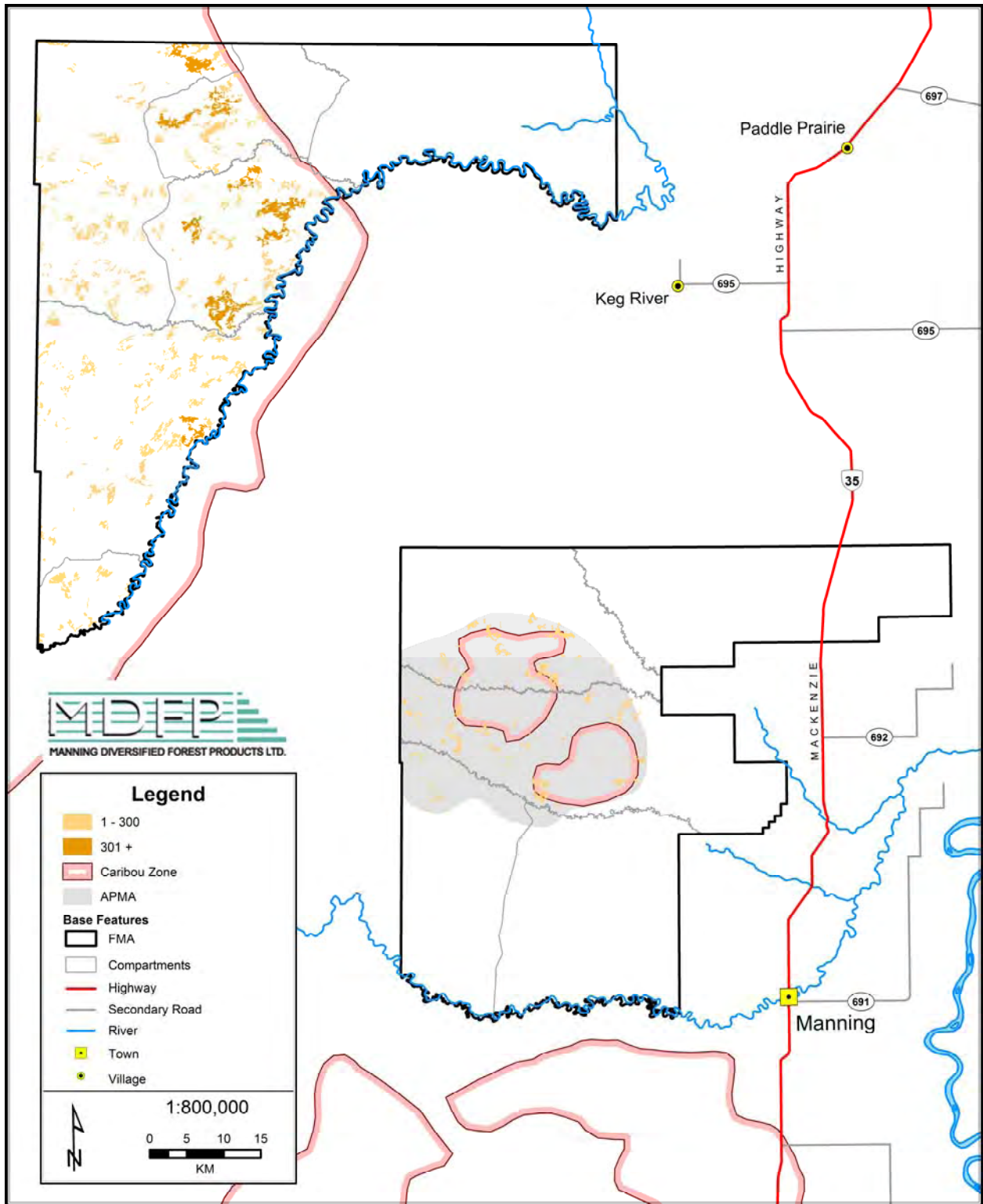
Year	Patch Size (ha)	Area (ha) by Stratum		Total (ha)
		D/MX	PL/SB/SW	
0	0-300	2,124	3,498	5,622
	301+	1,995	2,667	4,662
Total		4,119	6,165	10,284
10	0-300	4,881	4,332	9,213
	301+	5,197	3,161	8,358
Total		10,078	7,493	17,571
50	0-300	7,739	2,460	10,199
	301+	17,407	7,221	24,628
Total		25,146	9,681	34,827
100	0-300	8,609	1,056	9,664
	301+	22,844	2,519	25,364
Total		31,453	3,575	35,028
200	0-300	11,356	1,616	12,972
	301+	23,311	2,722	26,033
Total		34,668	4,337	39,005



Deciduous and mixedwood disturbance patch size (less than 30 years old) within the Caribou Zone and the APMA (active landbase) – Year 0.



Deciduous and mixedwood disturbance patch size (less than 30 years old) within the Caribou Zone and the APMA (active landbase) – Year 10.



Deciduous and mixedwood disturbance patch size (less than 30 years old) within the Caribou Zone and the APMA (active landbase) – Year 50.

Reporting - Performance

Variance reporting in Stewardship Report.

Acceptable Variance

None

Response

Adjust strategies in subsequent FMP.

Notes

Woodland caribou habitat requirements were a key consideration in the determination of the Preferred Forest Management Scenario within the Caribou Zone and the Alternative Patch Management Area. The Caribou Habitat Management Strategy (Section 7.2.1 in **FMP Implementation**) describes caribou habitat consideration incorporated into the Preferred Forest Management Scenario and resulting Spatial Harvest Sequence.

The TSA and the associated Spatial Harvest Sequence incorporate woodland caribou habitat considerations, therefore adherence to the SHS will ensure habitat requirements are met. Variance reporting will identify deviations from the SHS (see Section 2.2 in **Monitoring and Research**).



Objective 1.2.1.1: Maintain habitat for identified high value species (i.e. economically valuable, socially valuable, species at risk, species of management concern).

Indicator B

Area of suitable grizzly bear habitat.

Target

Continue support of Foothills Model Forest Grizzly Bear Project and its habitat mapping efforts.

Means of Achieving Objective and Target

MDFP is a partner with the Foothills Model Forest Grizzly Bear Program. A key objective of the Project is expansion of their grizzly bear habitat modeling efforts to northwestern Alberta.

Monitoring and Measurement

Foothill Model Forest communications.

Reporting- Performance

Support will be noted in Stewardship Report.

Acceptable Variance

Support conditional on FMF program progress.

Response

None.

Notes

The Foothills Model Forest currently plans to adapt its grizzly habitat mapping protocols to northwestern Alberta within the next few years. MDFP anticipates that this habitat model will be available and will be utilized in subsequent FMPs.

Objective 1.2.1.1: Maintain habitat for identified high value species (i.e. economically valuable, socially valuable, species at risk, species of management concern).

Indicator C

Existing habitat for trumpeter swan.

Target

Maintain a 200 m buffer around all lakes with trumpeter swan nesting sites.

Means of Achieving Objective and Target

Spatial Harvest Sequence, harvest plans.

Monitoring and Measurement

Spatial Harvest Sequence, AOPs.

Reporting - FMP

Swan nesting lakes are identified, buffered and excluded from the operating landbase and SHS.

Reporting - Performance

AOPs incorporate buffers around swan nesting lakes.

