



MISTIK MANAGEMENT LTD.

APRIL 2024

REVISED JULY 2024

2022/2023 ANNUAL REPORT

Meadow Lake Timber Supply Area and Glaslyn
Timber Supply Area



Mistik Management Ltd. 2019-2039 20-year Forest Management Plan

2022/23 Annual Report

for the

Meadow Lake Timber Supply Area and Glaslyn Timber Supply Area

Submitted by

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2 INTRODUCTION

Mistik Management Ltd. (“Mistik”) provides forest management services on behalf of its owners, NorSask Forest Products LP (“NorSask”), and Meadow Lake Mechanical Pulp Inc. (“MLMP”), both located near Meadow Lake, SK. Mistik also provides forest management services for NorthWind Forest Products (“NorthWind”) located in Glaslyn SK. Both NorSask and NorthWind are owned by Meadow Lake Tribal Council.

Mistik and NorthWind conduct their forestry operations within the context of a 20-year Forest Management Plan (FMP) as required under provincial legislation and forest management agreements in Saskatchewan, Forest Management Plans must meet the requirements of the *Saskatchewan Environmental Code, Forest Management Planning Standard 2017* (“FMP standard”). Mistik’s FMP provides strategic-level direction for management of forest resources within the Mistik and L&M Forest Management Agreement areas¹. The FMP establishes goals, objectives, and strategies to guide forest management activities, describes desired future forest conditions, and seeks to address land and resource use. Mistik’s 2019-2039 20-year FMP was approved on May 23, 2019.

This annual report is being submitted to fulfil the FMP reporting requirement of section 1-54 of the provincial FMP standard. The report covers the timeframe of April 1, 2022 – March 31, 2023, and assesses progress on FMP values, objectives, indicators, and targets (“VOITs”), public involvement, non-timber values, natural disturbances, compliance with legislation, and other FMP commitments.

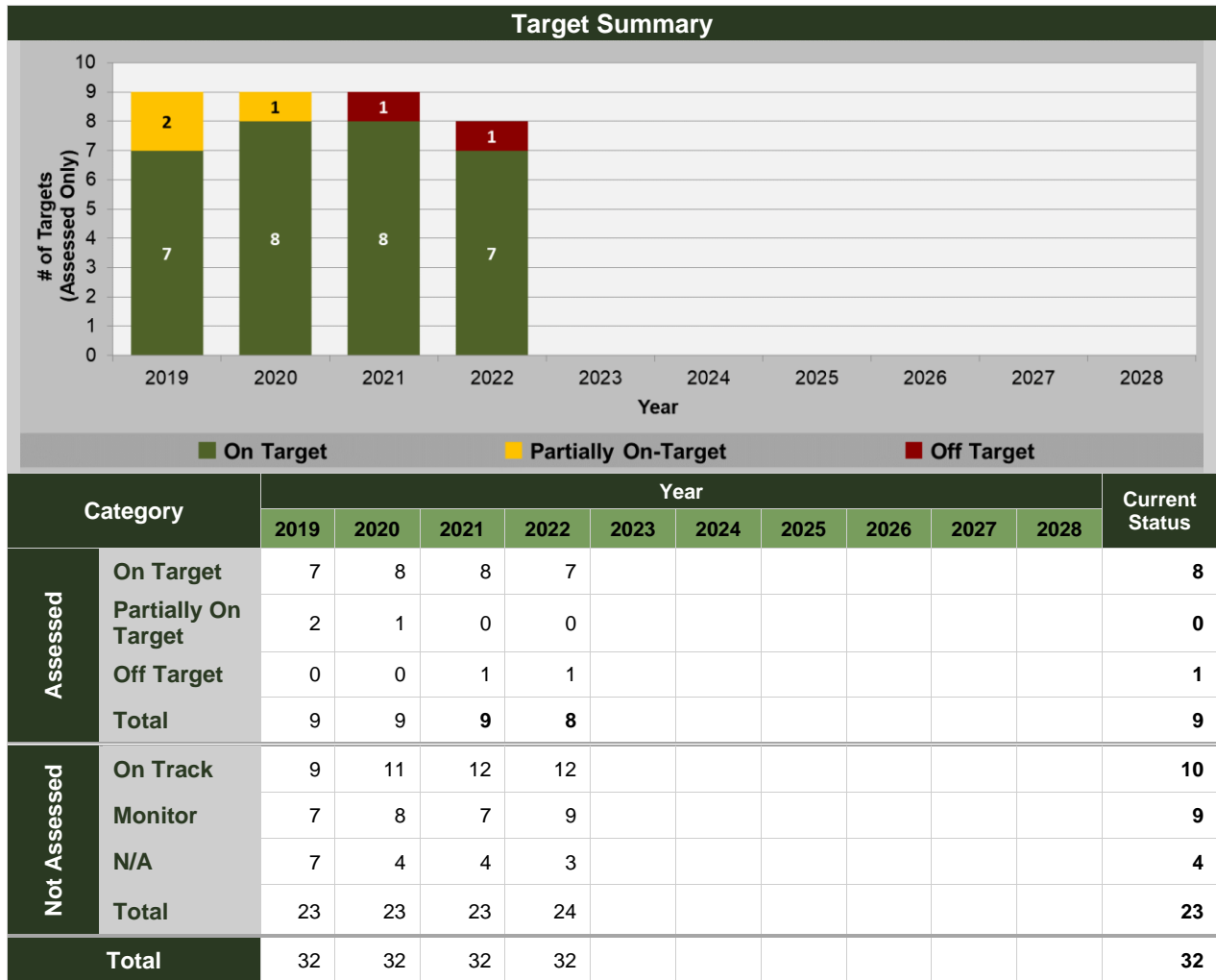
Each FMP indicator has a defined assessment timeframe of annual, 5-year, or 10-year basis (refer to Section 4 – FMP Targets). Although most indicators are reported on annually, a more formal assessment is made according to the defined assessment timeframe. Annual reporting of indicators that are not being formally assessed outlines if the indicator is “on track” to meet the desired objective. The FMP Management Implementation Team (MIT) made up of company and Ministry of Environment representatives, reviews the annual report each year to determine why any indicators may be “off track” and if adjustments to procedures or operations need to be made.

For a full understanding of the FMP and indicators used, please refer to the *Mistik 2019-2039 20-year Forest Management Plan* which can be found on Mistik’s website (www.Mistik.ca).

Note that Mistik amended the forest management plan in 2022-23 to gain alignment with the Range Plan for Woodland Caribou in Saskatchewan, which was finalized by the province in October 2021. The changes to the forest management plan were approved and became effective April 1, 2023. Annual reports starting with the 2023-24 operating year will be updated to reflect these changes.

¹ The L&M Forest Management Agreement is now held by NorthWind Forest Products. References to “L&M” throughout the FMP and annual reports are in reference to activities undertaken on the L&M Forest Management Agreement area.

3 FMP TARGET SUMMARY



4 FMP TARGETS

Reporting Item	Description	Status (Parts)	Reporting Cycle	Assessment Cycle	Next Assessment Year	Location
<u>Target 1</u>	Age Class Distribution	Not Assessed (N/A)	Annual	10-Year	2028	Page 7.
<u>Target 2a</u>	Percent for the forest landbase that is old and very old (10 parts)	Not Assessed (On Track)	Annual	10-Year	2028	Page 9.
<u>Target 2b</u>	Standard deviation of old forest area by management unit (5 parts)	Not Assessed (Monitor)	Annual	10-Year	2028	Page 11.

Reporting Item	Description	Status (Parts)	Reporting Cycle	Assessment Cycle	Next Assessment Year	Location
<u>Target 3</u>	Size class distribution of harvest events (5 parts)	Not Assessed (Monitor)	5-year	10-Year	2028	Page 12.
<u>Target 4</u>	Tree retention after harvest (2 parts)	Not Assessed (Monitor)	Annual	5-Year	2023	Page 14.
<u>Target 5</u>	The softwood component in hardwood stands is maintained	Not Assessed (N/A)	Annual	5-Year	2023	Page 15.
<u>Target 6</u>	Relative abundance of SGR Forest Types are forecasted to be maintained at next rotation (8 parts)	Not Assessed (Monitor)	Annual	5-Year	2023	Page 17.
<u>Target 7a</u>	Current habitat availability for Fisher vs. predicted future (modelled) supply	Not Assessed (On Track)	Annual	5-Year	2023	Page 18.
<u>Target 7b</u>	Habitat availability for Caribou (2 parts)	On Target (2/2)	Annual	Annual	Annual	Page 19.
<u>Target 7c</u>	Current habitat availability for Moose vs. predicted future (modeled) supply	Off Target	Annual	Annual	Annual	Page 22.
<u>Target 8</u>	Seedlings are from wild or improved seed sources	Not Assessed (On Track)	Annual	5-Year	2023	Page 24.
<u>Target 9</u>	Post-harvest areas are successfully regenerated	Not Assessed (Monitor)	Annual	5-Year	2023	Page 25.
<u>Target 10</u>	Change in the managed forest landbase area	Not Assessed (On Track)	Annual	5-Year	2023	Page 26.
<u>Target 11</u>	Net area disturbed by stand replacing natural events (fire)	On Target	Annual	Annual	Annual	Page 27.
<u>Target 12</u>	Proportion of a natural disturbance event retained un-salvaged	Not Assessed (On Track)	Annual	5-Year	2023	Page 28.
<u>Target 13</u>	Yield curve suitability; measured by actual harvest volume (m ³ /ha) compared to predicted volume (2 parts)	Not Assessed (Monitor)	5-year	5-Year	2023	Page 29.
<u>Target 14</u>	Utilization assumption consistency and implementation	On Target	Annual	Annual	Annual	Page 31.
<u>Target 15</u>	Operational adherence to the Tactical Plan	Not Assessed (On Track)	Annual	5-Year	2023	Page 32.

