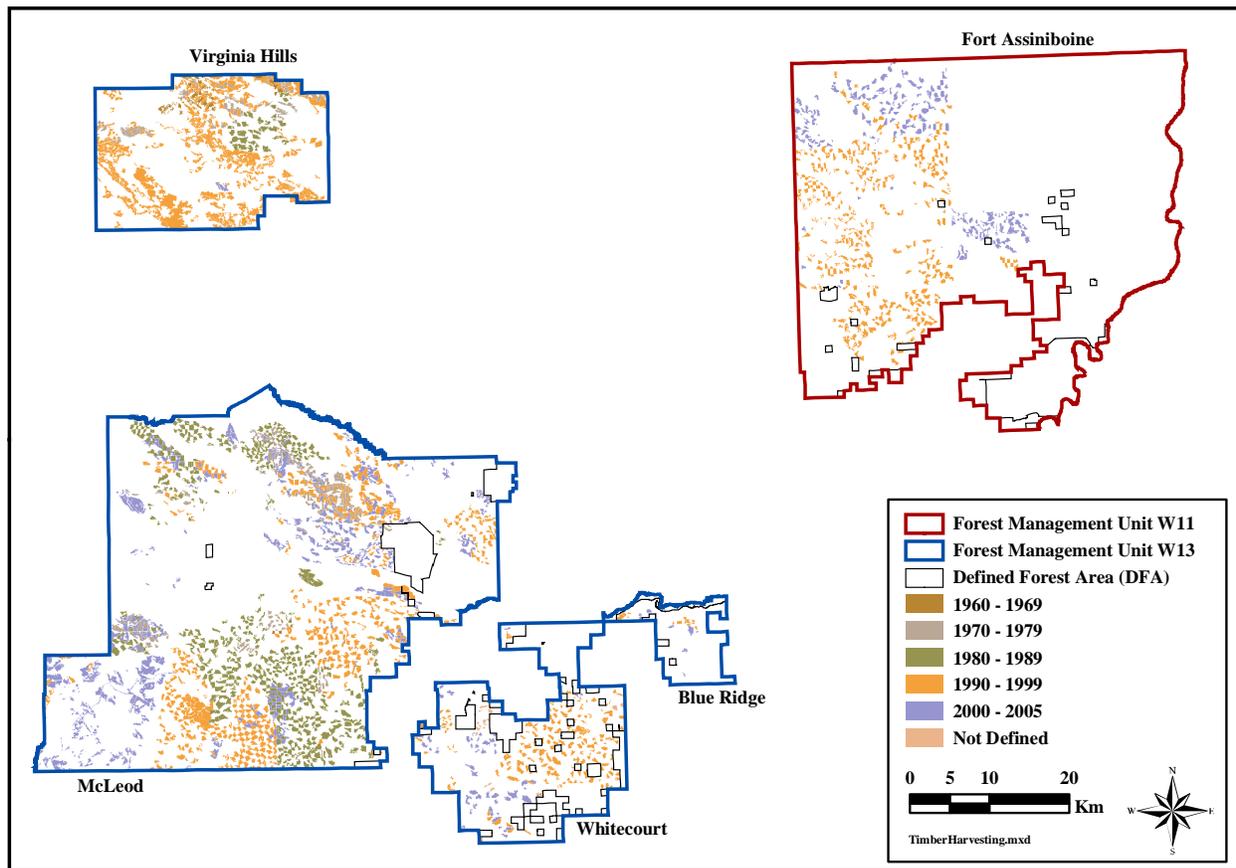




the 2000 – 2005 period, the average total annual area harvested was 3,104 ha. Figure 39 illustrates the historical distribution of harvested areas.