Acceptable Variance

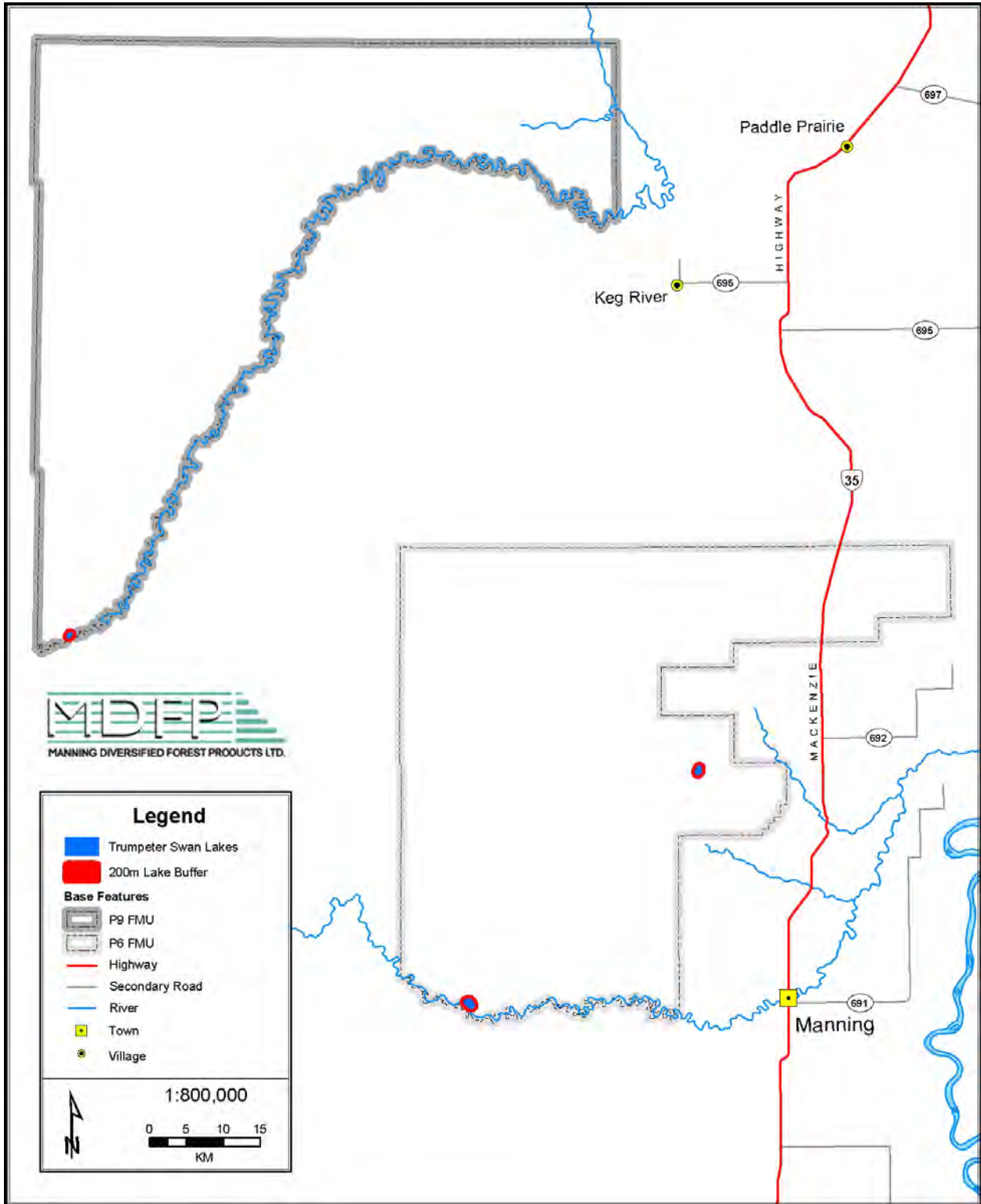
None.

Response

Adjust strategies in subsequent FMP.

Notes

The TSA and the associated Spatial Harvest Sequence (SHS) incorporate trumpeter swan nesting site considerations (i.e., 200 m buffer, section 2 in **Landbase Netdown**), therefore adherence to the SHS will ensure nesting habitat requirements are met. Variance reporting will identify deviations from the SHS (Section 2.2 in **Monitoring and Research**).



Trumpeter swan nesting lakes and associated buffers.

Objective 1.2.1.1: Maintain habitat for identified high value species (i.e. economically valuable, socially valuable, species at risk, species of management concern).

Indicator D

Area of suitable black-throated green warbler and cape may warbler habitat.

Target

Cooperate with Alberta to test available black-throated green and cape may warbler habitat models for applicability to northwestern Alberta.

Means of Achieving Objective and Target

Cooperation with ASRD.

Monitoring and Measurement

Communication with ASRD.

Reporting - Performance

Progress noted in Stewardship Report.

Acceptable Variance

None.

Response

Adjust strategies in subsequent FMP.

Notes

MDFP anticipates that habitat models for the warblers will be available and will be utilized in subsequent FMPs.



Objective 1.2.1.1: Maintain habitat for identified high value species (i.e. economically valuable, socially valuable, species at risk, species of management concern).

Indicator E

Existing habitat for northern pikeminnow.

Target

Maintain Notikewin Habitat Zone, which buffers only known pikeminnow habitat within the FMA.

Means of Achieving Objective and Target

Spatial Harvest Sequence, harvest plans.

Monitoring and Measurement

Spatial Harvest Sequence, AOPs

Reporting - FMP

Zone excluded from AAC and Spatial Harvest Sequence.

Reporting - Performance

AOPs incorporate Notikewin Habitat Zone.

Acceptable Variance

None.