Reporting Item	Description	Status (Parts)	Reporting Cycle	Assessment Cycle	Next Assessment Year	Location
<u>Target 16</u>	Harvesting activities in compliance with all related requirements	Not Assessed (Monitor)	Annual	5-Year	2023	Page 33.
<u>Target 17</u>	Crossing activities in compliance with all related requirements	Not Assessed (Monitor)	Annual	5-Year	2023	Page 34.
<u>Target 18</u>	Event Duration	Not Assessed (On Track)	Annual	5-Year	2023	Page 35.
<u>Target 19a</u>	Utilization of harvest volume schedule (HVS) (2 parts)	Not Assessed (On Track)	Annual	5-Year	2023	Page 36.
<u>Target 19b</u>	Harvest plans designed to lower wildfire risks to communities	Not Assessed (N/A)	Annual	5-Year	2023	Page 38.
<u>Target 20</u>	Stakeholder and public engagement (Public Advisory Group meetings)	On Target	Annual	Annual	Annual	Page 39.
<u>Target 21</u>	Spatially identified non-timber resources and forest use activities	On Target	Annual	Annual	Annual	Page 40.
<u>Target 22</u>	Harvest operations are proportionally distributed across the FMA (20 parts)	Not Assessed (Monitor)	Annual	5-Year	2023	Page 41.
<u>Target 23</u>	Aboriginal community involvement in planning processes (10 parts)	On Target (10/10)	Annual	Annual	Annual	Page 43.
<u>Target 24</u>	Spatial Identification and protection of culturally significant Heritage and Aboriginal sites	Not Assessed (On Track)	Annual	5-Year	2023	Page 44.
<u>Target 25</u>	Impacts of Climate Change on the Mistik FMP Area (2 Parts)	This target is a voluntary commitment not related to the FMP VOITs. It has no associated target and is included for monitoring purposes only				Page 45.
<u>Target 26a</u>	Contributions to Co-management Boards	Not Assessed (On Track)	Annual	5-Year	2023	Page 48.
<u>Target 26b</u>	% of total annual vendor / contractor payments made to local businesses	Not Assessed (On Track)	Annual	5-Year	2023	Page 49.
<u>Target 26c</u>	Percent of 'within-FMA area' communities represented in the workforce	Not Assessed (On Track)	Annual	5-Year	2023	Page 50.
<u>Target 27</u>	Stakeholder Engagement	On Target	Annual	Annual	Annual	Page 51.

Indicator #1	Age Class Distribution	Status	Not Assessed (N/A)									
Target #1	Monitor the age class distribution of the Managed Forest Landbase compared to the projected distribution in 10-years based on the Forest Estate Modeling.	Reporting Cycle Assessment Cycle	Annual 10-year									
Age Class (Years)	Year of Measurement										Current Status	10-Year FMP Projection
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
0 (ha)	123,525	121,922	141,375	142,332							Assessment Year	92,286
10 (ha)	56,494	54,479	52,001	49,388								128,999
20 (ha)	110,983	62,385	65,160	66,767								53,638
30 (ha)	52,538	58,769	60,125	64,074								96,404
40 (ha)	41,449	50,341	49,266	49,273								50,408
50 (ha)	41,758	41,257	39,691	39,716								40,843
60 (ha)	110,828	43,492	42,543	42,381								42,490
70 (ha)	97,544	109,160	106,606	105,794								99,841
80 (ha)	110,189	96,932	92,043	91,094								86,447
90 (ha)	61,530	108,646	104,305	103,342								87,744
100 (ha)	33,914	60,237	57,673	57,124								46,734
110 (ha)	18,644	33,537	32,032	31,651								25,224
120+ (ha)	19,115	37,352	35,692	35,571								27,453
Variance	N/A – No associated target											
Comments	<ul style="list-style-type: none"> Maintenance of age class distribution of the Mistik FMP area is important for a number of ecological values that depend on the full suite of seral stages being present on the landscape. 											

- Differences between age classes in 2019 and 2020 are largely caused by the aging of stands within the landbase rather than harvest, as stands are typically assigned an origin in the SFVI in an increment of 10 years (e.g., 1910, 1920, 1930, etc.), and these stands switch to the next age class also in years in increments of 10 (e.g., 2020).
- 2020 total ha for 120+ year age class was corrected due to an error.

Indicator #2a

Percent of the forest landbase that is old and very old

Status

**Not Assessed
(On Track)**

Target #2a

Forest land base (managed forest landbase + eligible excluded forest) that is 'old' and 'very old' for the following six forest cover types: S-bS, S-jP, S-wS, SH, HS, and H, are maintained above the minimum thresholds of the 2nd quartile of the natural range of variation for a 74-year fire cycle.

Reporting Cycle

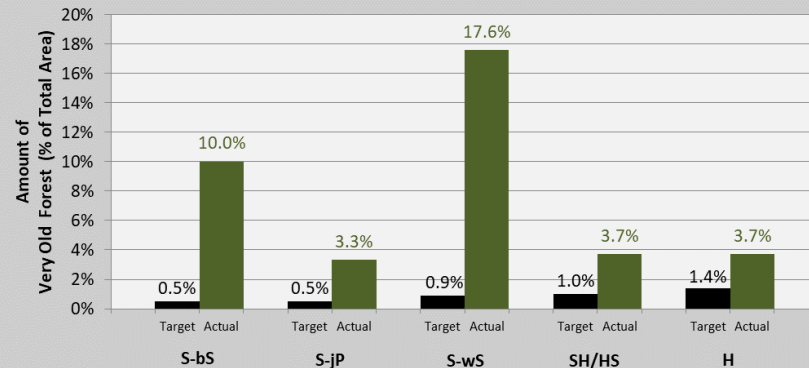
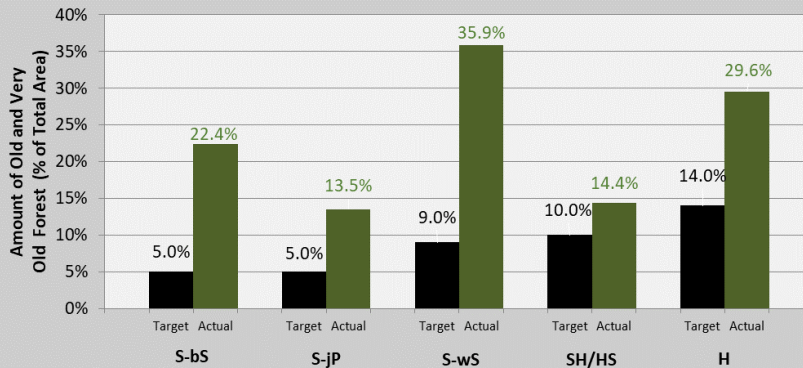
Annual

Assessment Cycle

10-Year

Old Forest & Very Old Forest

Very Old Forest



■ Target
 ■ Actual (On Target)
 ■ Actual (Off Target)

■ Target
 ■ Actual (On Target)
 ■ Actual (Off Target)

Age Class	Species Group	Year of Measurement										Current Status	Percent of Target	Target	
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
Old Forest & Very Old Forest (%)	S-bS	15.3	15.2	22.4	22.4							Assessment Year	22.4	448%	5.0
	S-jP	7.8	7.6	13.6	13.5								13.5	270%	5.0
	S-wS	27.0	26.6	36.2	35.9								35.9	399%	9.0
	SH/HS	9.3	9.0	14.5	14.4								14.4	144%	10.0
	H	16.6	15.8	29.9	29.6								29.6	211%	14.0
Very Old Forest (%)	S-bS	6.3	6.3	10.0	10.0							10.0	2,002%	0.5	
	S-jP	1.7	1.8	3.3	3.3							3.3	664%	0.5	
	S-wS	12.6	12.4	17.7	17.6							17.6	1,954%	0.9	
	SH/HS	2.0	1.9	3.7	3.7							3.7	373%	1.0	
	H	1.9	1.9	3.8	3.7							3.7	266%	1.4	

Variance

No acceptable variance

Comments

- "Old Forest" = older than 100 years (S-wS/jP/bS or SH), or 90 years (HS or H) / "Very Old Forest" = older than 120 years (all stands).

- Differences between age classes in 2020 and 2021 are largely caused by the aging of stands within the landbase rather than harvest, as stands are typically assigned an origin in the SFVI in an increment of 10 years (e.g., 1910, 1920, 1930, etc.), and these stands switch to the next age class also in years in increments of 10 (e.g., 2021) in this indicator.

Indicator #2b

Standard deviation of old forest area by management unit

Status

Not Assessed (Monitor)

Reporting Cycle

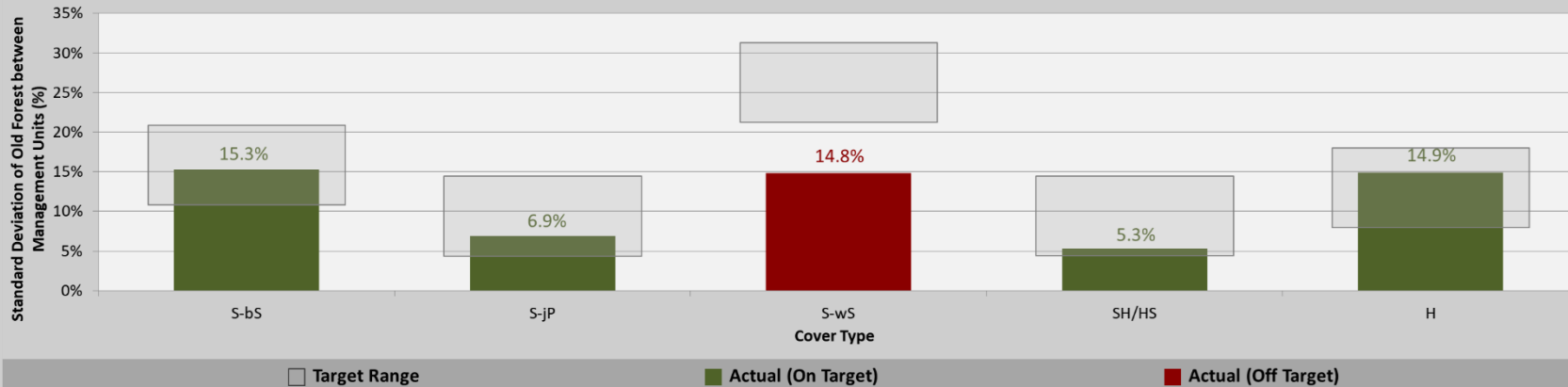
Annual

Assessment Cycle

10-Year

Target #2b

The current standard deviation of old forest area among the 13 management units for each of the five forest cover types: S-bS, S-jP, S-wS, SH/HS, and H, associated with any level of old forest amount shall not deviate by more than 5% of the modeled linear relationship of the natural range of variation of standard deviations among management units for a specified old forest amount (and never below 2%). (No acceptable variance).



Species Group	Year of Measurement										Current Status	Within Acceptable Range?	Target Range (%)	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
S-bS (%)	9.6	9.4	15.3	15.3							Assessment Year	15.3	Yes	10.9 - 20.9
S-jP (%)	4.5	4.3	7.0	6.9								6.9	Yes	4.5 - 14.5
S-wS (%)	14.5	14.6	14.4	14.8								14.8	No	21.3 - 31.3
SH/HS (%)	5.2	5.2	5.4	5.3								5.3	Yes	4.5 - 14.5
H (%)	8.9	8.5	14.9	14.9								14.9	Yes	8.1 - 18.1

Variance

+/- 5% from the modelled standard deviation amount of old forest (See 'Target Range')

Comments

- "Old Forest" = older than 100 years (S-wS/jP/bS or SH), or 90 years (HS or H)
- This indicator reflects the distribution of old forest between management units. A standard deviation below target indicates that there are relatively equal amounts of old forest across management units, whereas a standard deviation above target indicates that old forest is clustered strongly in a few management units more than others. Targets for each species reflect an intermediate level of variation, based on the natural range of variation calculated for the Mistik FMA by Anderson (2006)¹. Note that targets change each year, based on the amount of old forest on the landbase, as the amount of old forest present in a given year will impact the desired range of variation in old forest between management units, and targets are scaled accordingly in each year.
- In 2022, the observed standard deviation for S-wS (white spruce) is less than the target range, indicating that the old forest for this species is more evenly distributed than targeted. However, this likely reflects the fact that there is also a much greater amount of old S-wS forest on the landscape than targeted (see target 2a), which may reduce the observed standard deviation if this excess of old forest is relatively equally distributed between management units.