**Table 32. Area summary of historical timber harvesting by year within FMUs.**

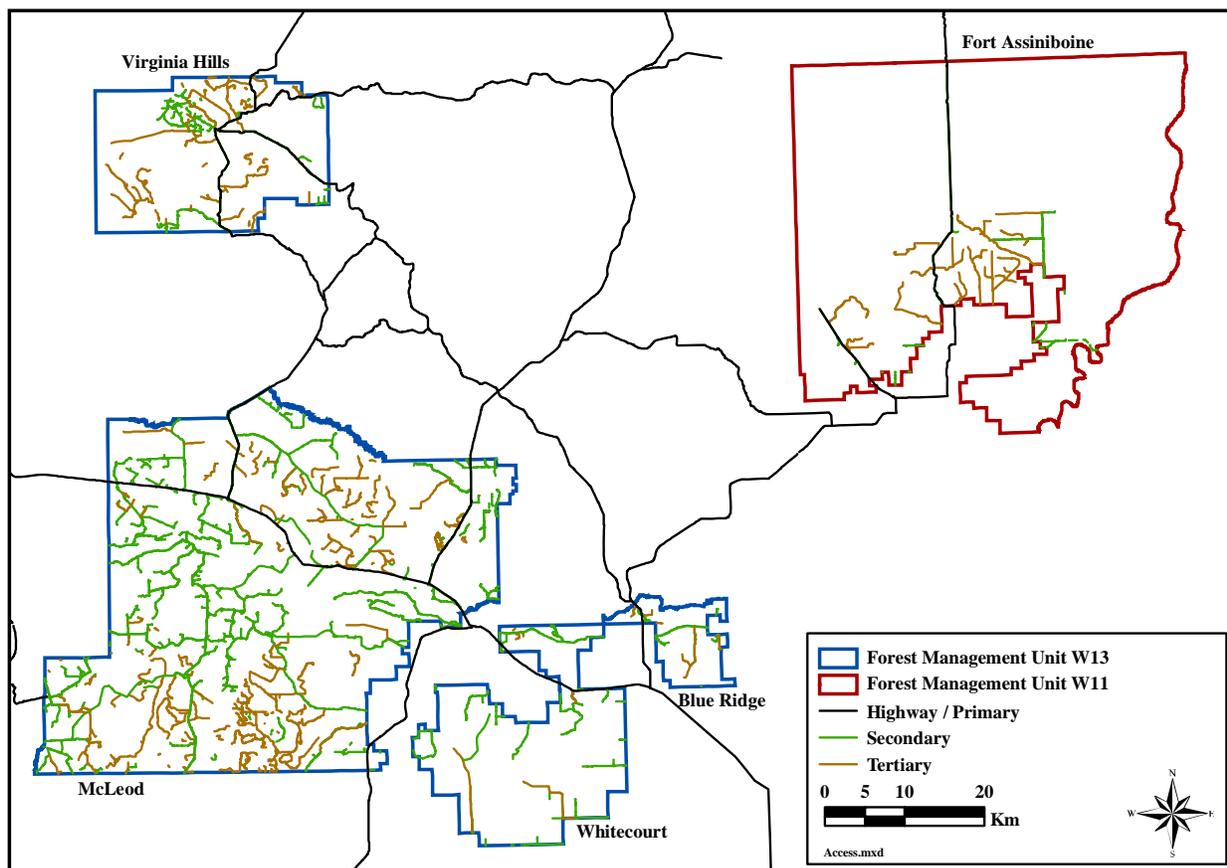
FMU	Subunit	Area Harvested by Period (ha)						Total
		Not Def.	1960 - 69	1970 - 79	1980 - 89	1990 - 99	2000 - 05	
W11	Ft. Assiniboine	-	-	-	-	6,502	3,725	10,227
	Total	-	-	-	-	6,502	3,725	10,227
W13	Blue Ridge	-	-	-	-	169	180	349
	McLeod	-	54	5,180	12,871	15,930	13,432	47,467
	Virginia Hills	-	648	1,429	1,072	10,752	75	13,976
	Whitecourt	234	-	-	-	3,185	1,214	4,633
	Total	234	702	6,609	13,943	30,036	14,901	66,425
Grand Total		234	702	6,609	13,943	36,538	18,626	76,652



**Figure 39. Timber harvesting within FMUs.**

## 5.6 Industrial Access

Specific portions of the W11 and W13 FMUs have extensive access infrastructure, primarily due to forestry and oil and gas activity. Figure 40 illustrates the roads, by class, stored within the company's Geographic Information System, as of April 30, 2004. Since then, access associated with the energy sector (oil and gas) has increased significantly.