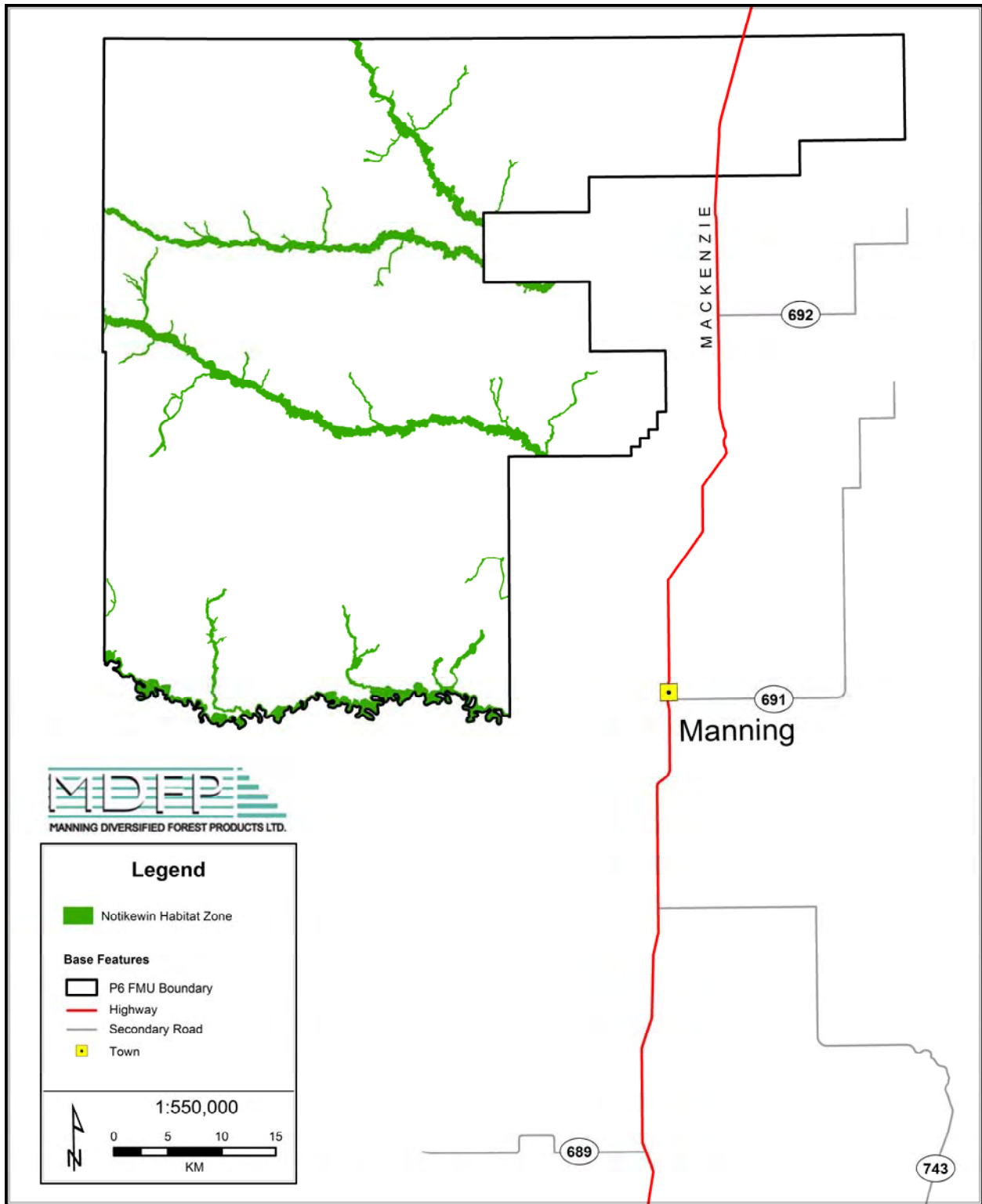
Response

Adjust strategies in subsequent FMP.

Notes

Northern pikeminnow may be limited in its distribution because it is at the edge of its range (section 2.2, **FMA Resources**).

The TSA and the associated Spatial Harvest Sequence (SHS) incorporate the Notikewin Habitat Zone, therefore adherence to the SHS will ensure northern pikeminnow habitat is not disturbed. Variance reporting will identify deviations from the SHS (Section 2.2, **Monitoring and Research**).



Notikewin Habitat Zone.



Objective 1.2.1.2: Work cooperatively with Provincial wildlife specialists to help ensure the continued survival of wildlife species considered at risk.

Indicator A

Inventory of wildlife species identified by the Province as a concern in the FMA Area.

Target

A listing of species of concern occurring within the FMA Area is maintained.

Means of Achieving Objective and Target

Communication with ANHIC staff.

Monitoring and Measurement

COSEWIC and Provincially listed species, ANHIC, Fish and Wildlife Division experts.

Reporting - FMP

Species lists are part of FMP submission.

Reporting - Performance

Changes to species lists will be noted in the Stewardship Report.

Acceptable Variance

None.

Response

Update listing.

Notes

Wildlife species tracked by ANHIC, or listed by COSEWIC or the Province that potentially occur within the FMA Area are identified in Appendices in FMA Resources.

Objective 1.2.1.2: Work cooperatively with Provincial wildlife specialists to help ensure the continued survival of wildlife species considered at risk.

Indicator B

Best Management Practices for Boreal Caribou.

Target

Follow the latest version of the Best Management Practices of the Alberta Caribou Committee. Actively participate in the revised Chinchaga Caribou Landscape Planning Team once this team is struck.

Means of Achieving Objective and Target

Communication with appropriate caribou committees/planning teams.

Monitoring and Measurement

Caribou Protection Plans reviewed by ASRD, receive approval.

Reporting - Performance

Caribou Protection Plans will outline operations within the Caribou Zone.

Acceptable Variance

None.

Response

Incorporate Best Management Practices.

Notes

MDFP anticipates on-going adjustments to Best Management Practices as knowledge of habitat requirements improves.



Objective 1.2.1.2: Work cooperatively with Provincial wildlife specialists to help ensure the continued survival of wildlife species considered at risk.

Indicator C

Best Management Practices (BMPs) for grizzly bear.

Target

Follow the latest version of the Best Management Practices for grizzly bear management, as defined by the Regional Grizzly Bear Recovery Implementation Team.

Means of Achieving Objective and Target

Communication with appropriate caribou committees/planning teams.

Monitoring and Measurement

BMPs, RGBRIT communications, ASRD review of AOPs.

Reporting - Performance

BMPs reflected in operational plans.

Acceptable Variance

None.

Response

Incorporate Best Management Practices.

Notes

MDFP anticipates on-going adjustments to Best Management Practices as knowledge of habitat requirements improves.

Value 1.3.1 - Genetic integrity of natural tree populations

Objective 1.3.1.1: Retain “wild forest populations” for each tree species in each seed zone through establishment of in-situ reserves with an approved controlled parentage program.

Indicator

Number and area of in-situ genetic conservation areas.

Target

Section 20.0 of Standards for Tree Improvement in Alberta outlines requirements for in-situ genetic conservation areas for each seed zone. The regional programs relevant to MDFP’s FMA Area was not completed until late May 2007. Once the regional needs have been evaluated, MDFP will identify a target for establishment of genetic conservation areas.

Means of Achieving Objective and Target

Standards for Tree Improvement in Alberta and government/industry genetic cooperatives.

Monitoring and Measurement

SRD communications.

Reporting - Performance

Progress noted in the Stewardship Report.

Acceptable Variance

None.

Response

None.

Notes

The controlled parentage program for the Breeding Regions encompassing the FMA were not completed until late May 2007, therefore no target has been set for this objective at this point in time. The controlled parentage programs are included in Appendix VII in **FMP Implementation**.

**Objective 1.3.1.2: Retain wild forest genetic resources through ex-situ conservation.*****Indicator***

Number of provenances and genetic lines in ex-situ gene banks and trials.

Target

Active ex situ conservation program for all Controlled Parentage Program plan species and other species in cooperation with Alberta.

Means of Achieving Objective and Target

Standards for Tree Improvement in Alberta and government/industry genetic cooperatives.

Monitoring and Measurement

Conservation activities identified in FMP as per Standards for Tree Improvement in Alberta.

Reporting - Performance

Five year reporting in cooperation with Alberta.

Acceptable Variance

Confirmed program plan.

Response

Organization/Alberta/cooperatives.

Notes

The controlled parentage program for the Breeding Regions encompassing the FMA were not completed until late May 2007, therefore no target has been set for this objective at this point in time. The controlled parentage programs are included in Appendix VII in **FMP Implementation**.

Value 1.4.1 - Ensure protection of protected areas and sites of biological significance

Objective 1.4.1.1: Biologically significant sites are identified within management and operational planning processes and forest management strategies incorporate protective measures.

Indicator A

Protection of the Notikewin River valley.

Target

The Notikewin River valley, including the Hotchkiss, Meikle and Botha Rivers will be considered a special zone for forest management. Forestry operations will not be scheduled in the spatial harvest sequence.

Means of Achieving Objective and Target

Spatial Harvest Sequence, harvest plans.

Monitoring and Measurement

Spatial Harvest Sequence, AOPs.

Reporting - Performance

Variance reporting in the Stewardship Report.

Acceptable Variance

None

Response

Adjust strategies in subsequent FMP.

Notes

The TSA and the associated Spatial Harvest Sequence (SHS) incorporate the Notikewin Habitat Zone (Section 2, **Landbase Netdown**). Harvesting was excluded from the Habitat Zone, therefore adherence to the SHS will ensure the Notikewin River valley, including the Hotchkiss, Meikle and Botha Rivers are protected. Variance reporting will identify deviations from the SHS (Section 2.2, **Monitoring and Research**).



