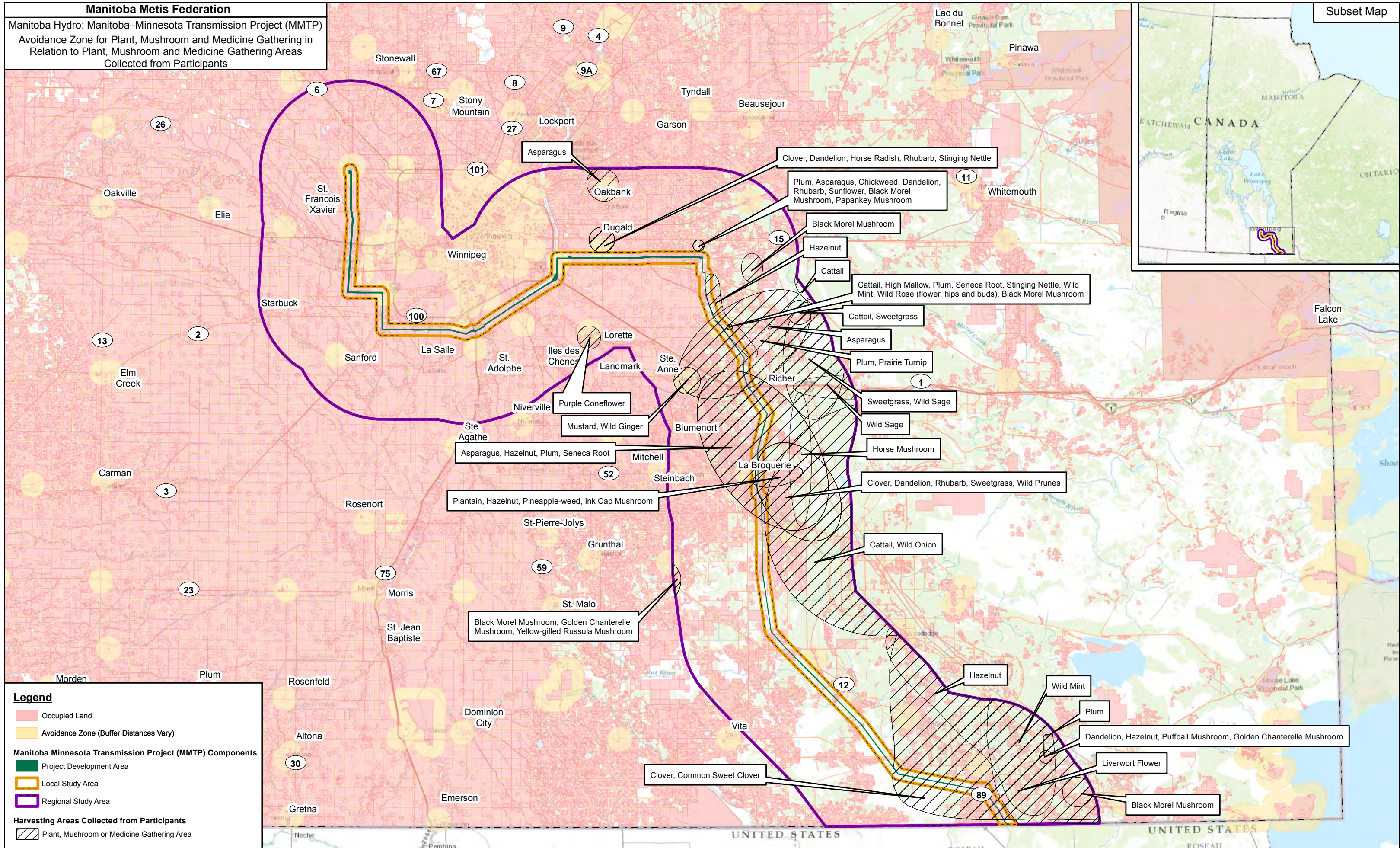


**Manitoba Metis Federation**

Manitoba Hydro: Manitoba–Minnesota Transmission Project (MMTP)  
 Avoidance Zone for Plant, Mushroom and Medicine Gathering in  
 Relation to Plant, Mushroom and Medicine Gathering Areas  
 Collected from Participants