¹Anderson, D. W. 2006. *Natural Levels of Forest Seral-Stage Variability on the Mistik Management FMA Area in Saskatchewan. Bandaloop Landscape-Ecosystems, Belcarra, British Columbia, Canada. 84 pp.*

Indicator #3

Size class distribution of harvest events

Status

Not Assessed (Monitor)

Target #3

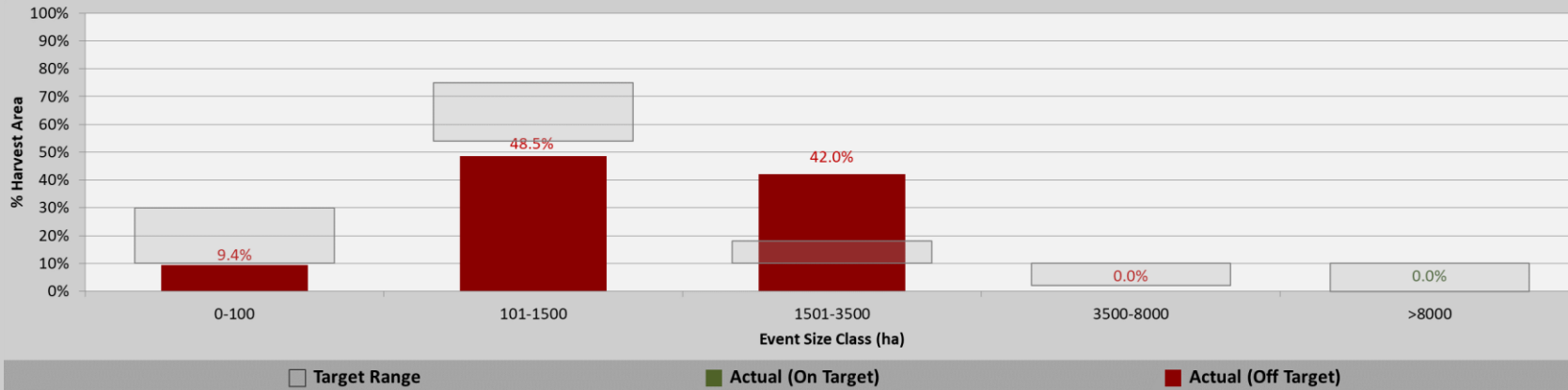
The targets for harvest distribution by event size class (based on a 10-year event measurement period) shall be within the acceptable range for each size class.

Reporting Cycle

5-Year

Assessment Cycle

10-Year



Event Size Class (ha)	Year of Measurement										Cumulative Total	Within Acceptable Range?	Target Range	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
0-100 ha (%)	N/A	1.0%	25.8%	11.5%							Assessment Year	9.4%	No	10 – 30%
101-1500 ha (%)	N/A	4.4%	74.2%	88.5%								48.5%	No	54 – 74%
1501-3500 ha (%)	N/A	94.6%	0%	0%								42.0%	No	10 – 18%
3500-8000 ha (%)	N/A	0%	0%	0%								0.0%	No	2 – 10%
>8000 ha (%)	N/A	0%	0%	0%								0.0%	Yes	0 – 10%

Variance

No acceptable variance outside of given range

Comments

- To determine harvest events, only blocks within a 10-year period (starting in 2019) are included*. Within the specified 10 years, blocks were buffered by 250m and blocks whose buffers overlapped were grouped together into an event. The outer boundaries of the combined buffers were buffered back inward by 250m and the resulting boundary is considered the event boundary. More information on this process and information on harvest events can be found in Appendix A, sections A6 and A7. Target is based on completed events only and only harvest events completed in 2019 and after are considered.
- Six harvest events were completed in 2022 and these are broadly representative of the target size distribution. However, while the total number of completed events represent a variety of size classes (therefore meeting the intent of this indicator, which is to achieve a variety of disturbance event sizes), due to the limited number of events completed at this time, it was not possible to achieve a precise distribution of harvest event sizes.

**Harvest under the current tactical plan from 2017 and 2018 has been included in event TA058 in 2020, however this is an exception and normally only blocks harvested in the 2019/20 operating year or later are considered.*

Indicator #4

Tree retention after harvest

Target #4

For harvest events with >20 ha of harvest area, total retention will be an average of 9% made up of at least 4% in insular retention, including clumps (<2 ha), islands (>2 ha), and individual trees (in groups of 4 trees or less). The remainder will be made up of proximal retention (connected to the block boundary).

Status

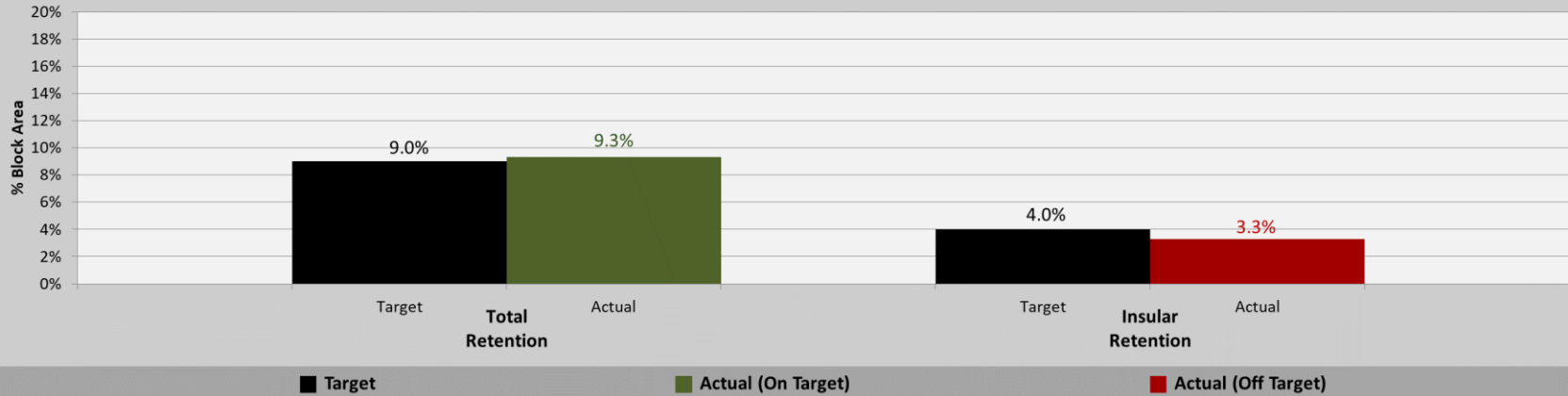
Not Assessed (Monitor)

Reporting Cycle

Annual

Assessment Cycle

5-Year



Category	Year of Measurement										Cumulative Average	Current Status	Percent of Target	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
Total Retention (%)	N/A	4.9%	6.3%	9.3%	Assessment Year						8.1%	9.3%	104%	9%
Insular Retention (%)	N/A	1.5%	2.6%	3.3%								2.4%	3.3%	82%

Variance

No acceptable variance

Comments

- This target is based on completed events only. Only harvest events starting in 2019 and after are considered.
- Individual harvest event data can be found in Appendix A, sections A6 and A7.
- Note that the small clumps and single trees are not included in these measurements.
- Mistik recognizes that, while these numbers have improved considerably from previous years, the insular retention % is still slightly lower than the target and we will continue to work with contractors and supervisors to ensure adequate retention is being left in harvest blocks and events.

Indicator #5

The softwood component in hardwood stands is maintained

Status

Not Assessed (N/A)

Target #5

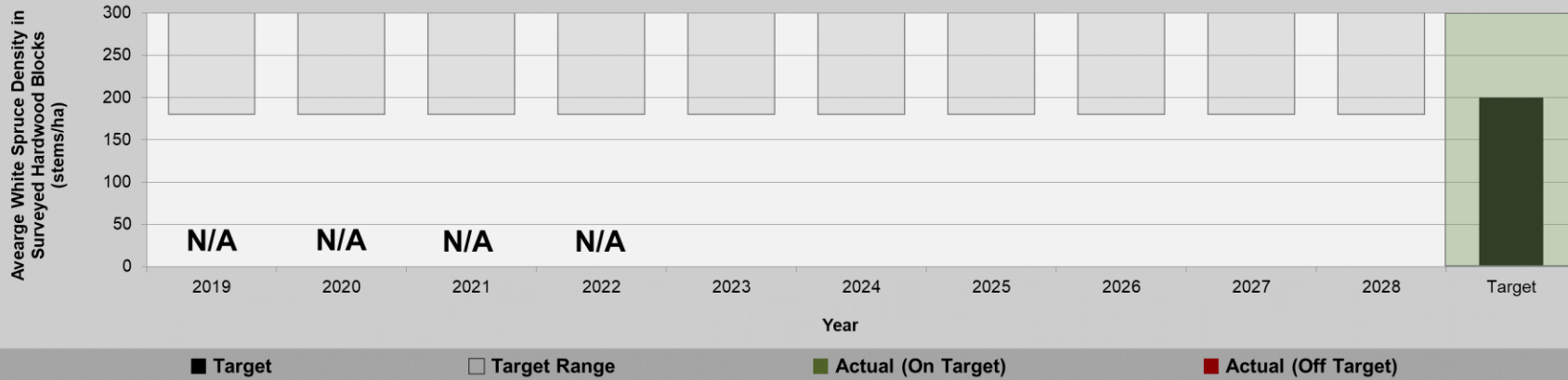
Hardwood stands with a white spruce component at the time of harvest will have an average of a minimum of 200 stems/ha of white spruce when measured in an Establishment survey (early FTG) or FTG survey.

Reporting Cycle

Annual

Assessment Cycle

5-Year



Category	Year of Measurement										Current Status	Within Acceptable Range?	Target Range	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
Area (ha) harvested in Hardwood Stands with WS component	635	722	614	775	Assessment Year						Assessment Year	775	N/A	N/A
Average WS Density in Target Hardwood Stands (stems/ha)	N/A	N/A	N/A	N/A									N/A	N/A

Variance

Acceptable variance is -10%, with no upper bound (target range: greater than or equal to 180 stems/ha)

Comments

- The harvest areas that this target applies to will be those portions of blocks that had a pre-harvest species group of H (80% or greater hardwood) and a white spruce component (at least 10% cover of WS in the overstorey or at least 20% cover of WS in the understorey layer of the SFVI).
- Early FTG survey results for blocks harvested after April 1, 2019, are not expected until 2024 at the earliest.
- Softwood component in H stands is maintained using various methods. In blocks that are predominantly mixedwood, smaller hardwood stands may be planted if adjacent stands are either mixedwood or softwood leading. In hardwood leading blocks (where no planting is done), either understorey retention (patch/single tree retention) of the spruce is implemented during harvesting or in-block roads may be planted to add a softwood component back into the block.
- The definition of “hardwood stands with a white spruce component” has been updated to include only stands with a final development type of H ('dt_spgp' = 'H') to better align with Mistik’s FMP landbase (previously, any stand with an H-dominant understorey was included, even if the stand had a final development type different than this, for instance stands where the understorey was used to assign the final development type). The area of this



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indicator has been updated for 2019 using this new definition and therefore the numbers presented for 2019 may not align with previous annual reports.