Objective 1.4.1.1: Biologically significant sites are identified within management and operational planning processes and forest management strategies incorporate protective measures.

Indicator B

Communication with Twin Lakes Lodge when operating near Twin Lakes.

Target

The owners/operators of the Lodge will be contacted when operations are planned within 2 km of the Lodge or recreation area.

Means of Achieving Objective and Target

AOP development process, Public Consultation Program.

Monitoring and Measurement

Spatial Harvest Sequence, AOPs.

Reporting - FMP

SHS will identify when operations will be scheduled for the area.

Reporting - Performance

Owners will be contacted prior to any operations.

Acceptable Variance

None

Response

None.

Response

The SHS is described and mapped in **Timber Supply Analysis**. The SHS includes harvest operations within 2 km of Twin Lakes Lodge and Recreation Areas.

Objective 1.4.2.1: Integrate transboundary values and objectives into forest management.*Indicator*

Stakeholder consultation.

Target

Ongoing consultation with relevant protected areas agencies.

Means of Achieving Objective and Target

Management planning.

Monitoring and Measurement

Documentation of consultation processes.

Reporting - Performance

Stewardship Report.

Acceptable Variance

None

Response

Adjust strategies in subsequent FMP.

Notes

The only protected area currently within the FMA Area is Twin Lakes Recreation Area (Section 9.4 in **FMA Area**).

Value 2.1.1 - Reforested harvest areas

Objective 2.1.1.1: Meet reforestation targets on all harvested areas.

Indicator A

Annual percent of Satisfactorily Restocked regeneration (performance) surveys.

Target

Annually, 100% of areas meet reforestation (performance) target.

Means of Achieving Objective and Target

Silviculture program.

Monitoring and Measurement

Regeneration surveys.

Reporting - Performance

ARIS, GDP, Stewardship Report.

Acceptable Variance

None

Response

Alberta adjusts AACs.

Notes

The silviculture program is key to ensuring the that harvest blocks are regenerated according to Provincial Establishment and Performance targets (section 4 in **FMP Implementation**).

Regeneration surveys and Company Permanent Sample Plot programs are used to monitor the establishment and subsequent growth of regenerating stands (**Monitoring and Research**). This provides an opportunity, over the longer-term, to compare pre and post-harvest yields.

MDFP will begin development of an ARS program for the FMA Area in the future. ARS will help ensure appropriate information is collected in regenerating stands and that there is a formalized link between yield in regenerating stands and yields used in the TSA.

In addition to reforesting harvested areas, MDFP reforests inactive seismic lines which fall within harvest blocks (as encountered during reforestation operations) (see Section 4 in **FMP Implementation**). This increases total area reforested (reclaimed areas are not required to meet Establishment/Performance targets).





Objective 2.1.1.1: Meet reforestation targets on all harvested areas.

Indicator B

Cumulative percent of reforested areas that meet reforestation (performance) targets.

Target

Cumulatively, 100% of areas meet reforestation (performance) target.

Means of Achieving Objective and Target

Silviculture program.

Monitoring and Measurement

Regeneration surveys.

Reporting - Performance

ARIS, GDP, Stewardship Report.

Acceptable Variance

None

Response

Alberta adjusts AACs.

Notes

The silviculture program is key to ensuring the that harvest blocks are regenerated according to Provincial Establishment and Performance targets (section 4 FMP **Implementation**).

Regeneration surveys and Company Permanent Sample Plot programs are used to monitor the establishment and subsequent growth of regenerating stands (**Monitoring and Research**). This provides an opportunity, over the longer-term, to compare pre and post-harvest yields.

MDFP will begin development of an ARS program for the FMA Area in the future. ARS will help ensure appropriate information is collected in regenerating stands and that there is a formalized link between yield in regenerating stands and yields used in the TSA.

In addition to reforesting harvested areas, MDFP reforests inactive seismic lines which fall within harvest blocks (as encountered during reforestation operations) (section 4 in **FMP Implementation**). This increases total area reforested (reclaimed areas are not required to meet Establishment/Performance targets).

Value 2.1.2 - Maintenance of forest landbase

Objective 2.1.2.1: Limit conversion of productive forest landbase to other uses.

Indicator A

Company roads available for use by other commercial forest users and the public.

Target

All Company roads will be made available for use by other commercial forest users and the public unless access restrictions are required by the Province.

Means of Achieving Objective and Target

Land use data, stakeholder consultation

Monitoring and Measurement

Land use systems.

Reporting - Performance

Stewardship Report.

Acceptable Variance

Report actual

Response

Adjust net landbase projections in next TSA.

Notes

Neither MDFP nor DMI currently have any all-weather roads within the FMA Area (section 2 in **FMP Implementation**). Both Companies rely heavily on all-weather and temporary/seasonal roads developed by other commercial users.



Objective 2.1.2.1: Limit conversion of productive forest landbase to other uses.

Indicator B

Amount of permanent clearings.

Target

MDFP will limit its own non-road permanent clearings (i.e., gravel pits and MLLs) to less than 5 hectares annually, over a 5 year period (i.e., 25 ha per 5 years).

Means of Achieving Objective and Target

GDPs and AOPs.

Monitoring and Measurement

AOPs, road construction, maintenance and abandonment plan, land use withdrawals.

Reporting - Performance

Stewardship Report:

Acceptable Variance

Report actual.

Response

Adjust strategies in subsequent FMPs.

Notes

None

Objective 2.1.2.2: Recognize lands affected by insects, disease or natural calamities.*Indicator*

Area affected.

Target

Area affected by significant outbreaks, infestations, natural calamities.

Means of Achieving Objective and Target

Maintain up to date information, communication with ASRD.

Monitoring and Measurement

The Province of Alberta conducts appropriate surveys, with industry cooperation.

Reporting - Performance

AOP and the Stewardship Report.

Acceptable Variance

Report actuals.

Response

Event specific.

Notes

There is no specific target for this objective. The Company will work cooperatively with the Province and results of forest health surveys within or adjacent to the FMA be compiled and reported.

MDFP's Insect and Disease program/strategy is discussed in section 5.2 in **FMP Implementation**.



Value 2.1.3 - Control invasive species

Objective 2.1.3.1: Control non-native plant species (weeds).

Indicator

Noxious weed program.

Target

Noxious weed program in place and implemented.

Means of Achieving Objective and Target

Cooperative programs.

Monitoring and Measurement

Field inventories.

Reporting - Performance

Inspections summarized in Stewardship Report.

Acceptable Variance

Report actuals.

Response

Improve weed program.

Notes

MDFP conducts its road construction and harvesting operations in the winter, reducing the risk of noxious weed introduction via operations. Strategies used by MDFP to control noxious weeds within the FMA Area are outlined in section 5.4 in **FMP Implementation**.

MDFP is one of many commercial users of the FMA Area. Although the Company can not control operations of other stakeholders, the Company will encourage other commercial stakeholders to consider weed control measures, as opportunities allow (e.g., meetings with stakeholders).

Value 3.1.1 - Soil productivity

Objective 3.1.1.1: Minimize impact of roading and bared areas in forest operations.

Indicator

Compliance with OGRs.

Target

Less than 5% by block.

Means of Achieving Objective and Target

Effective planning and supervision of operations will help to ensure that the objective and targets are met.

Monitoring and Measurement

Field inspection reports and audits.

Reporting - Performance

Inspection reporting.

Acceptable Variance

None

Response

Immediate remedial action to correct.