**Figure 40. Roads within and surrounding the DFA.**

## 5.7 Industrial Development

Industrial development across the DFA is extensive. The energy sector (oil and gas) represents the primary source of non-forestry development, which has resulted in an increase in the appearance of seismic lines, wellsites and associated access routes, and pipelines in the region. Figure 41 depicts the level of industrial development in the DFA, according to available spatial information, as of April 30, 2004. Since then, development has increased significantly, primarily due to increased activity in the energy sector. In addition to the aforementioned industrial impacts, the Whitecourt town boundary has been expanded, resulting in the further reduction of the operable area in the DFA.

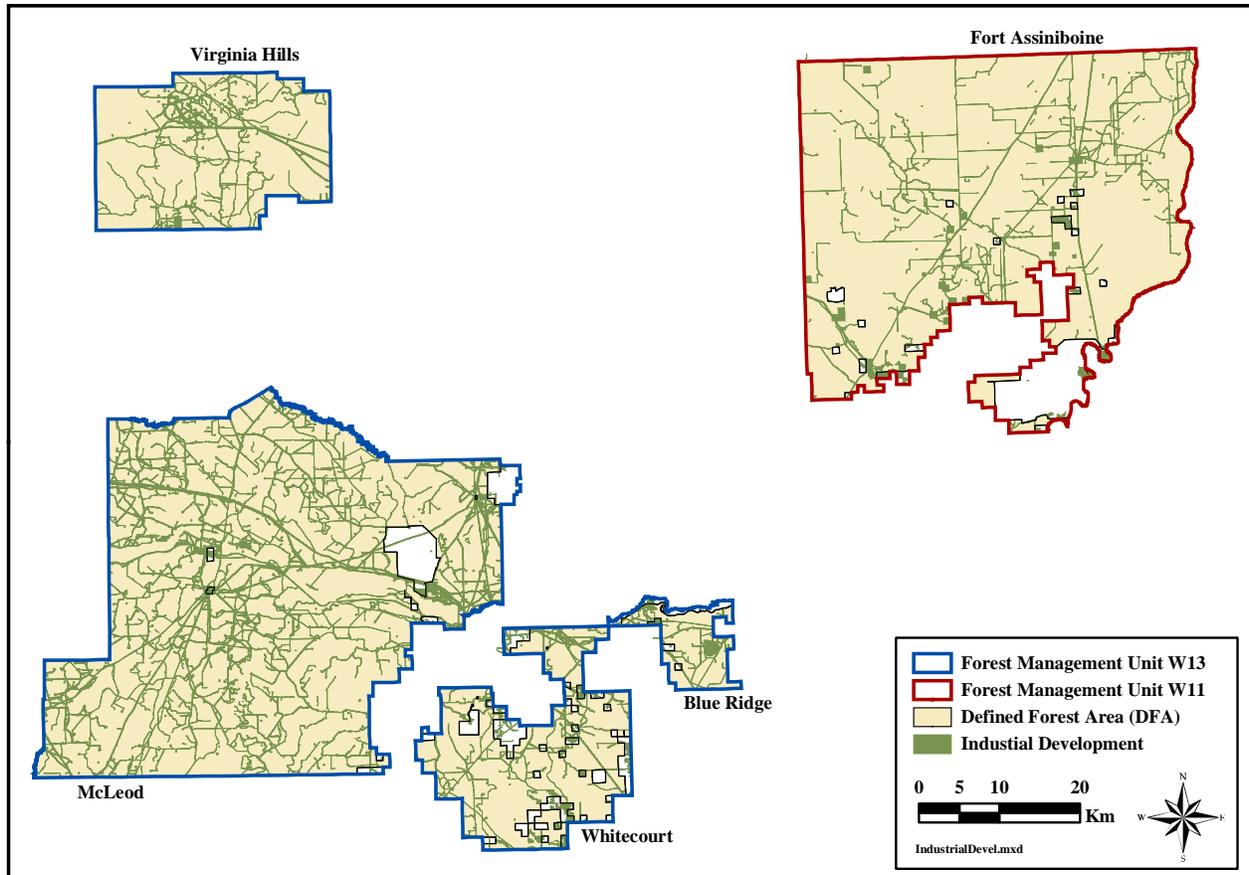


Figure 41. Industrial development within the DFA.