Indicator #6

Relative abundance of SGR Forest Types are forecasted to be maintained at next rotation

Status

Not Assessed (Monitor)

Target #6

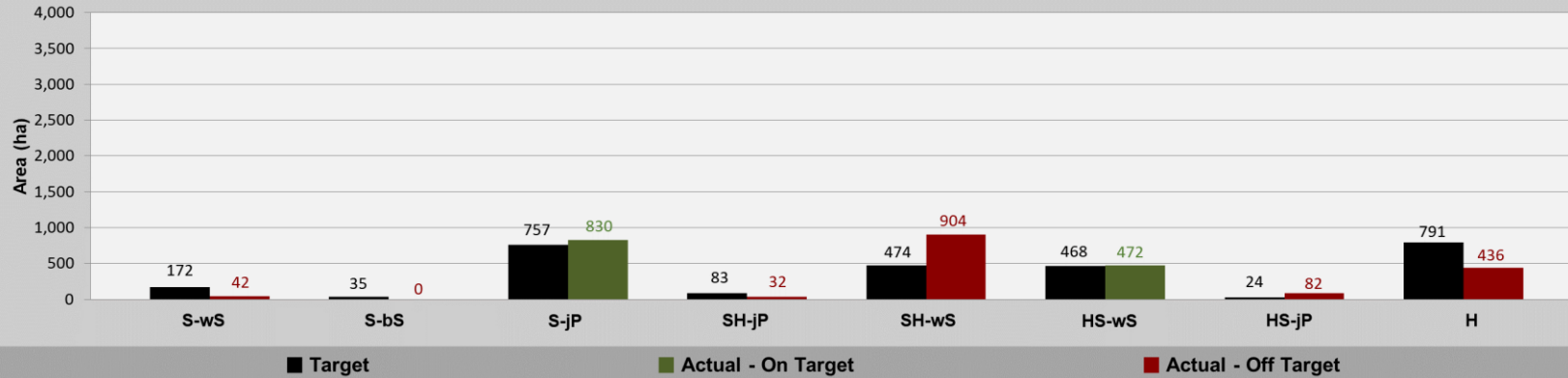
The area by stand type of regenerating stands, as measured at the Free to Grow survey, will be consistent with the transition assumptions used in the Forest Estate Modeling.

Reporting Cycle

Annual

Assessment Cycle

5-Year



SGR Forest Types (Predicted Area)	Year of Measurement										Current Status	Percent of Target	Target		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028					
S-wS (ha)	527.9	39.2	164.2	42.4	Assessment Year						Assessment Year	42.4	24.7%	171.7	
S-bS (ha)	0.0	0.0	0.0	0.0									0.0	0.0%	34.8
S-jP (ha)	995.3	1,924.8	1,195.0	830.2									830.2	109.7%	757.0
SH-jP (ha)	276.0	668.1	286.6	31.9									31.9	38.4%	83.2
SH-wS (ha)	3,283.7	1,494.1	2,411.6	904.0									904.0	190.7%	474.0
HS-wS (ha)	215.9	818.6	268.3	472.4									472.4	101.0%	467.6
HS-jP (ha)	81.0	102.6	50.9	82.4									82.4	341.1%	24.2
H (ha)	1,114.2	267.9	546.1	435.9									435.9	55.1%	791.5

Variance

+/- 10% of target area for each species group.

Comments

- All Free-to-Grow surveys completed in 2022 were performed aerially as per Government of Saskatchewan standards. The SGR Forest Types assigned to these surveys represent the predicted status at an expected rotation age, based on successional trajectories modelled by Gelhorn, L. (2009)¹. Note that these results represent only a single year of survey data, and that these successional trajectories were modelled using a limited dataset and may not accurately represent future stand status. In the long-term, the potential for developing a more accurate model of stand successional trajectories, using a wider representation of available survey data, will be explored.

¹Gelhorn, L. 2009. Development of a Regenerating Mixedwood Succession Matrix. Timberline Natural Resource Group Ltd., Prince Albert, Saskatchewan, Canada.

Indicator #7a

Current habitat availability for Fisher vs. predicted future (modeled) supply

Status

Not Assessed (On Track)

Target #7a

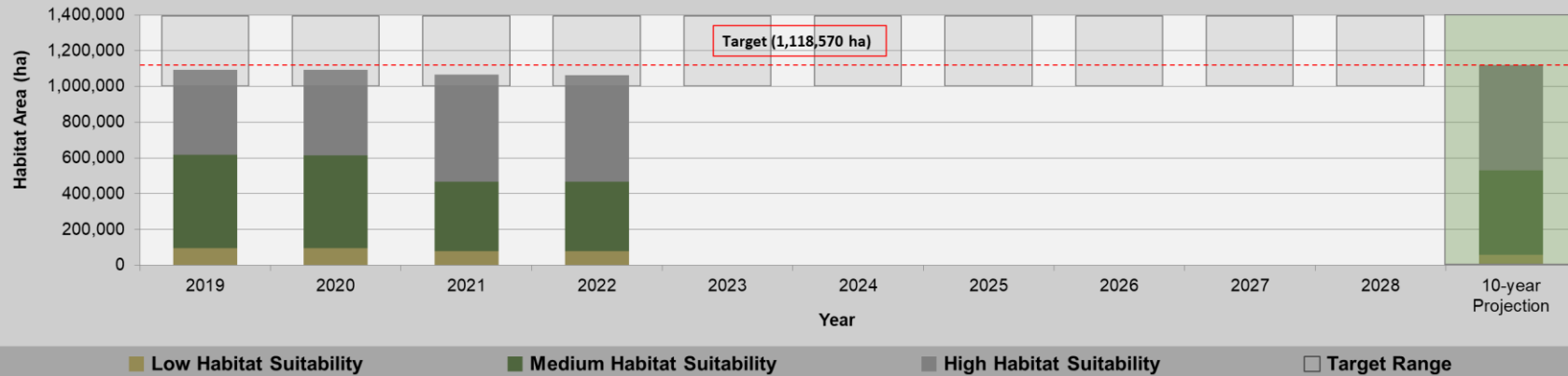
Total Fisher habitat will meet or exceed the 10-year projection.

Reporting Cycle

Annual

Assessment Cycle

5-Year



Habitat Category	Year of Measurement										Current Status	Percent of Target	10-year Projection	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
High Suitability (ha)	477,118	476,936	596,493	595,391	Assessment Year						Assessment Year	595,391	N/A	587,558
Medium Suitability (ha)	597,354	80,294	386,998	386,327								386,327	N/A	473,447
Low Suitability (ha)	94,742	94,687	80,287	80,264								80,264	N/A	57,565
Total (ha)	1,093,695	1,092,311	1,064,646	1,061,981								1,061,981	94.9%	1,118,570

Variance

10% acceptable variance.

Comments

- Habitat is categorized based on scores given for the presence of disturbance, stand type and age, canopy closure, and shrub cover. These scores are added up for each stand, with the total score determining the habitat type. This process is based on work by Dr. Gilbert Proulx of Alpha Wildlife aimed at developing predictive criteria for use in the analysis of current and future habitat supply for fisher (as described in Mistik's 2019 20-Year Forest Management Plan, Volume III, page 66). A summary of scoring criteria is provided in the supplemental data package.

Indicator #7b

Part 1: Habitat availability for Caribou – CM-1, CM-2, & CM-4

Status

On Target (2/2)

Target #7b

No new timber harvesting or related activities will be planned for Mistik Caribou Habitat Management (CM) areas CM-1, CM-2, or CM-4 in the next 10 years. Mistik-caused disturbance in each CM area will be less-than or equal to the current disturbance percentage.

Reporting Cycle

Annual

Assessment Cycle

Annual

Part 1 – CM-1 / CM-2 / CM-4



New Harvest, by Caribou Habitat Management Area	Year of Measurement										Current Status	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
CM-1 (ha)	0	0	0	0							0	0
CM-2 (ha)	0	0	0	0							0	0
CM-4 (ha)	0	0	0	0							0	0
CM-1 (% Disturbance)	N/A	N/A	N/A	N/A							N/A	N/A
CM-2 (% Disturbance)	N/A	N/A	N/A	N/A							N/A	N/A
CM-4 (% Disturbance)	N/A	N/A	N/A	N/A							N/A	N/A

Variance	2% acceptable variance.
Comments	<ul style="list-style-type: none"> Note that Mistik CM areas are not directly correlated to provincial caribou tier areas. CM-1, CM-2, and CM-4 are caribou management areas that were identified as areas with high-quality or important caribou habitat, or that which is important for habitat connectivity. Mistik has committed to staying out of these areas. Disturbance percentage will be addressed once the provincial range plan for Caribou is finalized and the FMP is amended as required. No area was harvested in these areas in 2022. The FMP was amended effective April 1, 2023 to gain alignment with the <i>Range Plan for Woodland Caribou in Saskatchewan (SK2 West Caribou Administration Unit)</i>. The 2023/24 Annual Report will reflect the new indicators for this target.

Indicator #7b	Part 2: Habitat availability for Caribou – CM-1a, CM-2a	Status	On Target (2/2)
Target #7b	All harvest-related activities in CM-1a and CM-2a areas will follow “least-impact” forestry practices identified in the Woodland Caribou Habitat Mitigation Plan.	Reporting Cycle	Annual
		Assessment Cycle	Annual

Part 2 – CM-1a / CM-2a



New Harvest, by Caribou Habitat Management Area	Year of Measurement										Current Status	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
CM-1a Area Harvested (ha)	0	0	0	0							0	N/A
CM-2a Area Harvested (ha)	0	0	0	0							0	N/A
CM-1a Blocks (blk. numbers)	N/A	N/A	N/A	N/A							N/A	N/A
CM-2a Blocks (blk. numbers)	N/A	N/A	N/A	N/A							N/A	N/A
CM-1a (% Blocks, by Area, Meeting "Least-Impact" Practices)	N/A	N/A	N/A	N/A							N/A	100%
CM-2a (% Blocks, by Area, Meeting "Least-Impact" Practices)	N/A	N/A	N/A	N/A							N/A	100%

Variance 2% acceptable variance.

Comments

- “Least-impact” forestry practices includes block designs that follow natural forest pattern principles, winter harvest, temporary/minimal access construction, road reclamation within 1 year of harvest/haul completion, renewal activities within 1 year of harvest, no activity between March 1 – June 1.
- At this time, there is no previous harvest with outstanding requirements in these areas. Any variance reported in the table above, if any, is related to new harvest under the 2019 FMP. There was no harvest in CM-1a or CM-2a in 2022.