Notes

This target is a requirement of Provincial OGR and will be incorporated into the FMA OGRs.

MDFP's road construction, maintenance and abandonment program includes measures to reduce roading/clearing impacts (section 2 in **FMP Implementation**).

**Objective 3.1.1.2: Minimize incidence of soil erosion and slumping.***Indicator*

Incidence of soil erosion and slumping.

Target

Complete compliance.

Means of Achieving Objective and Target

Effective planning and supervision of operations and adherence to relevant OGRs.

Monitoring and Measurement

Field inspection reports and audits.

Reporting

Inspection reporting.

Acceptable Variance

None

Response

Immediate remedial action to correct.

Notes

MDFP's road construction, maintenance and abandonment program includes measures to reduce soil erosion/slumping (section 2 in **FMP Implementation**). Both MDFP's and DMI's watercourse crossing practices are also important in achieving this objective (section 2 and Appendix I in **FMP Implementation** for MDFP's watercourse crossing program and monitoring protocol; see Appendix II **FMP Implementation** in for DMI's watercourse crossing commitment).

Value 3.2.1 - Water quantity and quality

Objective 3.2.1.1: Limit impact of timber harvesting on water yield.

Indicator

Forecast impact of timber harvesting on water yield.

Target

Zero Water Act penalties. Complete compliance with FMP.

Means of Achieving Objective and Target

Adherence to forecast harvest sequence and relevant OGRs.

Monitoring and Measurement

Report on area (ha) harvested compared with planned harvest area.

Reporting - Performance

Stewardship Report includes Variance Reporting and reports any Water Act penalties.

Acceptable Variance

Report actuals

Response

Adjust harvest pattern if problems arise.

Notes

A watershed assessment was completed for a sample of harvest compartments, based on the SHS for the PFMS (**Timber Supply Analysis**). Compliance with the SHS therefore will ensure a major component of the target is achieved.

MDFP's and DMI's watercourse crossing practices are important in achieving the target related to Water Act penalties (section 2 in **FMP Implementation**).

Value 3.2.2 - Effective riparian habitat

Objective 3.2.2.1: Minimize impact of operations in riparian areas.

Indicator

Riparian buffers maintained as outlined in OGRs.

Target

Complete compliance.

Means of Achieving Objective and Target

Effective planning and supervision of operations will help to ensure that the impact of operations in riparian areas is minimized.

Monitoring and Measurement

Final harvest plans, block inspection forms

Reporting - Performance

Areas to be harvested within buffers will be shown in the final harvest plans/AOPs.

Acceptable Variance

None

Response

Immediate correction and/or administrative penalty.

Notes

Riparian buffers are a requirement of the Provincial OGRs and will be included in the FMA OGRs.

On rare occasions, a variance may be approved by Alberta for specified reasons.

Riparian buffers have been withdrawn from the active landbase and are not scheduled for harvest (section 2 in **Landbase Netdown**).

MDFP has created a Special Habitat Zone along the Notikewin, Mickle, Botha and Hotchkiss Rivers (up to the river break) which meets or exceeds Provincial buffer requirements to help protect values associated with this important watercourse (section 2 in **Landbase Netdown**.)

Value 4.1.1 - Impact of forestry operations on carbon budgets**Objective 4.1.1.1: Identify potential impacts of forestry operations on forest carbon budgets.***Indicator*

Research related to carbon budgets in northwestern Alberta.

Target

MDFP will provide letters of support for research related to carbon budgets submitted to the Manning Forestry Research Fund.

Means of Achieving Objective and Target

Support of Research Fund.

Monitoring and Measurement

Research Fund communications, reports.

Reporting - Performance

Research Fund annual reports/updates.

Acceptable Variance

Report actuals.

Response

None

Notes

Although Manning Diversified Forest Products provides financial support to the Manning Forestry Research Fund, the Company is not directly involved in project funding decisions (i.e., the two entities operate at arms length) (section 3.1 in **Monitoring and Research**). However, the Company will provide letters of support to researchers proposing projects that are related to carbon budgets, provided the projects are of appropriate quality.



Value 4.2.1 - Forest land conversion

See Objective 2.1.2.1: Limit conversion of forest landbase to other uses.

Value 5.1.1 - Sustainable timber supplies

Objective 5.1.1.1: Establish appropriate AACs.

Indicator

Process and standards described in Annex 1 of the Planning Standard are followed.

Target

Complete compliance with AAC level.

Means of Achieving Objective and Target

Effective implementation of planning process.

Monitoring and Measurement

TPRS, ARIS, AOPs, field inspection reports.

Reporting - Performance

Progressive and continuous, with summary in Stewardship Report.

Acceptable Variance

Issue specific.

Response

Adjust AAC using most current and relevant information.

Notes

Existing Provincial regulations and policies require progressive reporting on harvest levels (section 2.1.2 in **Monitoring and Research**).

Volumes generated through salvage operations within the FMA Area must also be reconciled against the AAC (section 2.1.3 in **Monitoring and Research**).

Post-harvest field inspections monitor utilization (section 2.1.1 in **Monitoring and Research**).

**Value 5.2.1 - Risk to communities and landscape values from wildfire is low**

Objective 5.2.1.1: To reduce wildfire threat potential by reducing fire behaviour, fire occurrence, threats to values at risk and enhancing fire suppression capability.

Indicator A

Percentage reduction in Fire Behaviour Potential area (ha) within the FireSmart Community Zone.

Target

Currently there are no FireSmart Community Zones identified within the FMA.

Means of Achieving Objective and Target

Spatial harvest sequence, thinning, partial harvest techniques, prescribed burns.

Monitoring and Measurement

Communication with ASRD Protection staff

Reporting - Performance

Establishment of any FireSmart Community Zone within the FMA will be reported in the Stewardship Report.

Acceptable Variance

None.

Response

None.

Notes

None.

Objective 5.2.1.1: To reduce wildfire threat potential by reducing fire behaviour, fire occurrence, threats to values at risk and enhancing fire suppression capability.

Indicator B

Percentage reduction in Fire Behaviour Potential area (ha) across the FMA Area now and over the planning horizon.

Target

At 10 years, reduce the area (ha) in the extreme and high Fire Behaviour Potential (FBP) rating categories by 1% across the FMA.

Means of Achieving Objective and Target

Spatial harvest sequence.