## 5.8 Monitoring Sites

Within the DFA, Millar Western has established, either independently or collectively with other companies or as part of an association, monitoring sites for various purposes, as described below.

### 5.8.1 Permanent Sample Plots

Millar Western has a total of 237 permanent sample plots (PSP): 40 in W11; 193 in W13 (Figure 42); and four outside of the DFA. All W13 PSPs are located within the McLeod subunit. The establishment dates of these plots are all between 1995 and 2004. Additional plots are planned for both FMUs in the future (refer to *Appendix XIII – Growth and Yield Plan*).

The primary focus of Millar Western’s PSP program is to monitor the growth rate and volume of fibre produced over the range of cover types (and in some cases treatment types) present in the DFA. While the information gathered from the PSP program is used mainly to develop yield curves that serve as inputs into the timber supply analysis for the determination of AAC levels, it is also used to help with ecological land classification.

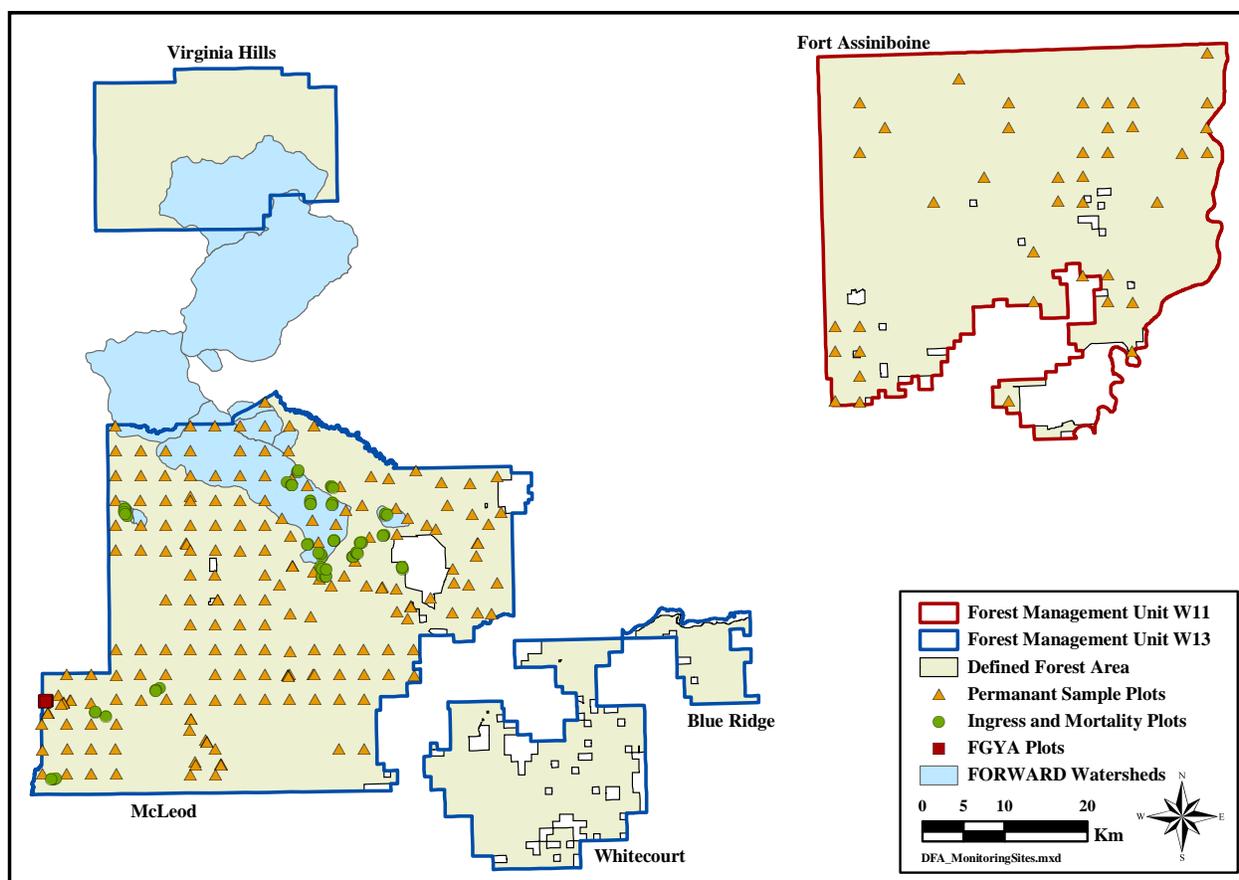


Figure 42. Monitoring sites within and around the DFA.

### 5.8.2 Ingress and Mortality Monitoring Plots

A total of 63 ingress and mortality plots (IMP) have been established by Millar Western, all of which are located within the McLeod subunit of W13 (Figure 42). The IMPs are established in regenerating areas for the purpose of monitoring and tracking the number of trees that establish themselves following disturbance, and the success of planted or otherwise regenerating trees.