Subset Map



**Legend**

- Occupied Land
- Avoidance Zone (Buffer Distances Vary)
- Manitoba Minnesota Transmission Project (MMTP) Components**
- Project Development Area
- Local Study Area
- Regional Study Area
- Harvesting Areas Collected from Participants**
- Plant, Mushroom or Medicine Gathering Area



**Map Scale:** 1:1,600,000  
**Inset Map Scale:** 1:17,000,000  
**Date:** June 13, 2016

**Custom Transverse Mercator Projection:**  
 False Easting: 5    Scale Factor: 0.996  
 Central Meridian: -97    Linear Unit: Meter (1.0)

**Data Sources:** Manitoba Hydro, Government of Manitoba, GeoGratis (Natural Resources Canada)  
**Base Map Sources:** Esri

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**Prepared By:**  
 Calliou Group

**Prepared For:**  
 Manitoba Metis Federation

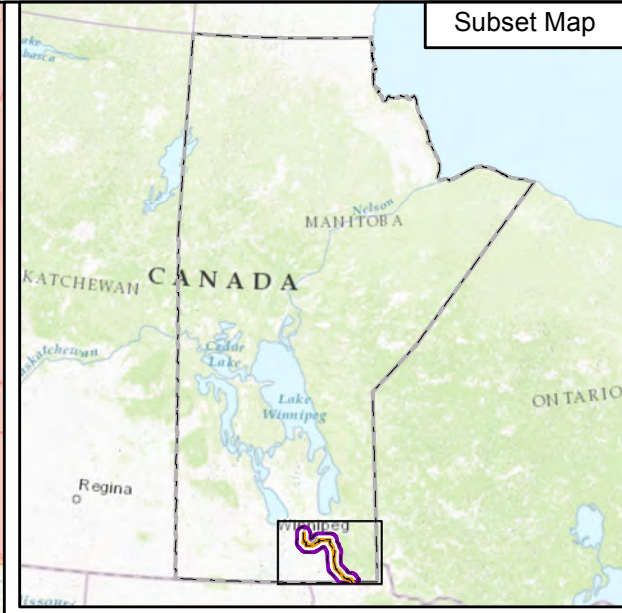
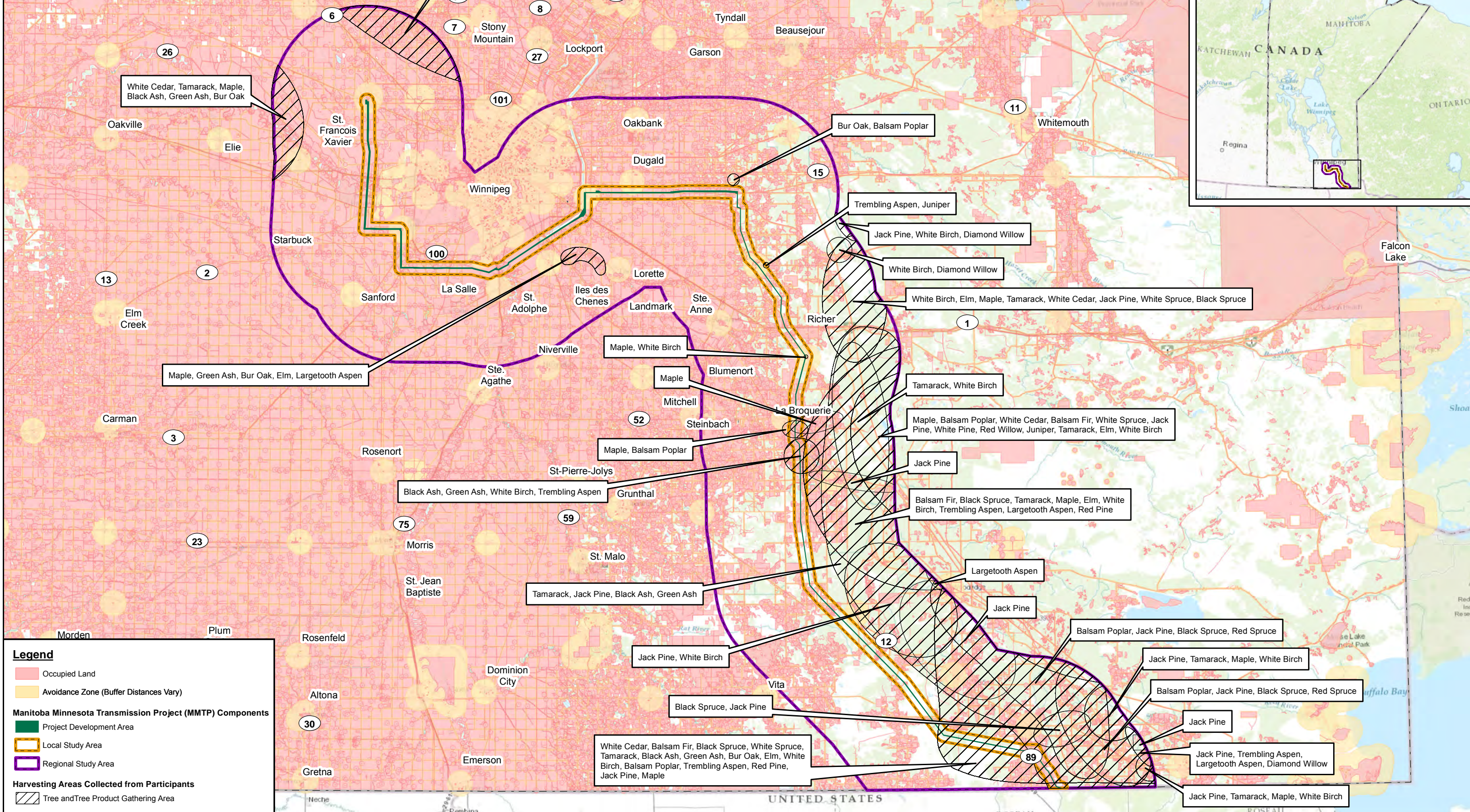
**Map Produced By:**  
 Metis N4 Construction  
Cartographer: Leslie Sarapu