- The FMP was amended effective April 1, 2023, to gain alignment with the Range Plan for Woodland Caribou in Saskatchewan (SK2 West Caribou Administration Unit. Reporting on the new indicators for this target will begin with the 2023/24 Annual Report.

Indicator #7c

Current habitat availability for Moose vs. predicted future (modeled) supply

Status

Off Target

Target #7c

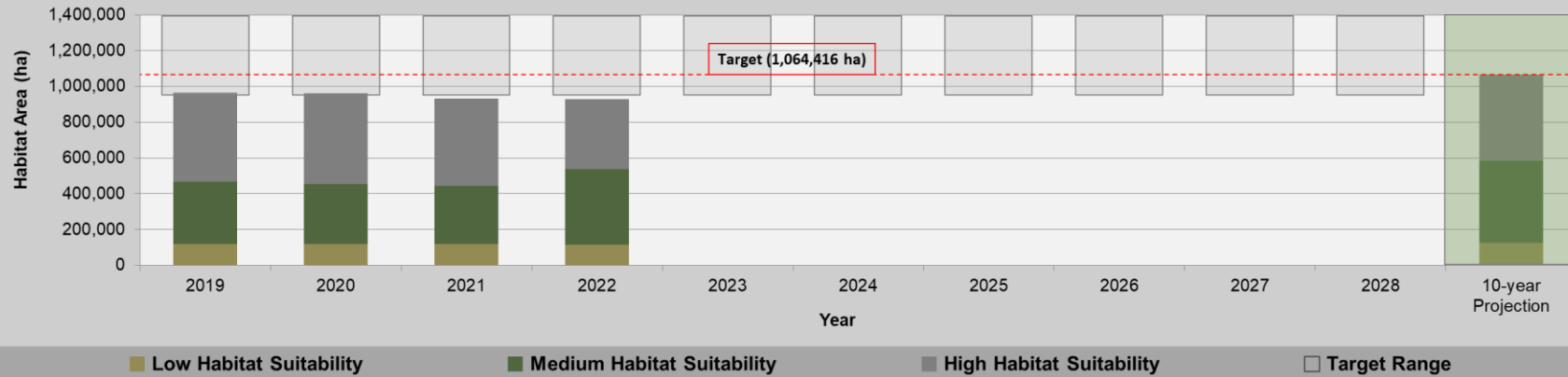
Total moose habitat will meet or exceed the 10-year projection.

Reporting Cycle

Annual

Assessment Cycle

Annual



Habitat Category	Year of Measurement										Current Status	% of Target	10-year Projection
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
High Suitability (ha)	500,419	509,682	488,630	390,136							390,136	N/A	479,740
Medium Suitability (ha)	345,658	333,954	326,921	422,318							422,318	N/A	457,707
Low Suitability (ha)	119,659	118,969	117,168	115,964							115,964	N/A	126,969
Total (ha)	965,736	962,605	932,720	928,418							928,418	87.2%	1,064,416

Variance

10% acceptable variance.

Comments

- Habitat is categorized based on scores given for the presence of disturbance, stand type, % conifer, canopy closure, and adjacency to young stands and/or riparian vegetation. These scores are added up for each stand, with the total score determining the habitat type. This process is based on work by Dr. Gilbert Proulx of Alpha Wildlife aimed at developing predictive criteria for use in the analysis of current and future habitat supply for moose (as described in Mistik's 2019 20-Year Forest Management Plan, Volume III, page 58). A summary of scoring criteria is provided in the supplemental data package.
- This indicator will be reviewed and monitored annually, however despite the FMP identifying it as being assessed annually, as per the 2017 FMP Standard, it will not be formally assessed until year 5 (2023).
- This indicator is off target in 2022. In this analysis, the best habitat for moose is defined as old, multi-story conifer stands that are adjacent to both early seral stage forest and aquatic vegetation/streams. Mitigation therefore involves leaving more retention in harvest events to create a "mosaic" of old and young forest next to riparian areas. This minimizes losses of moose habitat due to harvest, and can also create new, or higher-quality moose habitat by providing an early seral stage component to some areas. Note that it will take at least 5 years following harvest with increased retention practices for this area to be considered high-quality habitat, as harvested area is only considered "early seral stage forest" after 5 years, so increased retention practices in 2022 onwards will not be seen as a benefit until 2027 or later.

Indicator #8

Seedlings are from wild or improved seed sources

Status

Not Assessed (On Track)

Target #8

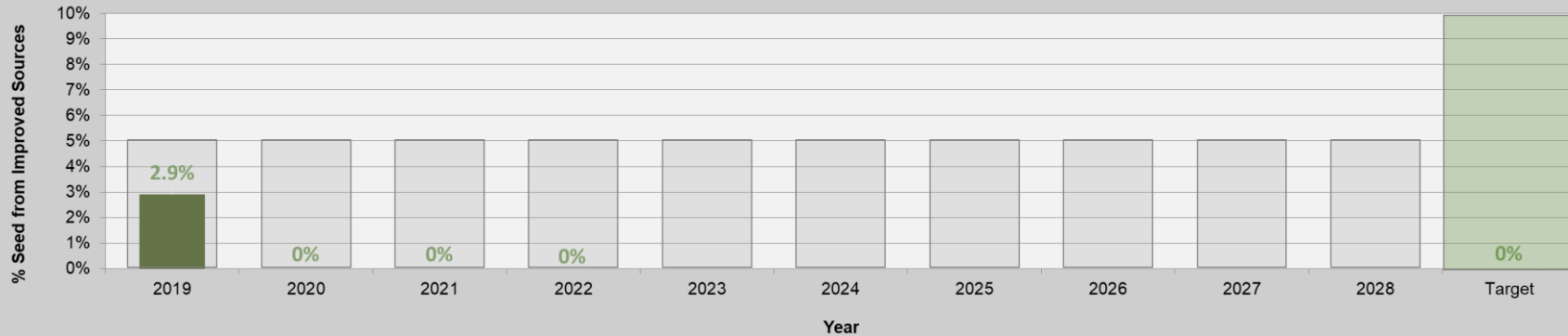
No tree seedlings planted on the Mistik FMP area shall be from 'improved' seed sources.

Reporting Cycle

Annual

Assessment Cycle

5-Year



■ Target

□ Target Range

■ Actual (On Target)

■ Actual (Off Target)

Category	Year of Measurement										Current Status	Target		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
Trees Planted (Improved Seed)	22,680	0	0	0	Assessment Year						Assessment Year	0	N/A	
Total Trees Planted	784,320	1,100,650	1,199,245	1,075,810									1,076,160	N/A
% Seed from Improved Sources	2.9%	0%	0%	0%									0%	0%

Variance

5% acceptable variance

Comments

- Mistik received approval in 2019 to utilize seedlings grown from Alberta seed lot sources. One of these seed lots had been improved, however none were genetically modified. Seed lots were located parallel to the Mistik FMA and are expected to be suitable for growing conditions in Mistik's FMA. This seed was used to grow 2.9% of seedlings planted in 2019.
- No trees from improved seed were planted in 2020 - 2022.
- Discussion was held with the Public Advisory Group in order to refine the definition of "improved seed" for the purposes of this target. The use of improved stock via selective tree breeding and improvement programs is considered positive; the concerns of this indicator refer more to "artificially" improved stock such as GMOs. The new target (starting in 2023/24) will be: *No tree seedlings planted on the Mistik FMP area shall be from GMO sources, and the amount of seedlings from improved sources will be tracked separately (Target revised at October 2022 PAG meeting).*

Indicator #9

Post-harvest areas are successfully regenerated

Target #9

100% of surveyed post-harvest area shall meet provincial stocking requirements according to the provincial Regeneration Assessment Standard (Establishment and Free to Grow surveys).

Status

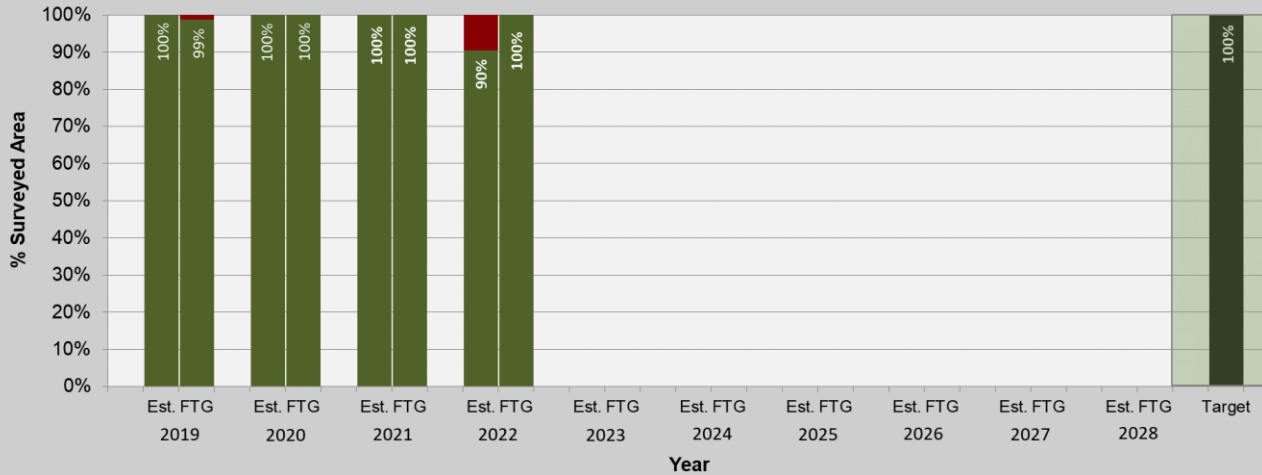
Not Assessed (Monitor)

Reporting Cycle

Annual

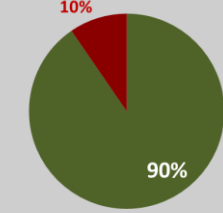
Assessment Cycle

5-Year



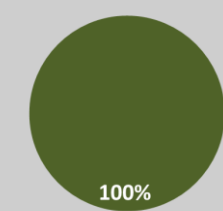
■ Target ■ Actual (% SR) ■ Actual (% NSR)

Current – Est. Surveys



■ % SR ■ % NSR

Current – FTG Surveys



■ % SR ■ % NSR

Survey Type	Year of Measurement										Current Status	Target	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
Establishment Surveys (% ha SR)	100.0%	100.0%	100.0%	90.4%	Assessment Year						Assessment Year	90.4%	100%
Free-To-Grow Surveys (% ha SR)	98.7%	100.0%	100.0%	100.0%									100.0%

Variance

No acceptable variance.

Comments

- Surveys reported are those that are completed in each respective year, regardless of year of harvest.
- In 2022, establishment surveys on five blocks (85006059, 85006062, 85006063, 85006068, and 85006069) were determined as NSR. These are blocks associated with the 21BR-HELENE wildfire in 2021. The fire area was revisited in the fall of 2023 and additional regeneration that grew during the summer of 2023 was noted. Planting of some softwood areas in the HELENE fire is planned for spring 2024.