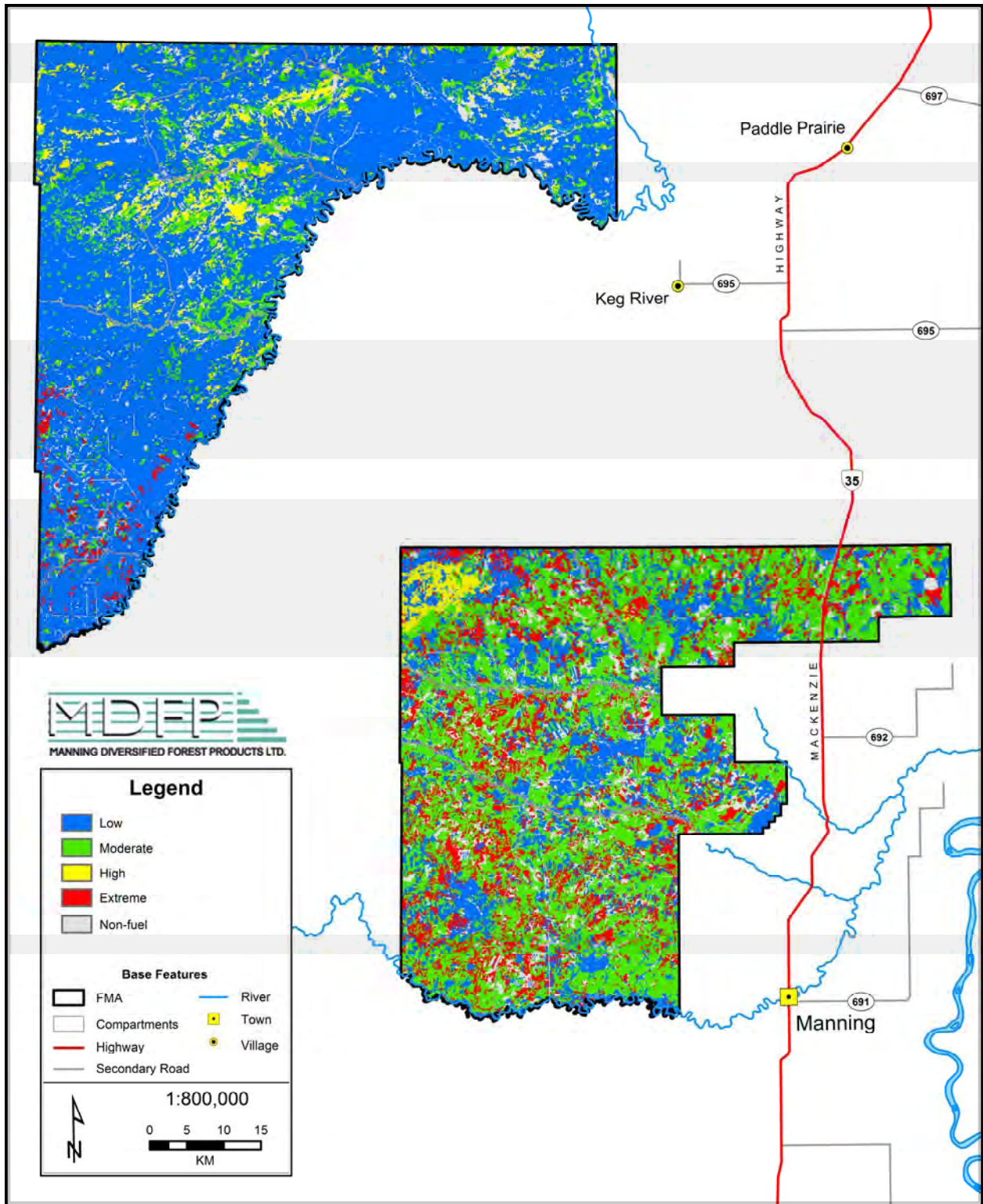
Monitoring and Measurement

AOPs, Compartment Assessments.

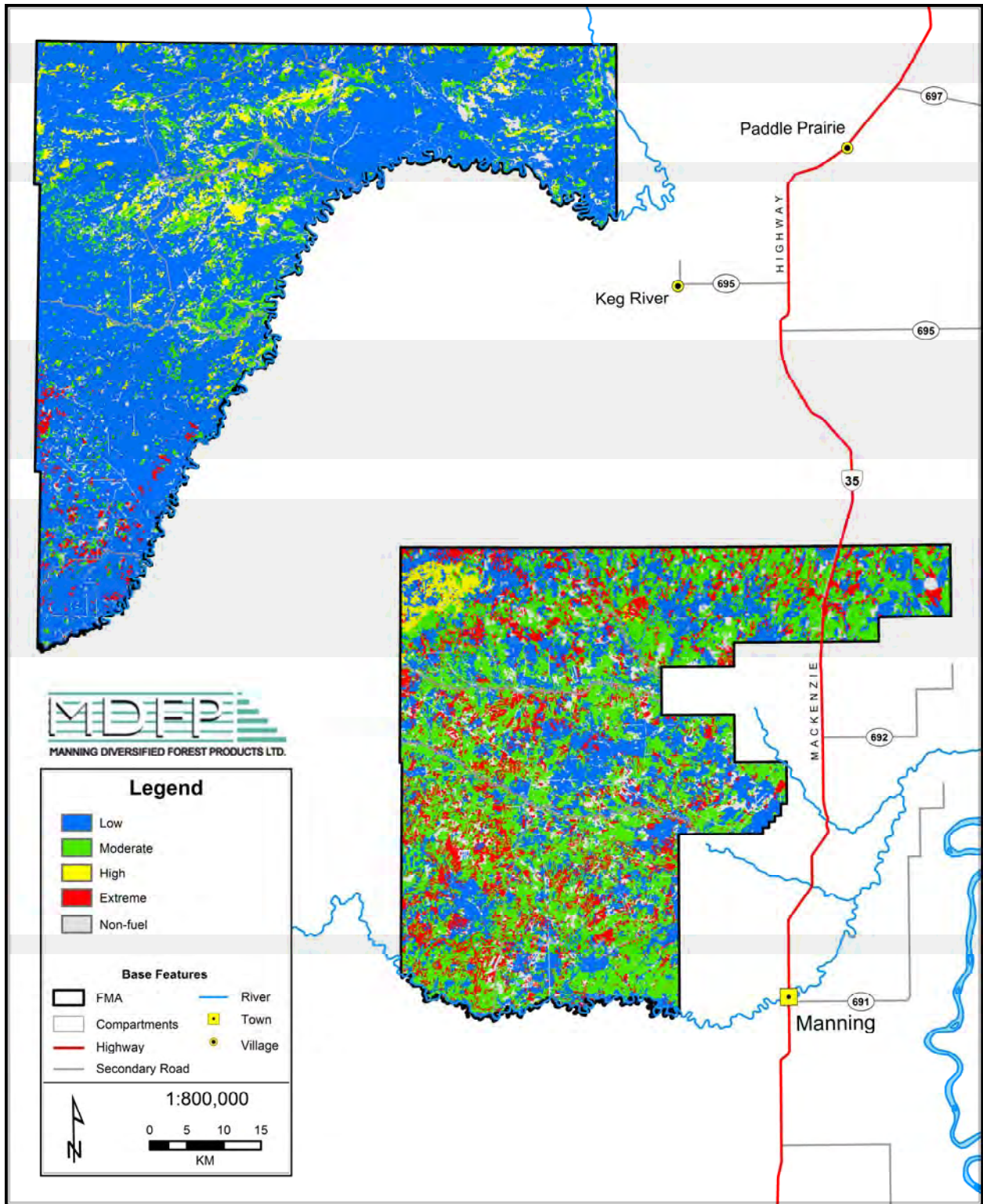
Reporting - FMP

Maps and tables of indicators (gross landbase) at 0, 10, 20 and 50 years are provided.