**Figure:**  
 5-2-6

**Manitoba Metis Federation**

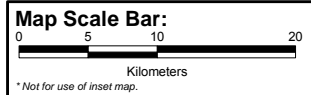
**Subset Map**

Manitoba Hydro: Manitoba–Minnesota Transmission Project (MMTP)  
 Avoidance Zone for Gathering Trees and Tree Products in Relation to  
 Gathering Trees and Tree Products Areas Collected from Participants



**Legend**

- Occupied Land
- Avoidance Zone (Buffer Distances Vary)
- Manitoba Minnesota Transmission Project (MMTP) Components**
  - Project Development Area
  - Local Study Area
  - Regional Study Area
- Harvesting Areas Collected from Participants**
  - Tree and Tree Product Gathering Area



**Map Scale:** 1:1,600,000  
**Inset Map Scale:** 1:17,000,000  
**Date:** June 13, 2016

**Custom Transverse Mercator Projection:**  
 False Easting: 5 Scale Factor: 0.996  
 Central Meridian: -97 Linear Unit: Meter (1.0)

**Data Sources:** Manitoba Hydro, Government of Manitoba, GeoGratis (Natural Resources Canada)  
**Base Map Sources:** Esri

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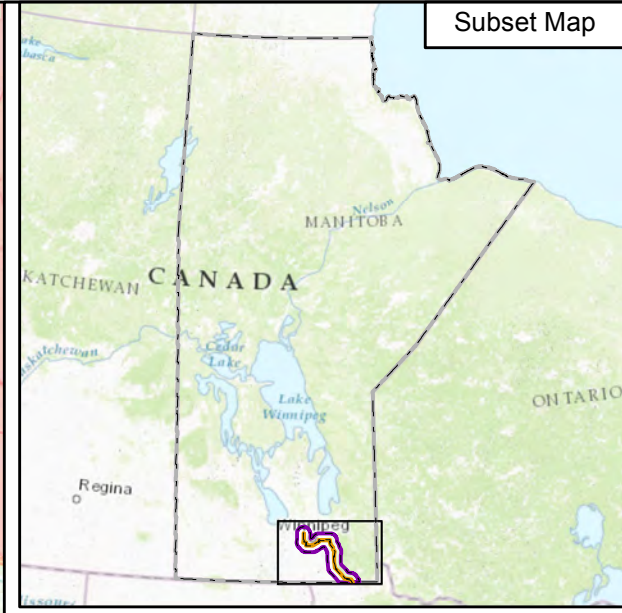
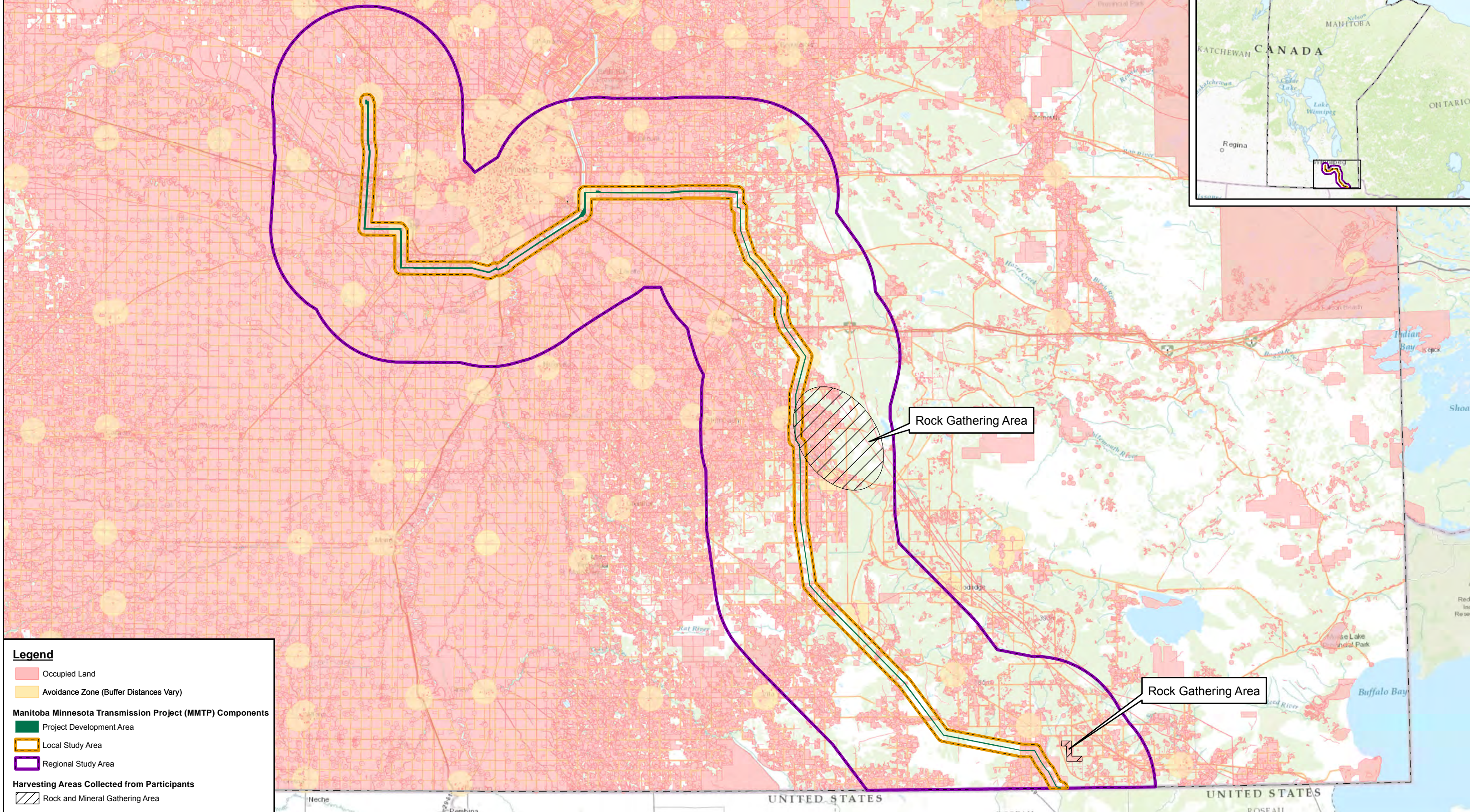
**Prepared By:** Calliou Group