Indicator #10

Change in the managed forest landbase area

Status

Not Assessed
(On Track)

Target #10

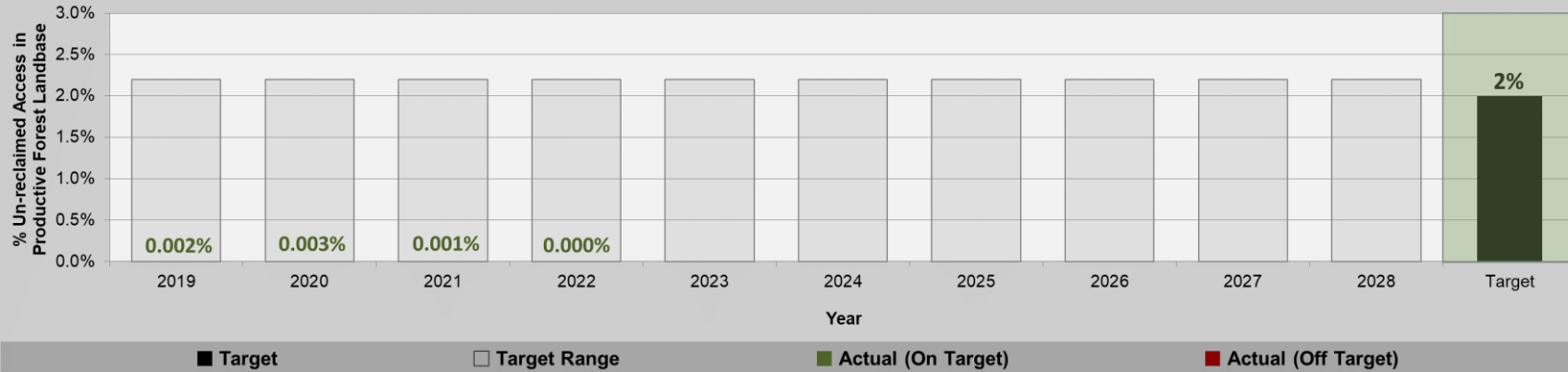
Less than 2% of the productive forest land base shall be converted to permanent or currently not reclaimed Mistik- and L&M-related access structures (roads and gravel / borrow pits).

Reporting Cycle

Annual

Assessment Cycle

5-Year



Category	Year of Measurement										Current Status	Target		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
% Productive Forest Landbase Converted	0.002%	0.003%	0.001%	0.000%	Assessment Year						Assessment Year	0.000%	2%	
Total Permanent Road Added (km)	4.5	6.4	2.8	0.0									0.0	N/A
Contributing Area Converted (Roads) (ha)	16.1	24.6	10.7	0.0									0.0	N/A
Contributing Area Converted (Gravel/Borrow Pits) (ha)	0	0	0	0									0	N/A

Variance

2% disturbance is the target maximum, but maximum acceptable variance is 10% (i.e., less than 2.2% disturbance)

Comments

- Only permanent (Class 1 or Class 2) roads are considered and a total right-of-way width of 40m (20m buffer from centerline) is used for both Class 1 and Class 2 roads. Note that the maximum right-of-way width as per the Forest Operations Standard is 40m total. Values from previous reports had been assuming a larger right-of-way width, and these values have been corrected to 40m width in this report for all years.
- Note that the contributing area converted is less than the total right-of-way area due to the fact that only part of the area covered by these roads is considered contributing.
- No construction on class 2 or above roads was completed in 2022.

Indicator #11

Net area disturbed by stand replacing natural events (fire)

Status

On Target

Target #11

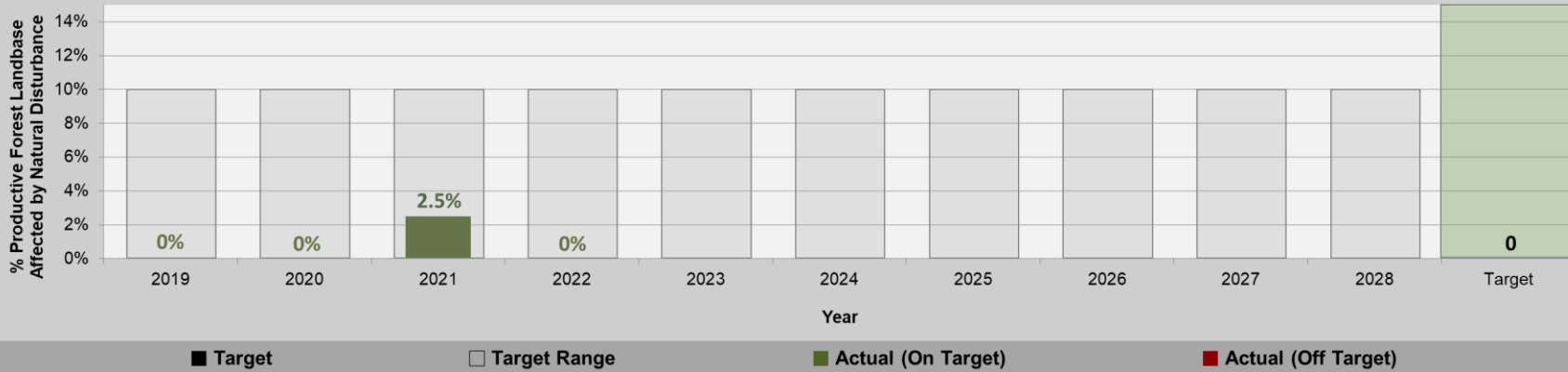
Net area impacted by stand replacing natural disturbance (fire) will be monitored against a threshold of 10% over the 10-year period, above which re-evaluation of the FMP would need to occur.

Reporting Cycle

Annual

Assessment Cycle

Annual



Category	Year of Measurement										Current Status	Cumulative Percent	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
% Disturbance - Fire	0%	0%	2.5%	0%							0.0%	2.51%	0%

Variance

0% disturbance is the target, but maximum acceptable variance is 10% disturbance.

- Based on fire data provided by the Ministry of Environment
- There were 228 ha of area burned on the Mistik FMA in 2022, of which 146 ha was considered contributing (note that this rounds to 0%).

Comments

Indicator #12

Proportion of a natural disturbance event retained un-salvaged

Status

Not Assessed (On Track)

Target #12

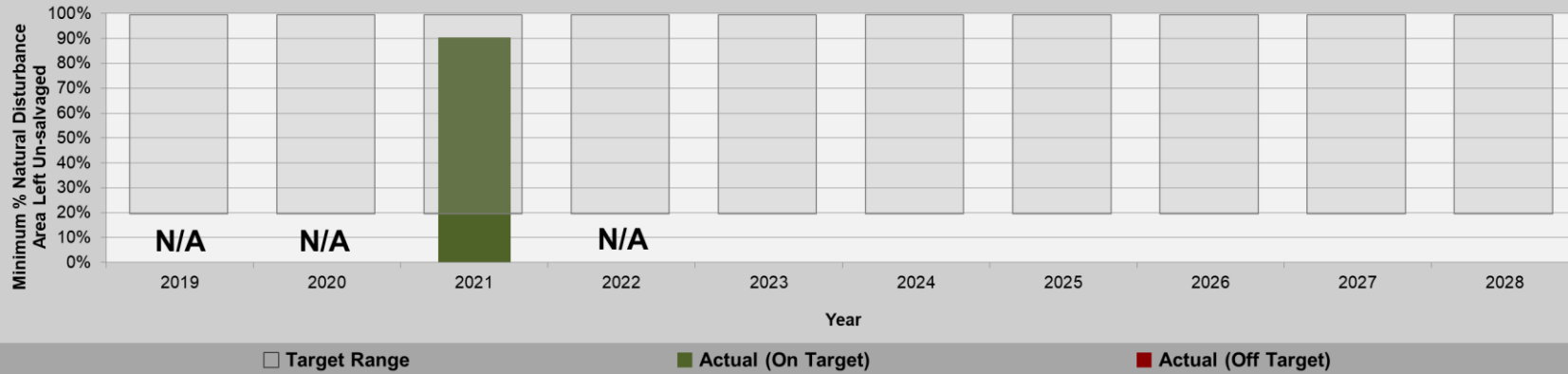
In all salvage harvesting activities occurring in natural disturbance events >100 ha, at least 20% of the disturbance area will be left unharvested.

Reporting Cycle

Annual

Assessment Cycle

5-Year



Category	Year of Measurement										Cumulative Status	Target		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
# of Salvage Events	0	0	2	1	Assessment Year						Assessment Year	3	N/A	
Total Area of Disturbance Events (ha)	70	0	37,381	228									37,679	N/A
Salvage Area in Disturbance Events (ha)	0	0	188	0									188	N/A
Minimum % Disturbance Area Left Un-salvaged	N/A	N/A	90.3%	N/A									90.3%	20%

Variance

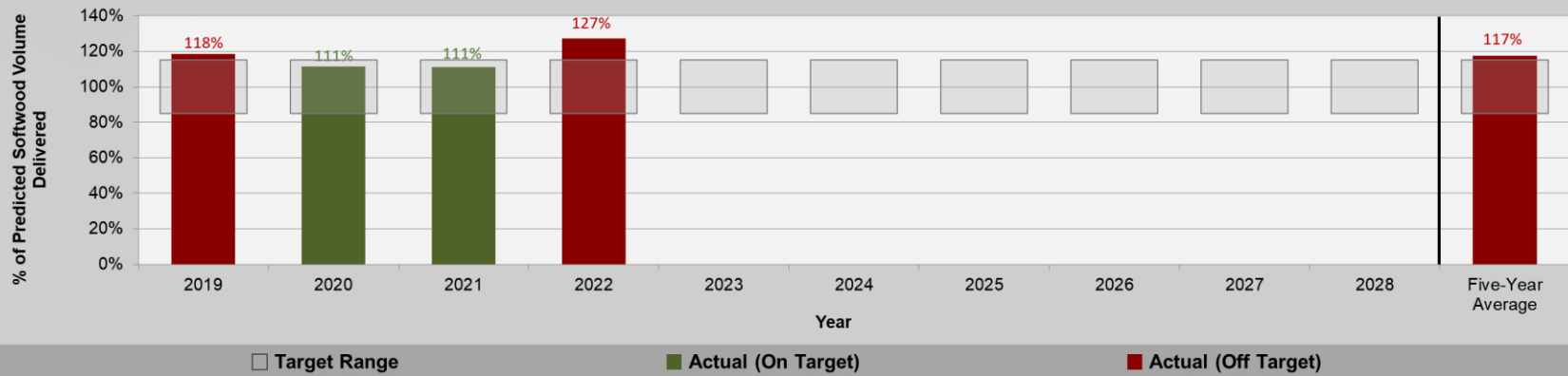
Acceptable range is $\geq 20\%$ and $<100\%$

Comments

- This target only includes disturbance events where salvage operations occurred.
- There were 21,873 ha of fire on the Mistik landbase in 2021. Salvage harvest of burned area occurred in two blocks in 2021 (10.0 ha of block 07015021 in fire 21LX-FORKS, and 133.6 ha of block 85006078 in fire 21BR-HELENE) and in one block in 2022 (44.7ha of block 85006082 in fire 21BR-HELENE) for a total of 188 ha. Salvage of these two fires has now been completed, with 3.8% of 21BR-HELENE salvaged, and 9.7% of 21LX-FORKS salvaged.
- Note that the total area of disturbance events in some previous years (2019 and 2021) were updated, to show total area (as in previous years, only the contributing area was reported).

