

# Millar Western Forest Products Ltd.

A resourceful company

An aerial photograph of a river meandering through a vast forest. The trees are in various stages of autumn, showing shades of yellow, orange, and green. The river is a light blue color, and there are some sandy banks visible. The overall scene is a lush, natural landscape.

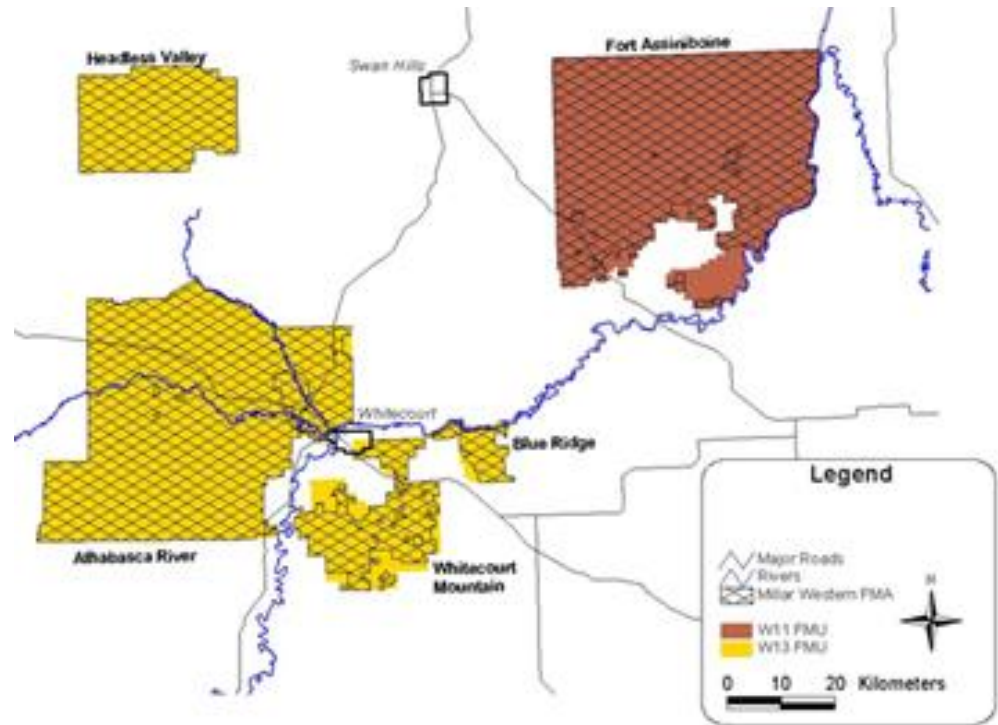
2017-2027 Detailed Forest Management Plan

Preferred Forest Management Scenario

October 2016

# Millar Western FMA Area

- Every 10 years, forest companies that hold Forest Management Agreements (FMA) with the Alberta government must undertake development of a long-term strategic plan called a Detailed Forest Management Plan (DFMP)
- Millar Western began working on its 2017-2027 Detailed Forest Management Plan (DFMP) in late 2014; the goal is to submit it to the Alberta government for approval in late 2016
- Note that the FMA is only one source of Millar Western's timber supply. We also obtain timber from quotas in other companies' FMA areas and through fibre-exchange agreements with other companies. A small percentage comes from open-market purchases.



Millar Western's FMA Area

# DFMP Status

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- To date, we have:
  - Worked with government, stakeholders and First Nations to identify forest values
  - Produced a new forest inventory and conducted a timber supply analysis, to determine available timber volumes
  - Using computer modeling software, forecasted the impact of proposed forest management activities on forest values, with a goal of finding the approach that best balances environmental, social and economic considerations
  - Arrived at a Preferred Forest Management Scenario (PFMS), or the scenario that best achieves the desired future forest
  - Begun presenting the PFMS to stakeholders, for input.