### 5.8.3 Foothills Growth and Yield Association Plots

The Foothills Growth and Yield Association (FGYA) plots consist of six regenerating lodgepole Pine (RLP) installations, located on the western edge of the McLeod subunit of W13 (Figure 42). These plots are part of a larger initiative within the Alberta Foothills involving several forest products companies. Each of the installations has different planting densities under one of four treatments: control, thinning, weeding, or weeding and thinning.



### **5.8.4 Forest Watershed and Riparian Disturbance Project**

The Forest Watershed and Riparian Disturbance (FORWARD) project, initiated in 2001, is a partnership among researchers, students, forest products companies and government agencies. Its goal is to develop models to predict how watershed disturbance influences the movement of water and nutrients from forests to streams.

The FORWARD study area within and between the Virginia Hills and McLeod subunits of the DFA consists of 16 watersheds (Figure 42). Within each of these watersheds, several monitoring sites have been established to collect various aquatics, weather, vegetation and soils information. For more information on the FORWARD project's contribution to the 2007-2016 DFMP, refer to *Chapter 5 – Forecasting and the Preferred Forest Management Scenario*.



## 6. Landscape Fire Assessment

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### 6.1 Wildfire Threat Assessment

The Wildfire Threat Assessment was completed on an area extending 30 km past the boundaries of the W11 and W13 FMUs, covering a total of approximately 2.2 million ha. This area is known as the Wildfire Threat Assessment Area (WTAA).