Indicator #13	Yield curve suitability; measured by actual harvest volume (m³/ha) compared to predicted volume	Status	Not Assessed (Monitor)
Target #13	On an annual and five-year basis and based on updated harvest block boundaries, the total actual delivered softwood and hardwood harvest volume from all sources on the FMA area shall deviate by less than the acceptable variance (15% on a five-year basis) from the volume predicted by the yield curve estimates for the same harvested forest stands.	Reporting Cycle	5-Year
		Assessment Cycle	5-Year

Part 1 – Softwood

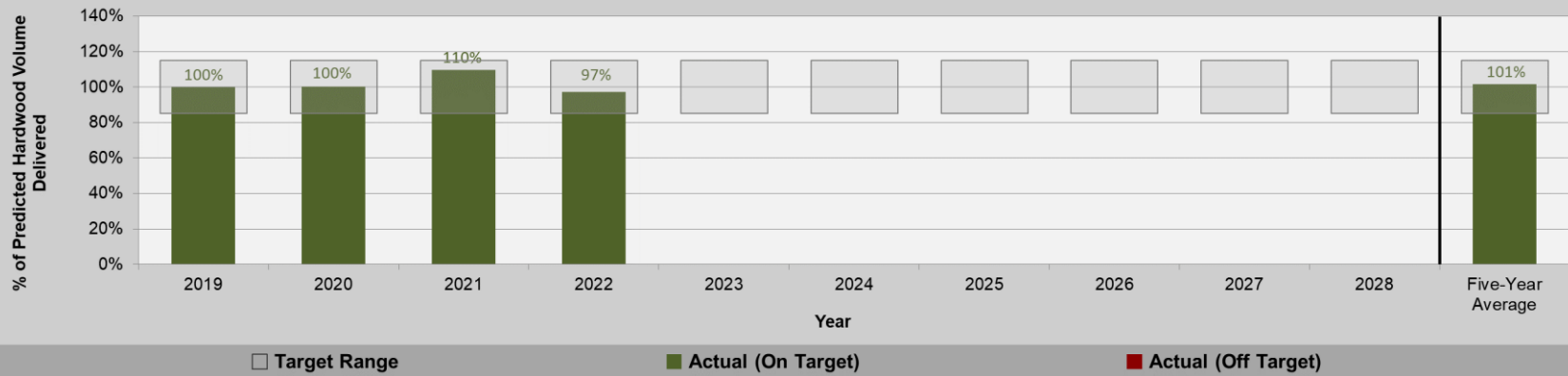


Category	Year of Measurement										Five-Year Average	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Predicted Volume (m ³)	189,652	154,869	207,314	217,767							192,400	N/A
Delivered Volume (m ³)	224,451	172,338	230,525	276,881	Assessment Year					Assessment Year	491,154	N/A
Delivered Volume (% Predicted)	118.3%	111.3%	111.2%	127.1%							117.5%	100%

Variance	+/-15% acceptable variance.
Comments	<ul style="list-style-type: none"> Differences between predicted and delivered volumes are likely due to a relatively old forest inventory (based on imagery acquired between 1994-2005) being used for these estimates. While there is an upper bound on this target, it should be noted that delivering more volume than predicted is positive as it means that less area needs to be harvested to meet wood supply requirements. Block 85006082 was a fire salvage block (3,284 m³ delivered softwood / 0 m³ delivered hardwood) and has not been included in this analysis, but it has been included in other VOITs (e.g., 19a) that utilize delivered volumes.

Indicator #13	Yield curve suitability; measured by actual harvest volume (m³/ha) compared to predicted volume	Status	Not Assessed (Monitor)
Target #13	On an annual and five-year basis and based on updated harvest block boundaries, the total actual delivered softwood and hardwood harvest volume from all sources on the FMA area shall deviate by less than the acceptable variance (15% on a five-year basis) from the volume predicted by the yield curve estimates for the same harvested forest stands.	Reporting Cycle	5-Year
		Assessment Cycle	5-Year

Part 2 – Hardwood



Category	Year of Measurement										Five-Year Average	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Predicted Volume (m ³)	455,878	451,366	467,237	590,135							491,154	N/A
Delivered Volume (m ³)	454,730	453,205	511,851	574,220	Assessment Year					Assessment Year	498,502	N/A
Delivered Volume (% Predicted)	99.7%	100.4%	109.5%	97.3%							101.5%	100%

Variance	+/-15% acceptable variance.
Comments	<ul style="list-style-type: none"> Differences between predicted and delivered volumes are likely due to a relatively old forest inventory (based on imagery acquired between 1994-2005) being used for these estimates. While there is an upper bound on this target, it should be noted that delivering more volume than predicted is positive as it means that less area needs to be harvested to meet wood supply requirements. Block 85006082 was a fire salvage block (3,284 m³ delivered softwood / 0 m³ delivered hardwood) and has not been included in this analysis, but it has been included in other VOITs (e.g., 19a) that utilize delivered volumes.

Indicator #14

Utilization assumption consistency and implementation

Status

On Target

Target #14

There shall be 0 Notices of Violation or Administrative Penalties for operators not meeting the current or otherwise approved utilization specifications.

Reporting Cycle

Annual

Assessment Cycle

Annual



Category	Year of Measurement										Current Status	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
NOV's / Penalties	0	0	0	0							0	0

Variance

No acceptable variance.

Comments

- No notices of violation or administrative penalties were issued in 2022/23 for not following approved utilization specifications.
- As part of ongoing harvest supervision, Mistik does weekly inspections on all contractors to ensure that they are following the approved utilization specifications.
- For additional information on regulatory compliance, see section 5.2.4.

Indicator #15

Operational adherence to the Tactical Plan

Status

Not Assessed
(On Track)

Target #15

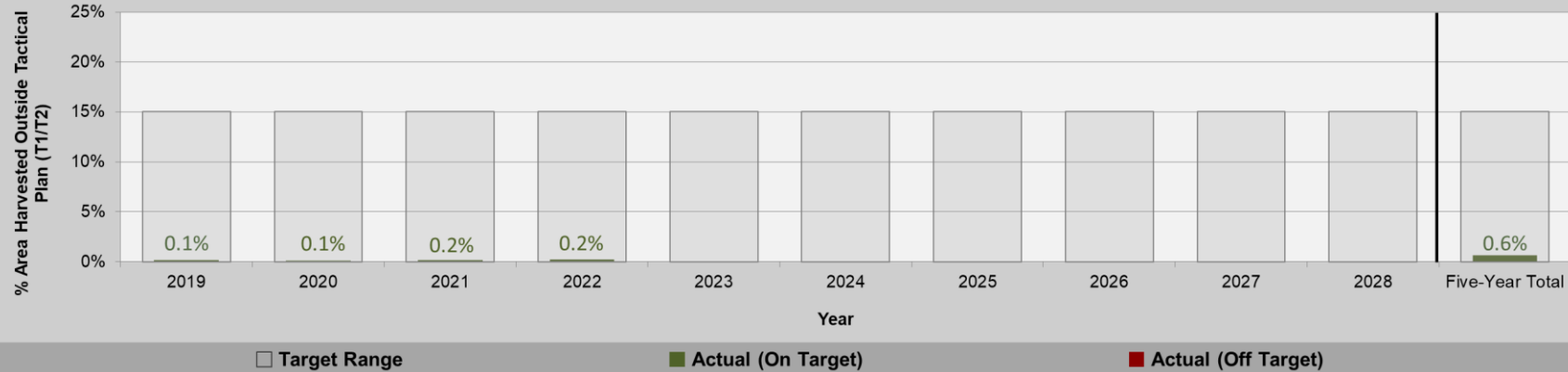
Over the 10-year period, the area harvested outside of the Tactical Plan (T1 and T2 combined) will not exceed 15% of the total Tactical Plan area.

Reporting Cycle

Annual

Assessment Cycle

5-Year



Category	Year of Measurement										Five-Year Total	Target	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
Total Area Harvested Outside of T1/T2 (ha)	372	200	444	573	Assessment Year						Assessment Year	1,588	37,347
% Total Area Harvested Outside of T1/T2	0.1%	0.1%	0.2%	0.2%	Assessment Year						Assessment Year	0.6%	15%

Variance

Acceptable range is 0% - 15%.

Comments

- Total Tactical Plan area (T1 + T2) = 248,979 ha. Maximum target area harvested outside of the Tactical Plan is (248,979 ha * 0.15) = 37,347 ha.
- In some areas, not all operable stands have been included in the tactical plan due to the coarse-scale nature of that level of planning. These stands are often harvested in conjunction with tactical plan blocks so that merchantable wood is not left isolated.

Indicator #16	Harvesting activities in compliance with all related requirements							Status	Not Assessed (Monitor)		
Target #16	100% of harvesting activities are in compliance with provincial and federal acts & regulations, approved operating plans, and SK Environmental Code.							Reporting Cycle	Annual		
								Assessment Cycle	5-Year		
Category	Year of Measurement										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
All Harvesting Activities in Compliance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2021 Compliance Summary											
Category	Mistik Inspection Data		Ministry Identified Non-Compliances (Enforcement Action Taken)								
	# of Inspections	# In Compliance	Total Items Non-Compliant	No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Stop Work Order	Administrative Penalty			
Harvesting Activities	230	224	5	0	0	4	0	1			
Variance	No acceptable variance.										
Comments	<ul style="list-style-type: none"> A total of 5 non-compliances were identified by the ministry related to harvesting in 2022/23. Note that harvesting also includes road-related activity as well. Four notices of violation and one administrative penalty were issued related to harvesting non-compliance (one related to NorthWind operations and four related to Mistik operations). The administrative penalty was related to Mistik operations. Mistik conducted a total of 230 harvest-related and road inspections in 2022/23 on both Mistik and Northwind operations. In 224 instances, harvesting activities were found to be in compliance. For additional information on regulatory compliance see section 5.2.4 										

Indicator #17	Crossing activities in compliance with all related requirements									Status	Not Assessed (Monitor)
Target #17	100% of watercourse crossings are in compliance with provincial & federal acts / regulations / approved operating plans /SK Environmental Code and aquatic habitat protection permits (AHPP).									Reporting Cycle	Annual
										Assessment Cycle	5-Year
Category	Year of Measurement										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
All Watercourse Crossings in Compliance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2020 Compliance Summary											
Category	Mistik Inspection Data		Ministry Identified Non-Compliances (Enforcement Action Taken)								
	# of Inspections	# In Compliance	Total Items Non-Compliant	No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Stop Work Order	Administrative Penalty			
Watercourse Crossings	39	38	1	0	1	0	0	0			
Variance	No acceptable variance.										
Comments	<ul style="list-style-type: none"> One Mistik non-compliance was identified by the ministry related to watercourse crossings in 2022/23 resulting in a voluntary compliance opportunity. There were no ministry-identified non-compliances related to watercourse crossings for NorthWind in 2022/23. Mistik conducted a total of 39 watercourse crossing inspections in 2022/23 and in 38 instances, crossing activities were found to be in compliance. For additional information on regulatory compliance see section 5.2.4. 										