# Status of 2017-2027 Detailed Forest Management Plan

Activity	Status	Activity	Status	Activity	Status
Terms of Reference	✓	Volume Sampling	✓	Spatial Harvest Sequence	✓
Communication & Consultation Plan	✓	Chapter 3: Forest Landscape Assessment	✓	Draft Preferred Forest Management Scenario (PFMS)	In Progress
First Nations Consultation Plan	✓	Natural Range of Variation Approach	✓	Public Consultations – PFMS	In Progress
First Nations VOITs Consultation	✓	Classified Landbase	✓	First Nations Consultation - PFMS	X
VOITs Table	✓	Yield Curves	✓	Finalization of 8 Chapters	In Progress
Structure Retention Strategy	✓	Timber Supply Analysis	✓	Submission	X

# Net Land Base

- The tables below show the FMA area that is available for harvest (active land base)
- Some of the land base is set aside for reasons such as industrial development, parks, roads, residential development and conservation, while some, such as riparian areas or areas with steep slopes, are set aside for environmental considerations
- Of the total FMA area, 59% is available for forest management activities

Landbase Category	W11	W13	Total
<b>Passive</b>			
<b>Administrative Deletions</b>			
FN	0	3,543	3,543
MUN	0	711	711
PPA	7,871	2,197	10,068
PRIVATE	151	130	281
CBUF	222	0	222
SBUF	0	408	408
WBUF	6,333	13,037	19,369
SENSITIVE	4	10	14
<i>Administrative Subtotal</i>	<i>14,581</i>	<i>20,035</i>	<i>34,616</i>
<b>Landscape Restrictions</b>			
ROAD	861	5,099	5,960
ANTHNON	51	288	339
ANTHVEG	2,249	6,452	8,701
DIDs	335	3,821	4,156
AQUATIC	6	34	40
FLOOD	357	608	965
LAKE	2,107	624	2,731
RIVER	478	2,725	3,204
NNF	6,725	5,765	12,490
NNV	6	39	45
BURN	18	122	139
<i>Landscape Subtotal</i>	<i>13,192</i>	<i>25,578</i>	<i>38,769</i>

Landbase Category	W11	W13	Total
<b>Operations Restrictions</b>			
MOIST	51,974	41,626	93,600
TPR	18	392	409
DENSITY	1,143	7,938	9,082
SLOPE	204	1,770	1,973
BIRCH	670	2,044	2,714
LARCH	385	670	1,054
NOID	108	128	236
SHS	140	778	918
ISLAND	39	520	559
W11SB	4,239	0	4,239
SUBJ	305	355	659
ISO	1,380	4,517	5,897
<i>Operations Subtotal</i>	<i>60,604</i>	<i>60,737</i>	<i>121,340</i>
<i>Passive Landbase Subtotal</i>	<i>88,376</i>	<i>106,350</i>	<i>194,726</i>
<b>Active Landbase</b>			
Deciduous	49,182	53,736	102,918
Deciduous/Coniferous	9,696	19,339	29,035
Coniferous/Deciduous	7,629	18,822	26,451
Coniferous	20,961	98,605	119,566
<i>Active Landbase Subtotal</i>	<i>87,468</i>	<i>190,502</i>	<i>277,970</i>
<b>Landbase Total</b>	<b>175,844</b>	<b>296,851</b>	<b>472,696</b>



# Key Factors Reflected in the PFMS

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Many values are taken into account in developing a PFMS, a few of which are summarized here. More information is available upon request.

- **Habitat protection**

- The plan looks at numerous parameters, to evaluate the land base's ability to sustain and promote biodiversity, including adequate presence of new and old forest, and the size and shape of the harvested areas (patch size)
- Habitat is assessed for indicator species, identified by the Alberta government: songbirds, pine marten, grizzly bear and barred owl

- **Protection of water sources**

- The Alberta government uses Equivalent Clearcut Area (ECA), which represents the relative change in hydrological flow from a harvested stand back to a mature forest
- ECA uses stand age to approximate the amount of water that flows overland: as vegetation grows, more water is intercepted by the vegetation
- Areas that are assessed as high risk could be subject to a risk evaluation by the Alberta government, which may trigger plan changes