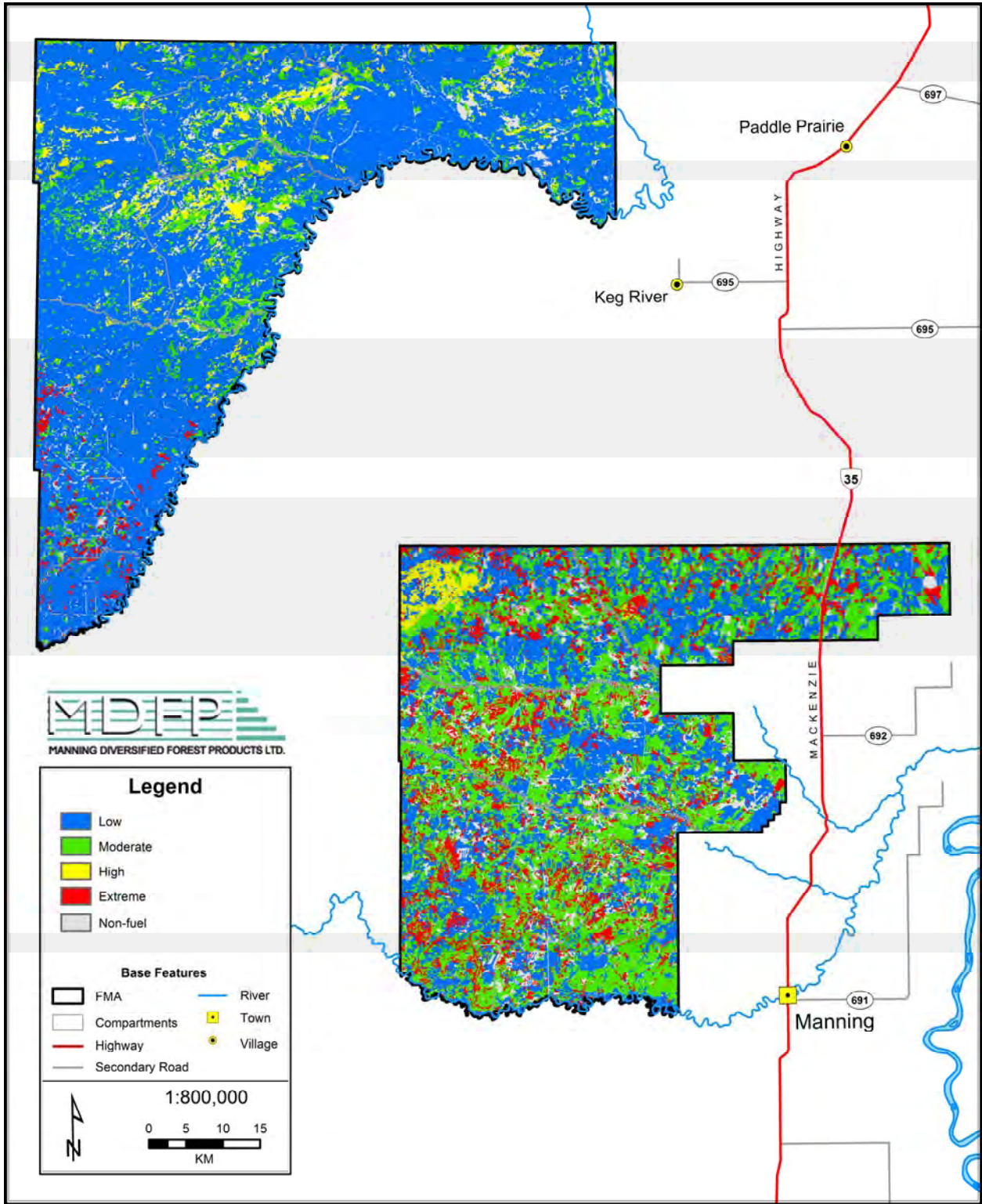
Fire Behaviour Potential Rating	Year			
	0	10	20	50
No FBP	49,561	48,589	46,397	40,170
Low FBP	298,194	314,476	332,513	336,080
Moderate FBP	170,951	161,165	149,181	140,511
High FBP	19,290	19,372	19,382	20,642
Extreme FBP	57,633	52,027	48,156	58,226



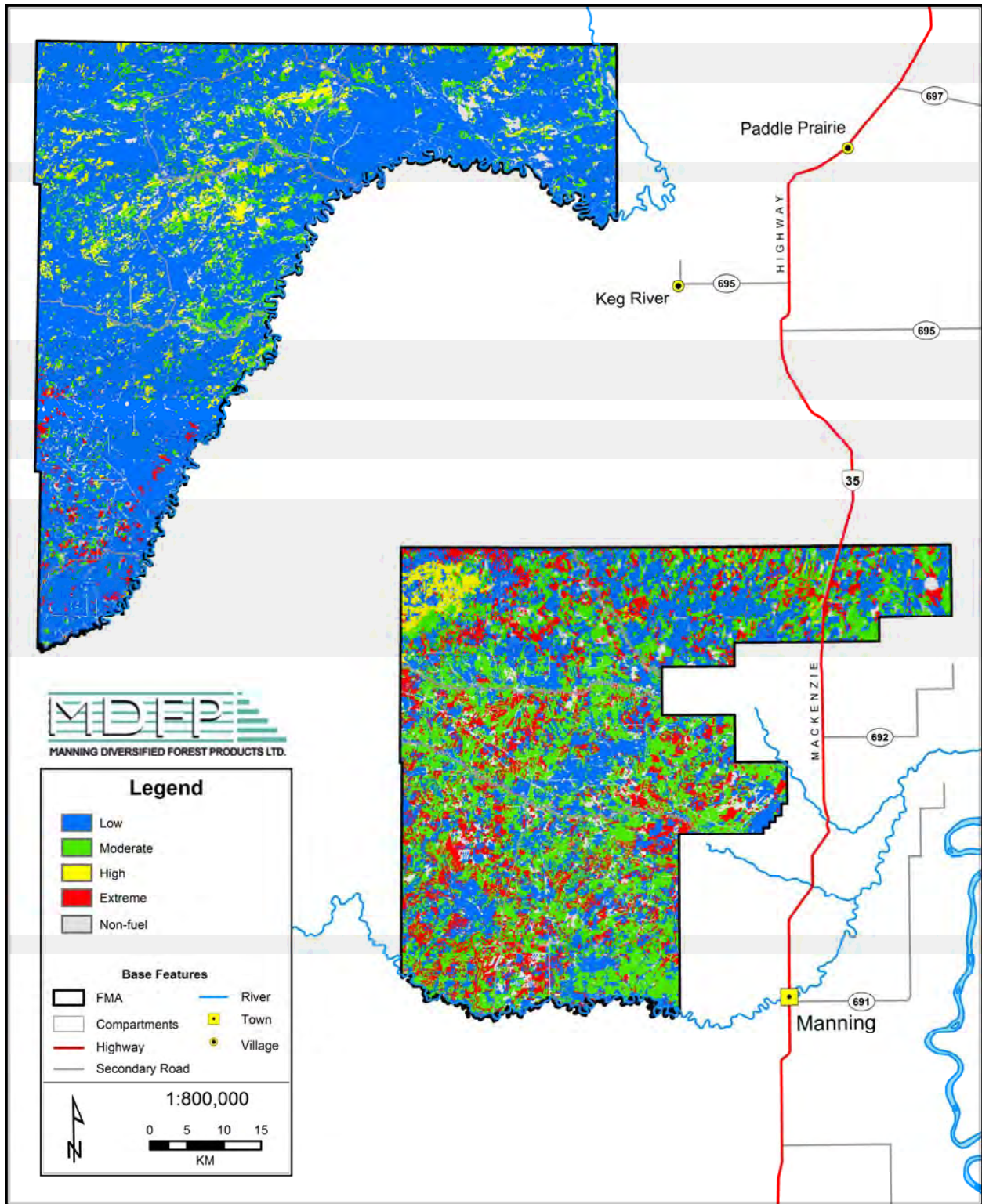
Fire Behaviour Potential Rating – Year 0.



Fire Behaviour Potential Rating – Year 10.



Fire Behaviour Potential Rating – Year 20.



Fire Behaviour Potential Rating – Year 50.



Reporting - Performance

Variance reporting in the Stewardship Report.

Acceptable Variance

Issue specific.

Response

Adjust harvest sequence.