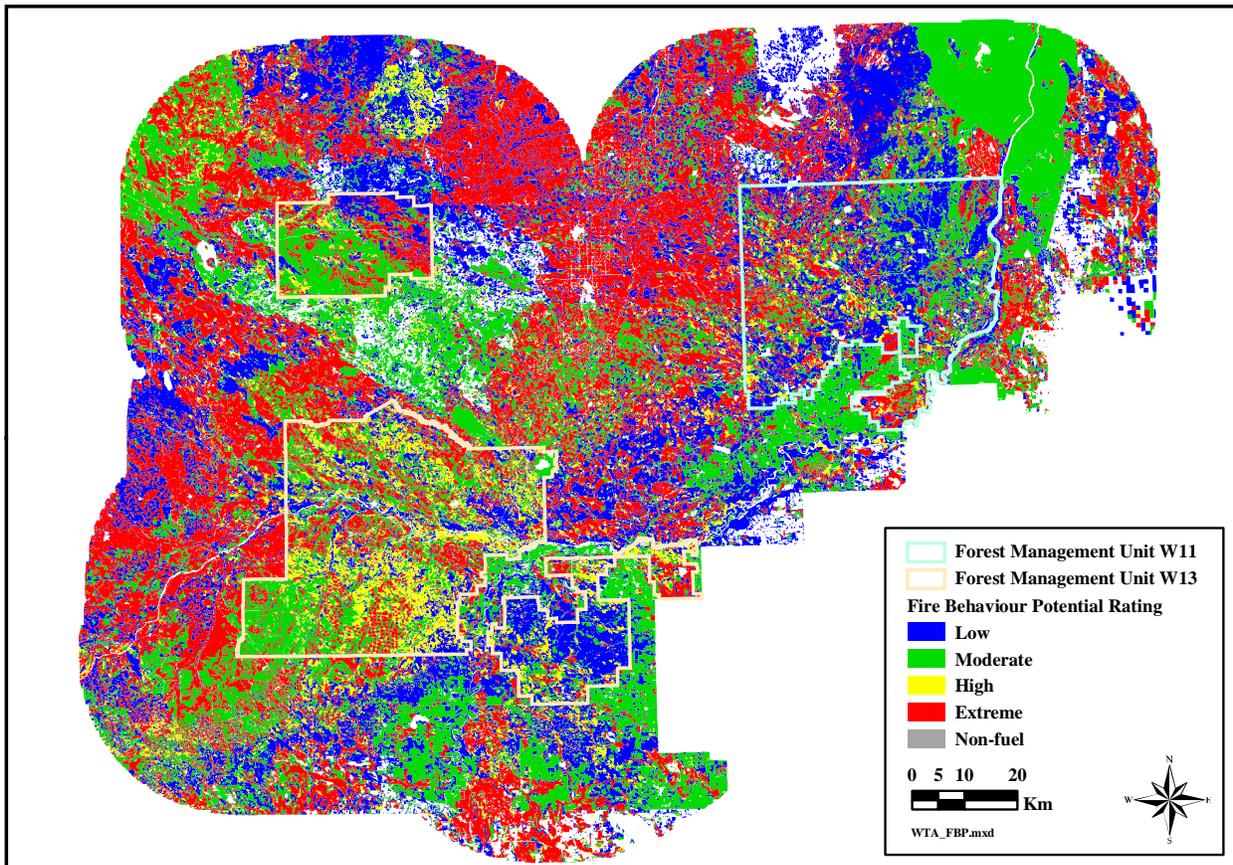
Consistent with Annex 4 of the Planning Standard, this section contains summaries of the Fire Behaviour Potential, Fire Occurrence Risk, Values at Risk, and Suppression Capability elements.

#### 6.1.1 Fire Behaviour Potential

The WTAA, by Fire Behaviour Potential rating, is summarized in Table 33. The spatial distribution of the area within each of these ratings is illustrated in Figure 43.

**Table 33. Area, by Fire Behaviour Potential rating for the WTAA.**

Fire Behaviour Potential Rating	Area	
	(ha)	(%)
Low	661,311	30%
Moderate	593,838	27%
High	125,602	6%
Extreme	655,095	30%
Non-Fuel	183,067	8%
Not classified	1,389	0%
<b>Total</b>	<b>2,220,302</b>	<b>100%</b>