# Key Factors Reflected in the PFMS

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- **Adequate timber supply to maintain productivity, employment**
  - Millar Western's FMA is a significant source for its timber needs, and also provides timber to Spruceland and Weyerhaeuser, which have quotas in Millar Western's FMA area
- **Forest renewal**
  - Critical to sustainable forest management is renewal of healthy forests
  - Silviculture strategies are developed according to requirements of the Reforestation Standard of Alberta
  - Detailed silviculture tables outline forest renewal strategies for each block, outlining the species mix, whether site preparation will be employed, and anticipated interventions post planting
  - Millar Western also undertakes growth and yield monitoring, to measure forest productivity over time
- **Forest risks**
  - A key objective of sustainable forest management is to maintain healthy forests and reduce risks posed by wildfire, insects and disease
  - The Alberta government provides initial wildfire threat assessments: Areas of high risk are in the Windfall Burn area, black spruce deletions, regenerating cutblocks
  - Among risk-reduction strategies will be continued targeting of pine stands at risk for mountain pine beetle infestation



# Key Differences from 2007-2017 PFMS

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- Millar Western's previous DFMP (2007-2017) is available on the Alberta government's website:  
<http://www.agric.gov.ab.ca/app21/forestry?page?cat1=Forest%20Management&cat2=Forest%20Management%20Plans&cat3=Millar%20Western%20Forest%20Products%20Ltd>.
- The main differences between the 2017-2027 PFMS and the plan approved for 2007-2017 are as follows:
  - Minimum harvest age lowered for both natural and regenerated stands (more so in W13)
    - Majority of natural timber being sequenced is older, but a younger minimum harvest age allows the model to create more contiguous harvest patches, resulting in less fragmentation
    - Maturing planted stands are showing greater productivity, with larger stems and higher volumes at a younger age
  - Merchantable structural retention up from 1% to 3% within harvest areas
    - Structure is retained for habitat purposes
    - Riparian zones and other forested deletions represent an additional 5% to 9% of merchantable forest that is unavailable for harvest
    - If all of the FMA is considered, as much as 8% to 12% of the merchantable forest is retained





# Key Differences from 2007-2017 PFMS

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- Shift from pine focus to balanced conifer focus
  - Last DFMP targeted mature and over-mature pine stands, to address mountain pine beetle
  - New proposed plan shifts more to “at risk” stands, i.e., over-mature spruce and remaining susceptible pine
  - Windfall burn area is primarily pine but is not quite mature; will need to monitor this area for pine beetle
- To ensure long-term sustainability, AAC will be reduced to compensate for temporary increase in AAC that was encouraged under the Healthy Pine Strategy (surge cut)
  - Harvest reductions will be somewhat mitigated by increased yield on regenerated stands
  - Exact AAC numbers will be determined when final timber supply forecasting is completed, after consultations are concluded