**Prepared For:** Manitoba Metis Federation

**Map Produced By:** Metis N4 Construction  
 Cartographer: Leslie Sarapu

**Figure:** 5-2-7

Manitoba Hydro: Manitoba–Minnesota Transmission Project (MMTP)  
Avoidance Zone for Gathering Rocks and Minerals in Relation to  
Gathering Rocks and Minerals Areas Collected from Participants



**Legend**

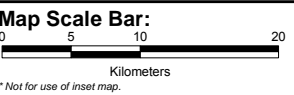
- Occupied Land
- Avoidance Zone (Buffer Distances Vary)

**Manitoba Minnesota Transmission Project (MMTP) Components**

- Project Development Area
- Local Study Area
- Regional Study Area

**Harvesting Areas Collected from Participants**

- Rock and Mineral Gathering Area



Map Scale: 1:1,600,000  
Inset Map Scale: 1:17,000,000  
Date: June 13, 2016

Custom Transverse Mercator Projection:  
False Easting: 5    Scale Factor: 0.996  
Central Meridian: -97    Linear Unit: Meter (1.0)

Data Sources: Manitoba Hydro, Government of Manitoba, GeoGratis (Natural Resources Canada)  
Base Map Sources: Esri

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Prepared By: Calliou Group

Prepared For: Manitoba Metis Federation

Map Produced By: Metis N4 Construction

Figure: 5-2-8

## 5.3 Scope of the Assessment

### 5.3.1 Selection of Potential Effects

Potential effects on 'Harvesting' were identified through internal discussions between the MMF and the Study Team and a selection of workshops held with MMF citizens. The following potential effects on 'Harvesting' were identified:

- Changes in Harvesting Activities and Experience
- Alteration of Culturally Critical Species



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#### 5.3.1.1 Changes in Harvesting Activities and Experience

The construction and operation of the Project may cause changes to the preferred means of harvesting. The Project will result in an alteration of harvesting activities in terms of locations available and species harvested. It will also result in a change to the overall harvesting experience, including solitude. The level of success for harvesting will also be impacted in terms of displacement of species typically harvested. This will be accomplished by both real and constructive Project effects as well as perceived effects as expressed by Survey Participants.

### 5.3.1.2 Alteration of Culturally Critical Species

Culturally critical species may be altered by construction and operation of the Project through changed wildlife behavior and removal of vegetation species from the PDA. The Project may also result in a change to the perception of the culturally critical species.

### 5.3.2 Selection of Measurable Parameters

The measurable parameters that will be used to assess any potential effects to 'Harvesting' are listed in Table 5-3-2-1.

Table 5-3-2-1: Measurable Parameters for 'Harvesting'

Effect	Measurable Parameter(s) and Units of Measurement	Notes or Rationale for Selection of the Measurable Parameter
Changes in Harvesting Activities and Experience	Change in Type of Harvesting Activity Undertaken	Project could results in alteration of harvesting activities in terms of trip locales, species harvested, etc.
	Change or Perception of Change in Quality of Harvesting Experience	Project could result in a change in the overall experience of harvesting in terms of solitude, quietude, perception of safety, perception of solitude, contamination.
	Change in Harvesting Success	Project could result in a change to the success of Metis harvesting in harvesting particular species in the exercise of their Metis rights due to displacement, ineffective timing windows, etc.
Alteration of Culturally Critical Species	Change in availability of Culturally Critical Species	The Project could result in a change of available critical species due to either construction or operation activities of the MMTP. This could either be due to movement of species to other areas, or removal of species from traditional use.
	Change in Perception of Culturally Critical Species	The Project could result in a change in perception related to Culturally Critical Species which could include a perception of contamination.