**Figure 43. Distribution of area by Fire Behaviour Potential rating on the WTAA.**

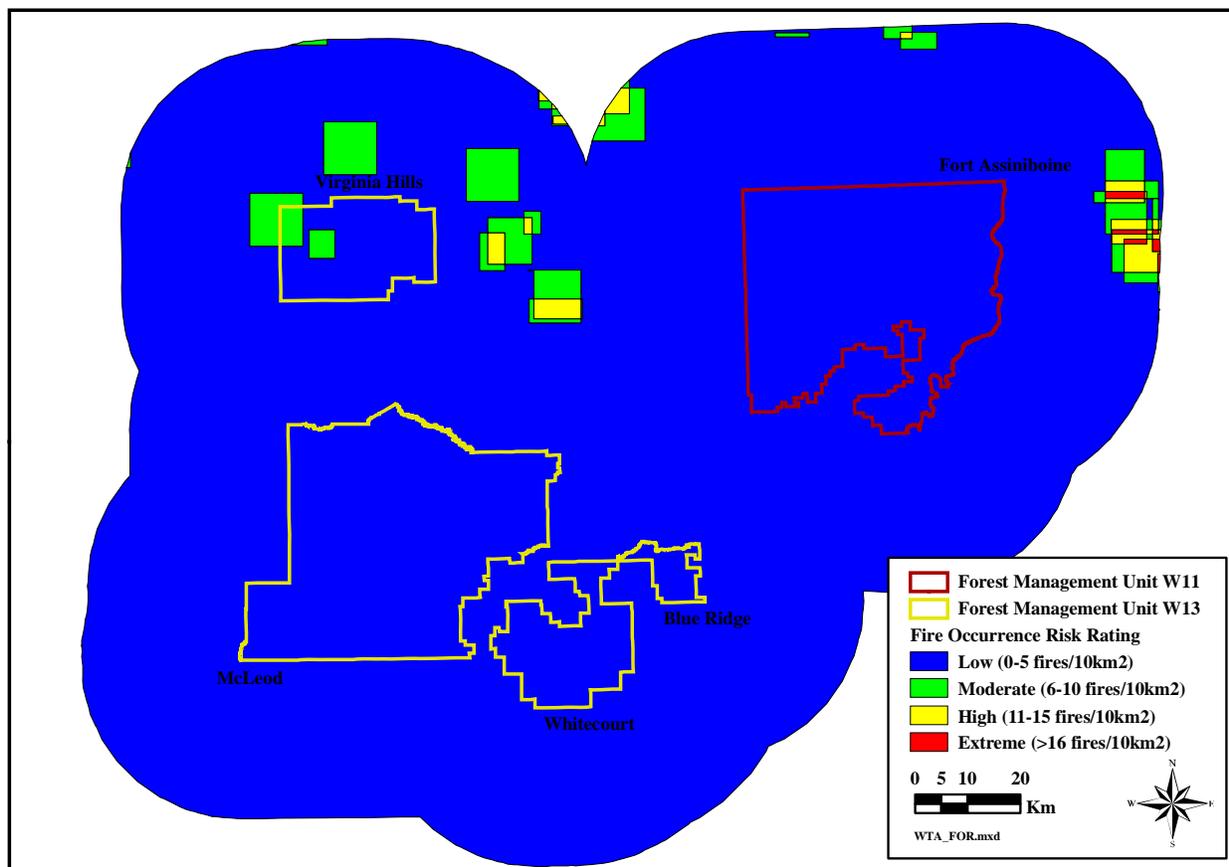
### 6.1.2 Fire Occurrence Risk

The WTAA, by Fire Occurrence Risk rating, is summarized in Table 34. The spatial distribution of the area within each of these ratings is illustrated in Figure 44.



**Table 34. Area, by Fire Occurrence Risk rating for the WTAA.**

Fire Occurrence Risk Rating	Area	
	(ha)	(%)
Low (0 - 5 fires/10km <sup>2</sup> )	2,132,832	96%
Moderate (6 - 10 fires/km <sup>2</sup> )	68,696	3%
High (11 - 15 firres/km <sup>2</sup> )	16,314	1%
Extreme( >= 16 fires/km <sup>2</sup> )	2,460	0%
<b>Total</b>	<b>2,220,302</b>	<b>100%</b>



**Figure 44. Distribution of area by Fire Occurrence Risk rating on the WTAA.**

### 6.1.3 Values-at-Risk

The WTAA, by Values-at-Risk rating, is summarized in Table 35. The spatial distribution of the area within each of these ratings is illustrated in Figure 45.

Table 35. Area, by Values-at-Risk rating for the WTAA.