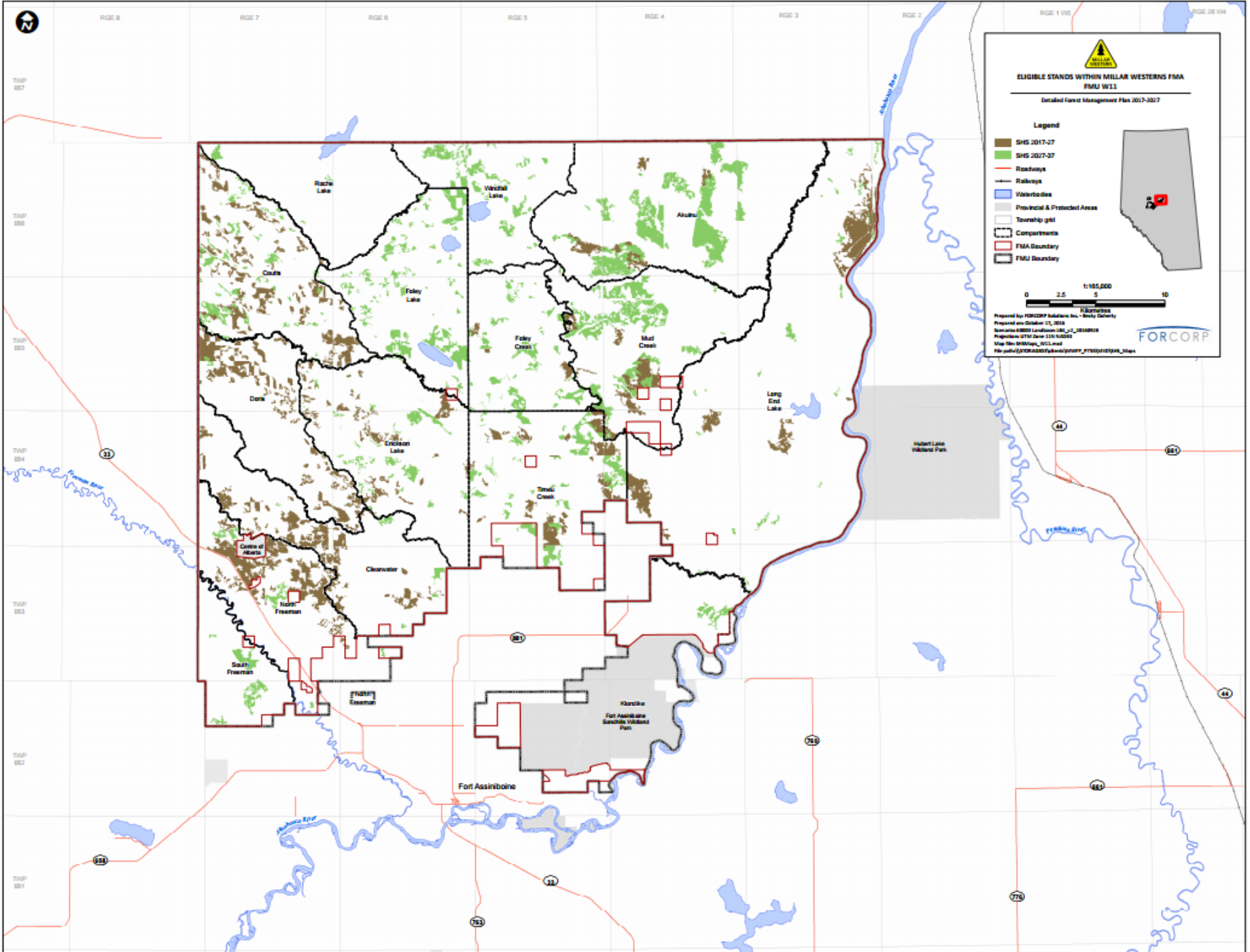


# Spatial Harvest Sequence (SHS) Maps

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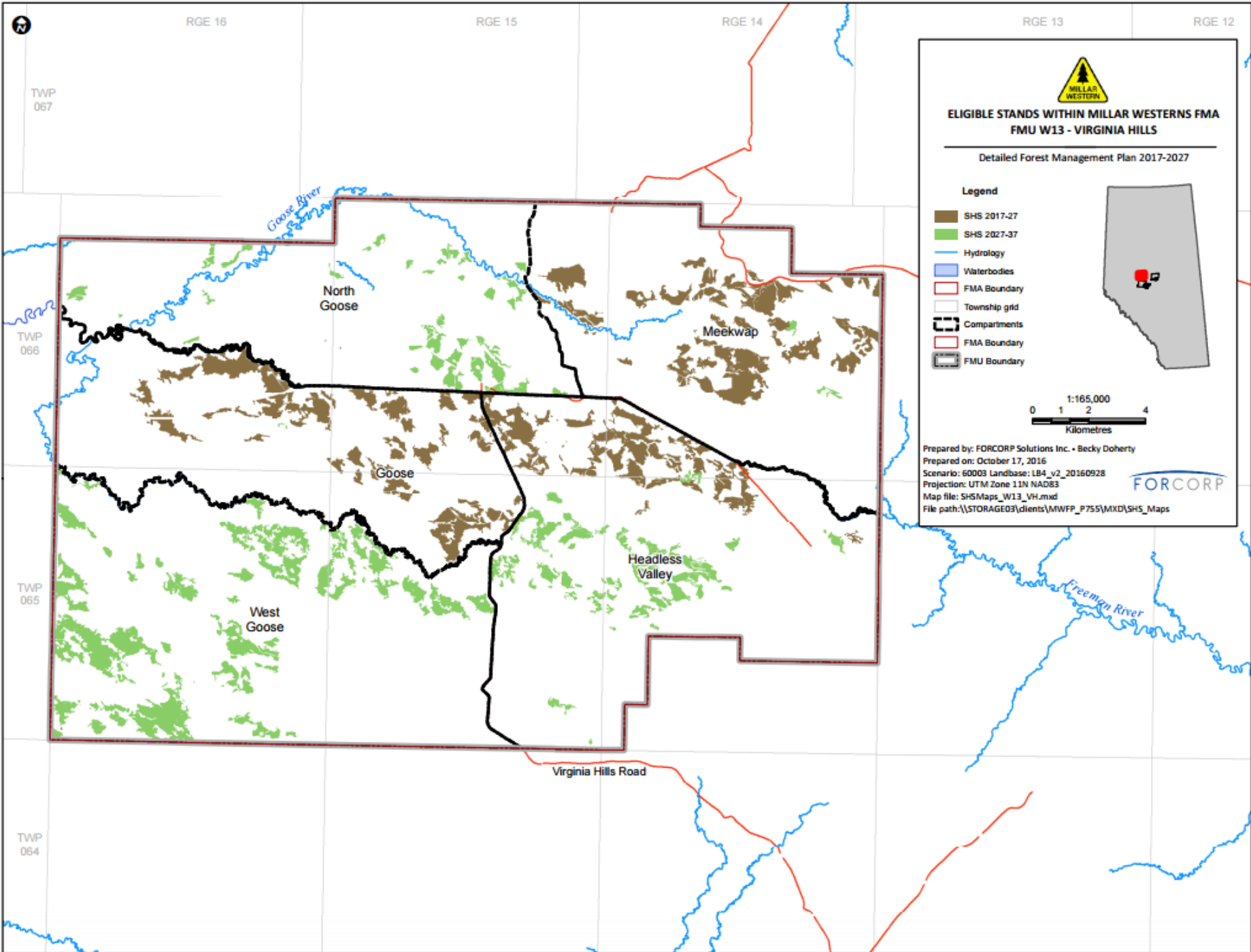
- Once we have arrived at a PFMS, we are able to pinpoint the areas where harvesting can take place over the next 20 years
- We depict these planned harvest areas, called Spatial Harvest Sequences (SHS), on maps, which are included in the following slides for the periods 2017-2027 and 2027-2037
- While the SHSs are close to being final, they may still be adjusted to accommodate issues that arise during public consultations during the fall of 2016
- **Please check back on this website for final versions, or contact Bob Mason: [bmason@millarwestern.com](mailto:bmason@millarwestern.com)**
- Higher resolution PDF versions of each of the following maps (W11, W13-Main, W13-Virginia Hills) are posted separately on the virtual open house of Millar Western's website.











RGE 16

RGE 15

RGE 14

RGE 13

RGE 12

TWP 067

TWP 066

TWP 065

TWP 064

Goose River

North  
Goose

Meekwap

Goose

Headless  
Valley

West  
Goose

Virginia Hills Road

Freeman River

# Next Steps

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- Consult with the public, First Nations, on PFMS
- Incorporate any feedback into PFMS
- Adjust the SHS as necessary
- Complete the DFMP chapters
- Submit the DFMP to the Alberta government by end of 2016, for approval by April 2017