### 5.3.3 Residual Effect Description Criteria

Residual effects are the effects that remain following mitigation measures. The criteria used to describe these effects can be found in Table 5-3-3-1:

Table 5-3-3-1: Residual Effect Description Criteria

Residual Effects Criteria for 'Harvesting'		
Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Direction	The trend of the residual effect	<p><b>Positive</b> – measurable effect that increases the opportunities for the exercise of Metis rights.</p> <p><b>Adverse</b> – measurable effect that reduces the opportunities for the exercise of Metis rights.</p> <p><b>Neutral</b> – no change to the opportunities necessary for the exercise of Metis rights.</p>
Magnitude	The amount of change in measurable parameters relative to existing conditions	<p><b>Negligible</b> – no measurable change in land preferred from baseline.</p> <p><b>Low</b> – will decrease the total amount of land preferred for the exercise of a Metis Aboriginal right or Aboriginal rights but will not reduce the ability for a Metis Aboriginal right or Aboriginal rights to be exercised.</p> <p><b>Moderate</b> – will decrease the total amount of land preferred for the exercise of a Metis Aboriginal right or Aboriginal rights and will reduce the ability for a Metis Aboriginal right or Aboriginal rights to be exercised.</p> <p><b>High</b> – will eliminate the land preferred for the exercise of a Metis Aboriginal right or Aboriginal rights and will reduce the ability for a Metis Aboriginal right or Aboriginal rights to be exercised.</p>
Geographic Extent	The geographic area in which an environmental effect occurs	<p><b>PDA</b> – effects are restricted to the PDA</p> <p><b>LAA</b> – effects extend into the LAA</p> <p><b>RAA</b> – effects extend into the RAA</p>
Frequency	Identifies when the residual effect occurs and how often during the Project or in a specific phase	<p><b>Single event effect</b> – occurs once</p> <p><b>Multiple irregular event</b> (no set schedule) – effect occurs at irregular intervals throughout the Project.</p> <p><b>Multiple regular event</b> – effect occurs on a regular basis and at regular intervals throughout the Project.</p> <p><b>Continuous</b> – effect occurs continuously throughout the life of the Project</p>
Duration	The period of time required until the measurable parameter returns to its existing condition, or the effect can no longer be measured or otherwise perceived	<p><b>Short-term</b> – residual effect restricted to construction phase</p> <p><b>Medium-term</b> – residual effect extends more than the construction phase but less than the life of the Project.</p> <p><b>Permanent</b> – residual effect extends for the lifetime of the Project or more</p>
Reversibility	Pertains to whether a measurable parameter can return to its existing condition after the Project activity ceases	<p><b>Reversible</b> – the effect is likely to be reversed after activity completion</p> <p><b>Irreversible</b> – the effect is unlikely to be reversed</p>

Residual Effects Criteria for 'Harvesting'		
Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Ecological Context	Existing condition and trends in the area where the effect occurs	<p><b>Undisturbed</b> – area has no or negligible disturbance or not adversely affected by human development.</p> <p><b>Disturbed</b> - area has been previously disturbed over large portions by human development or human development is present.</p>

## 5.4 Project Interactions with 'Harvesting'

The specific Project activities that have the potential to interact with 'Harvesting' are listed in Table 5-4-1.

Table 5-4-1: Project Interactions with 'Harvesting'

Project Components and Physical Activities <sup>181</sup>	Changes in Harvesting Activities and Experience	Alteration of Culturally Critical Species
<b>Transmission Line Construction Activities</b>		
Mobilizing (staff and equipment)	✓	✓
Access Route and Bypass Trail Development	✓	✓
Right-of-way Clearing/Geotechnical Investigations	✓	✓
Marshalling Yards, Borrow Sites, Temporary Camp Setup	✓	✓
Transmission Tower Construction and Conductor Stringing	✓	✓
Demobilization	✓	✓
<b>Transmission Line Operations/Maintenance</b>		
Transmission Line Operations/ Presence	✓	✓
Inspection Patrols	✓	✓
Vegetation Management (tree control)	✓	✓
<b>Station Construction</b>		
Station Site Preparation	✓	✓

<sup>181</sup> All project activities are compiled from the EIS

Project Components and Physical Activities <sup>163</sup>	Changes in Harvesting Activities and Experience	Alteration of Culturally Critical Species
Electrical Equipment Installation	✓	✓
<b>Station Operations/Maintenance</b>		
Station Operation/Presence	✓	✓
Vegetation Management (weed control)	✓	✓

## 5.5 Effects Assessment

To determine changes to ‘Harvesting’ the Study Team relied on information collected from MMF Survey Participants.