Notes

ASRD's Fire Behaviour Potential (FBP) rating model can not be incorporated directly into the TSA. As a proxy, the TSA incorporated FBP grid codes, which are based on vegetation (vegetation is the component of the FBP rating impacted by forestry operations). As a proxy, the PFMS tried to reduce the overall area in 'C' FBP grid codes and also to reduce the large patches of 'C' grid codes (see **Timber Supply Analysis**). 'C' FBP grid codes tend to correlate with extreme and high Fire Behaviour Potential rating categories.

Value 5.2.2 - Provide opportunities to derive benefits and participate in use and management

Objective 5.2.2.1: Integrate other uses and timber management activities.

Indicator A

Company roads available for use by other commercial forest users and the public.

This indicator is identical to that in 2.1.2.1 A.



Objective 5.2.2.1: Integrate other uses and timber management activities.

Indicator B

Communication with Twin Lakes Lodge when operating near Twin Lakes.

This indicator is identical to that in 1.4.1.1 A.

Objective 5.2.2.1: Integrate other uses and timber management activities.*Indicator C*

Refer operational plans to all trappers affected by harvesting operations.

Target

Attempts made to notify 100% of trappers affected by harvesting operations prior to submission of AOP.

Means of Achieving Objective and Target

Direct contact with impacted trappers during AOP development.

Monitoring and Measurement

AOPs, Compartment Assessments.

Reporting - Performance

Efforts are reported in Stewardship Report.

Acceptable Variance

None

Response

Event specific

Notes

None



Objective 5.2.2.1: Integrate other uses and timber management activities.

Indicator D

Refer operational plans to all guides and outfitters affected by harvesting operations.

Target

Attempts made to notify 100% of guides and outfitters affected by harvesting operations prior to submission of AOP.

Means of Achieving Objective and Target

Direct contact with impacted guides and outfitters during AOP development.

Monitoring and Measurement

AOPs, Compartment Assessments.

Reporting - Performance

Efforts are reported in Stewardship Report.

Acceptable Variance

None

Response

Event specific

Notes

None.

Objective 5.2.2.1: Integrate other uses and timber management activities.*Indicator E*

Protection of aesthetic resources along Highway 35 and the Chinchaga Forestry Road.

Target

A Special Management Zone has been identified along Highway 35 and the Chinchaga Forestry Road, to recognize aesthetic concerns.

Means of Achieving Objective and Target

AOPs, as-built plans, roadside inspections.

Monitoring and Measurement

AOPs, as-built plans, roadside inspections.

Reporting - Performance

AOPs incorporate aesthetic concerns with the Zone.

Acceptable Variance

Subjective target

Response

Adjust future operations.

Notes

See section 2 in **Landbase Netdown** for Highway Management Zone location.

The strategies to address aesthetic concerns related to forestry operations within the Highway Management Zone are presented in section 6.3 in **FMP Implementation**.



Objective 5.2.2.2: Work with other stakeholders on their fire protection plans.

Indicator A

Paddle Prairie community (10 km) fire protection plan.

Target

MDFP contributes to the efforts of Paddle Prairie on their community fire protection plan.

Means of Achieving Objective and Target

Communication with Paddle Prairie community.

Monitoring and Measurement

Reports, documentation of communication.

Reporting - Performance

Efforts are reported in Stewardship Report.

Acceptable Variance

None

Response

Event specific.

Notes

MDFP representatives meet annually with Paddle Prairie council.

Objective 5.2.2.2: Work with other stakeholders on their fire protection plans.***Indicator B***

Other infrastructure protection plans.

Target

MDFP will participate in protection plans for any facilities and infrastructure within or bordering on the FMA.

Means of Achieving Objective and Target

Public Consultation Process.

Monitoring and Measurement

Reports, documentation of communication.

Reporting - Performance

Efforts are reported in Stewardship Report.

Acceptable Variance

None

Response

Event specific.

Notes

MDFP representatives meet with stakeholders.



Value 5.2.3 - Forest productivity

Objective 5.2.3.1: Maintain Long Run Sustained Yield Average.

Indicator

Regenerated stand yield compared to natural stand yield.

Target

No net decrease from the natural stand productivity.

Means of Achieving Objective and Target

Effective implementation of plans.

Monitoring and Measurement

Stewardship Report.

Reporting - Performance

Stewardship Report.

Acceptable Variance

Report Actual.

Response

Adjust AAC using most current and relevant information.

Notes

Establishment and monitoring of Permanent Sample Plots in both natural and regenerating stands is an important component of MDFP's Growth and Yield Program (section 2.3 in **Monitoring and Research**).

MDFP will begin development of an ARS program for the FMA Area in the future. ARS will help ensure appropriate information is collected in regenerating stands and that there is a formalized link between yield in regenerating stands and yields used in the TSA.

Value 6.1.1 - Compliance with government regulations and policies**Objective 6.1.1.1: Implement Public Consultation Process (PCP).***Indicator A*

Meet Alberta's current expectations for aboriginal consultation.

Target

PCP has been approved by Alberta.

Means of Achieving Objective and Target

Effective implementation of the PCP.

Monitoring and Measurement

Documentation of communications and other PCP processes.

Reporting - Performance

Report as required in PCP.

Acceptable Variance

None.

Response

Adjust activities.

Notes

The Public Consultation Plan and expectations regarding aboriginal consultation are provided in Appendices in **Introduction and Plan Development**.

**Objective 6.1.1.1: Implement Public Consultation Process (PCP).*****Indicator B***

Paddle Prairie Metis Settlement included in the Company's Public Consultation Process (PCP) and has been invited to participate as a member of the FMP planning team.

Target

Meetings are held with Paddle Prairie representatives as indicated in the PCP.

Means of Achieving Objective and Target

Effective implementation of the PCP.

Monitoring and Measurement

Documentation of communications and other PCP processes.

Reporting - Performance

Report as required in PCP.

Acceptable Variance

None.

Response

Event specific.

Notes

Paddle Prairie was invited to participate in the FMP development process but declined. The Public Consultation Plan and the updates associated with the FMP development process are provided in Appendices in **Introduction and Plan Development**.

Objective 6.1.1.2: MDFP will provide Paddle Prairie Metis Settlement with forestry related economic opportunities.

Indicator

Economic opportunities at Paddle Prairie.

Target

MDFP will work with Paddle Prairie to develop long term contracting agreements, including purchase of sawlogs and provision of harvesting opportunities.

Means of Achieving Objective and Target

Communication with Paddle Prairie community.

Monitoring and Measurement

Documentation of communications.

Reporting - Performance

Minutes from meetings with Paddle Prairie Band Council indicate economic opportunities are discussed.
Records of any contract agreements.

Acceptable Variance

None.

Response

Event specific.

Notes

MDFP representatives meet annually with Paddle Prairie council.



Value 6.2.1 - Meaningful public involvement is achieved

Objective 6.2.1.1: Implement Public Consultation Process (PCP).

Indicator

Meet expectations of Section 5 of CSA Z809-02.

Target

PCP has been approved by Alberta.

Means of Achieving Objective and Target

Effective implementation of the PCP.

Monitoring and Measurement

Documentation of communications and other PCP processes.

Reporting - Performance

Report as required in PCP.

Acceptable Variance

None, unless otherwise agreed to by Alberta.

Response

Adjust activities.

Notes

The Public Consultation Plan and the updates associated with the FMP development process are provided in Appendices III and V in **Introduction and Plan Development**. Expectations for aboriginal input are addressed in Appendix IV of the same document.



Appendix I VOIT Summary Including Annex 4 Information Requirements



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