Values-at-Risk Impact Rating	Area	
	(ha)	(%)
Low	31,464	1%
Moderate	1,160,510	52%
High	816,752	37%
Very High	195,897	9%
Extreme	15,679	1%
<b>Total</b>	<b>2,220,302</b>	<b>100%</b>

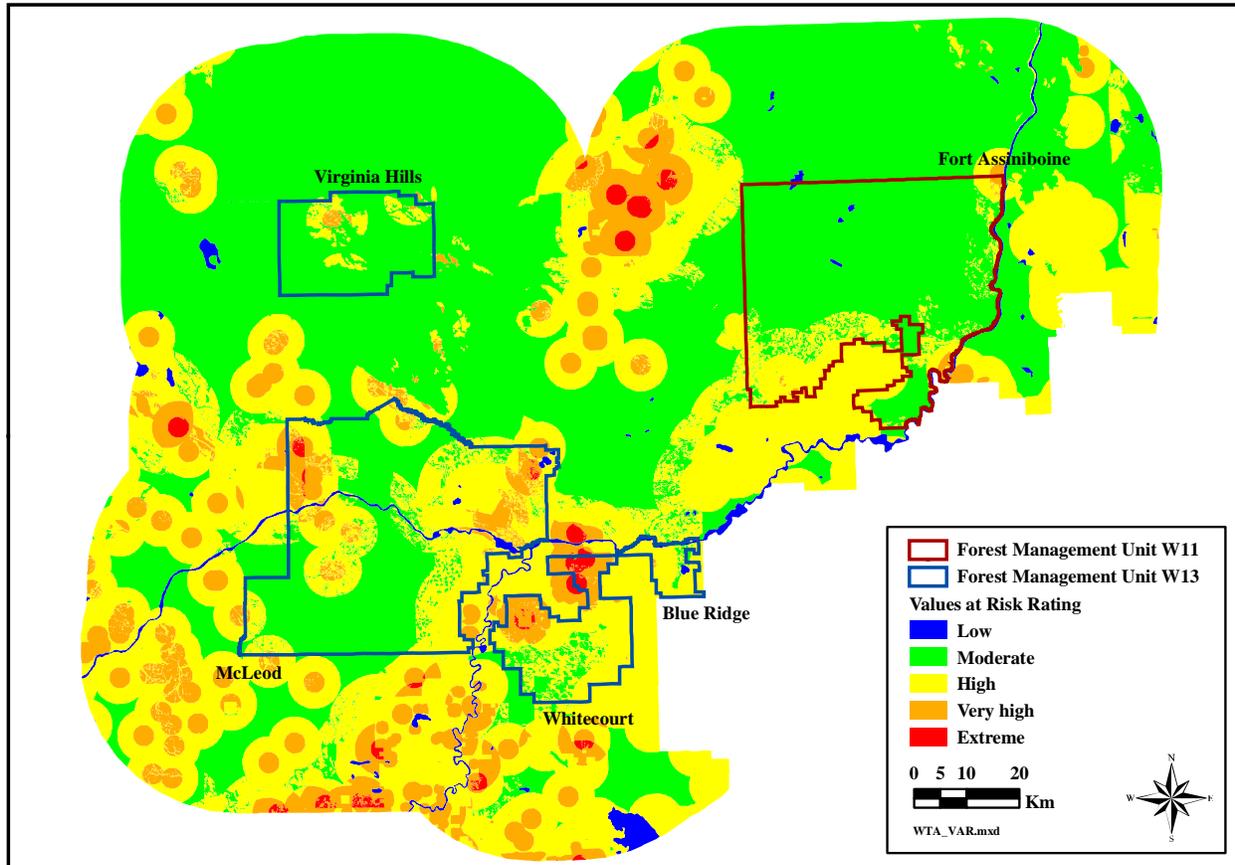


Figure 45. Distribution of area by Values-at-Risk rating on the WTAA.

### 6.1.4 Suppression Capability

The WTAA is summarized in Table 36, by Suppression Capability rating. The spatial distribution of the area within each of these ratings is illustrated in Figure 46.