### 5.5.1 Changes in Harvesting Activities and Experience

The Project has the potential to affect ‘Harvesting Activities and Experience’ efficacy through changes in locations available and species available for harvest. Participant M338 noted that “[y]ou’re gonna [sic] be clearing out areas which is what wildlife would normally like living in ... and once you clear it out and you compact it with all the big machines, you’re compacting the ground; it takes forever for the vegetation to grow up through it again ... if I was an animal I wouldn’t want to go and eat there [be] cause it’s gonna [sic] be mud for years...” It could also result in a change to the overall ‘Harvesting’ experience, for example, solitude. Many Participants indicated they seek out solitude rather than the busier harvesting areas. Participant M345 noted that they “...try to go where there’s no trails; the less people, the better.” The level of success for ‘Harvesting’ may also be impacted in terms of displacement of species required for harvesting. Participant M300 noted that “[t]here is wildlife out there, but we’re having [sic] to go further and further away ... whereas before we would drive an hour – hour and a half, now it’s a minimum two hours.” These changes have the potential to alter MMF’s preferred means of harvest.





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### **5.5.2 Type of Harvesting Activity Undertaken**

As previously noted, in Section 4.4.1, the MMF will be restricted from accessing the PDA through construction of the Project and at select times, at Manitoba Hydro's discretion, for operations and maintenance activities. Participants only highlighted use in preferred areas, areas that were commonly used and frequented over time.

292 specific use sites were identified as intersecting the PDA. With the approval of the Project, these sites will undergo increased legal restriction (98% subject to increased legal restriction) and will no longer be preferred by Metis citizens.

The implementation of the easement agreement and Manitoba Hydro's ongoing operations and maintenance activities would limit the ability of MMF citizens to exercise their harvesting rights. As there is currently no mechanism in place to inform MMF citizens of when these activities could occur, they are largely random occurrences. Participant M334 indicated that workers in the vicinity of transmission lines would force animals to leave.

There is a general assumption within the EIS that Metis citizens can go elsewhere to harvest should the sites on the PDA be affected. For example, the EIS, in the characterization of residual environmental effects to hunting and trapping, states that "...the Project is unlikely to have a measurable effect on wildlife abundance in the LAA."<sup>182</sup> While it is acknowledged in the EIS that the PDA will result in some level of disruption to First Nations and Metis hunting and trapping activities, the magnitude of effect is considered 'moderate' due to the availability and abundance of species in the LAA. The Survey results, however, show that Survey Participants avoidance behaviors make this assumption problematic.

For the LAA, when the Diminished Preference Zone is applied, the amount of preferred land remaining is:

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182 Manitoba Hydro 2015 Manitoba-Minnesota Transmission Project Environmental Impact Statement, p. 11-49

Table 5-5-2-1: Total Land Available after Diminished Preference Zone in LAA

Activity Type	Remaining Land
Hunting	8%
Trapping	32%
Fishing	53%
Berry or Berry Plant Gathering	34%
Plant, Mushroom and Medicine Gathering	33%
Tree and Tree Product Gathering	32%
Rock and Mineral Gathering	34%

For the RAA, when the Diminished Preference Zone is applied, the amount of preferred land remaining is:

Table 5-5-2-2: Total Land Available after Diminished Preference Zone in RAA

Activity Type	Remaining Land
Hunting	10%
Trapping	34%
Fishing	47%
Berry or Berry Plant Gathering	35%
Plant, Mushroom and Medicine Gathering	35%
Tree and Tree Product Gathering	34%
Rock and Mineral Gathering	35%

Further, Survey Participants indicated that they would avoid transmission lines<sup>183</sup> by no less than 100m/100 yards. This is important because the diminished preference of the Project may result in further displacement of MMF citizens.

Please note, the category of Occupied Land on the following maps means Private and Occupied Crown Land.

183 73% would avoid transmission lines for hunting, 42% would avoid transmission lines for trapping, 60% would avoid transmission lines for fishing, 64% would avoid transmission lines for berry or berry plant gathering, 72% would avoid transmission lines for plant, mushroom or medicine gathering, 61% would avoid transmission lines for tree and tree product gathering, and 25% would avoid transmission lines for tree and tree product gathering.