Indicator #18

Event Duration

Status

Not Assessed
(On Track)

Target #18

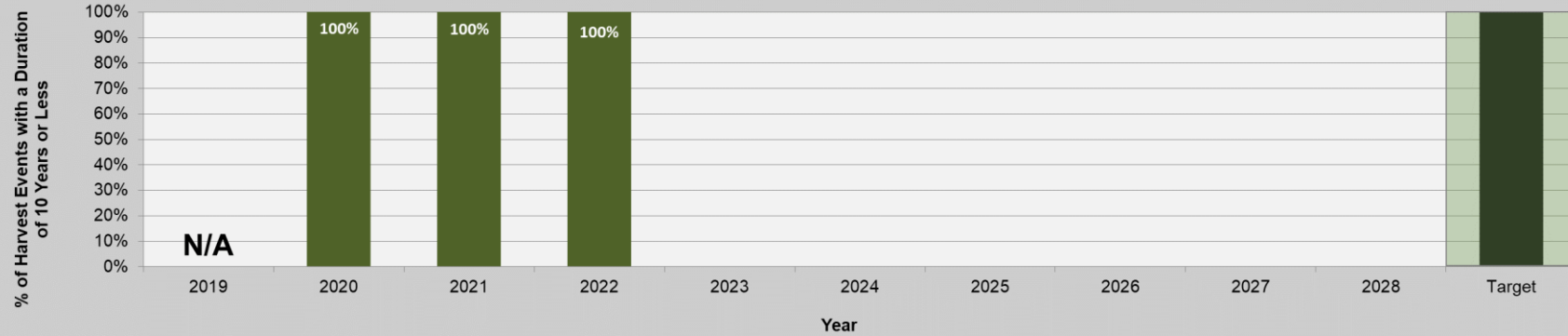
100% of harvest events have a duration of 10 years or less.

Reporting Cycle

Annual

Assessment Cycle

5-Year



■ Target

■ Actual (On Target)

■ Actual (Off Target)

Category	Year of Measurement										Cumulative Total	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Completed Harvest Events	N/A	3	6	6	Assessment Year						15	N/A
% of Completed Harvest Events with >10-year Duration	N/A	100%	100%	100%								

Variance

No acceptable variance.

- This target is based on completed events only. Only harvest events starting in 2019 and after are considered.
- Harvest event data, including a list of events initiated and completed in each year, can be found in Appendix A, Sections A6 and A7.

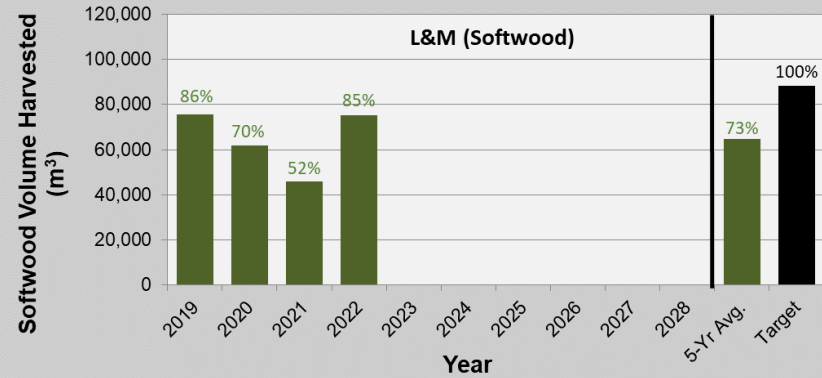
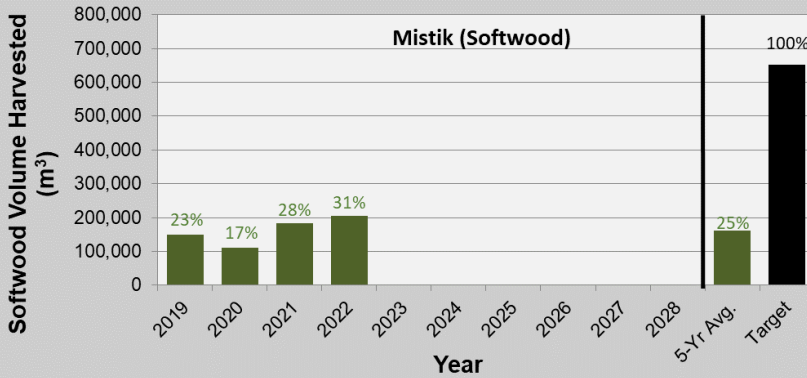
Comments

Indicator #19a Utilization of harvest volume schedule (HVS)

Status	Not Assessed (On Track)
Reporting Cycle	Annual
Assessment Cycle	5-Year

Target #19a The annual average harvest (based on a five-year period) shall not exceed the approved HVS for softwood or hardwood.

Part 1 – Softwood



■ Target ■ Actual (On Target) ■ Actual (Off Target)

■ Target ■ Actual (On Target) ■ Actual (Off Target)

Category	Year of Measurement										Five-Year Average	2019 FMP HVS	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
Softwood Volume Harvested (m³) – Mistik	148,778	110,367	184,553	204,789	Assessment Year						Assessment Year	162,122	652,906
Softwood Volume Harvested (m³) – L&M	75,673	61,971	45,972	75,376									64,748
Variance	No acceptable variance.												
Comments													

Indicator #19a

Utilization of harvest volume schedule (HVS)

Status

Not Assessed
(On Track)

Target #19a

The annual average harvest (based on a five-year period) shall not exceed the approved HVS for softwood or hardwood.

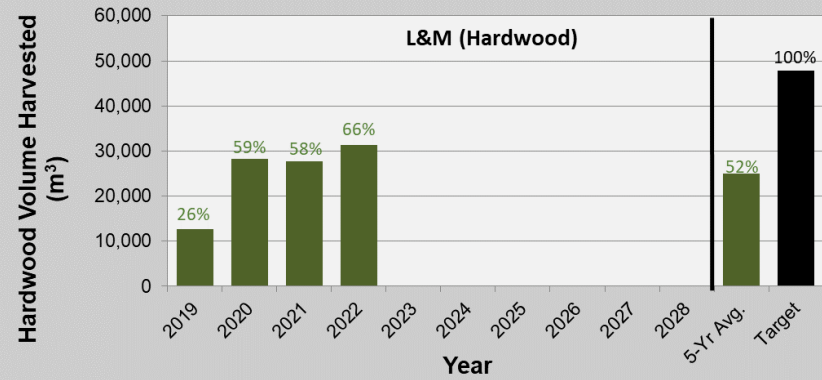
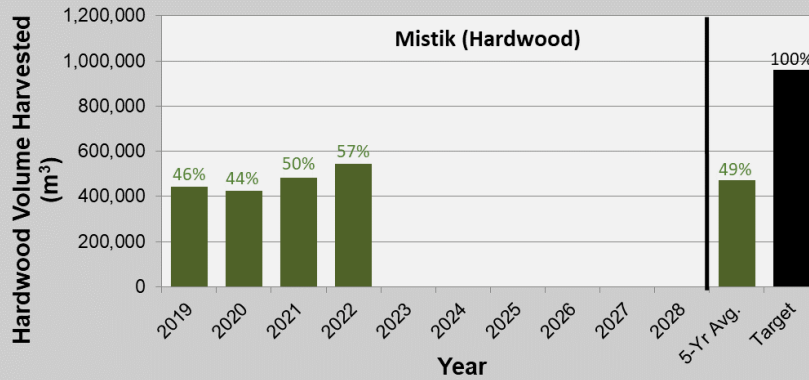
Reporting Cycle

Annual

Assessment Cycle

5-Year

Part 2 – Hardwood



■ Target ■ Actual (On Target) ■ Actual (Off Target)

■ Target ■ Actual (On Target) ■ Actual (Off Target)

Category	Year of Measurement										Five-Year Average	2019 FMP HVS	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
Hardwood Volume Harvested (m ³) – Mistik	442,072	424,941	484,138	542,824	Assessment Year						Assessment Year	473,493	959,763
Hardwood Volume Harvested (m ³) – L&M	12,659	28,265	27,713	31,397									25,008
Variance	No acceptable variance.												
Comments													

Indicator #19b

Harvest plans designed to lower wildfire risks to communities

Status

Not Assessed
(N/A)

Target #19b

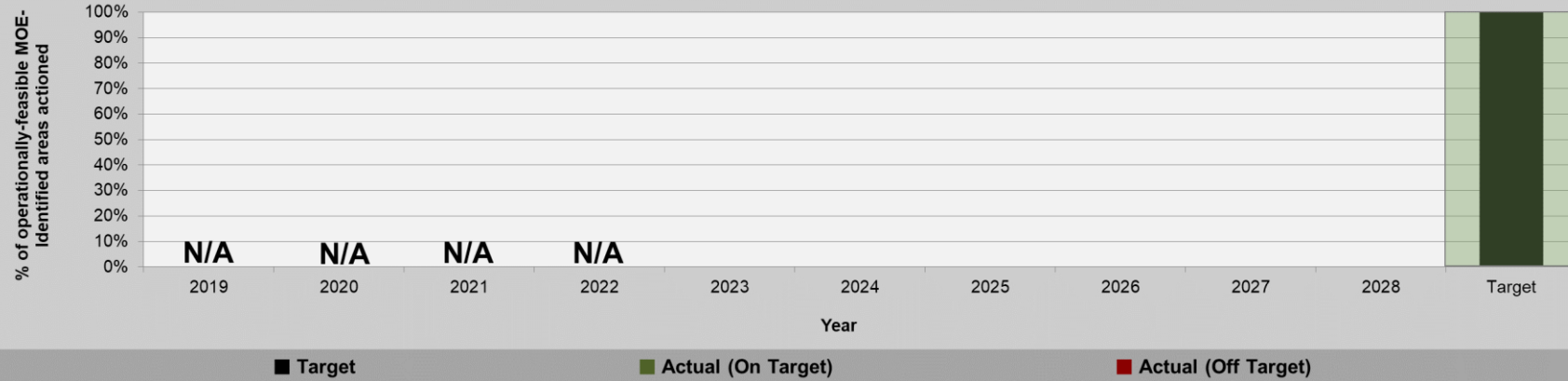
Work with MOE on 100% of community wildfire risks as identified by and requested by the Saskatchewan Public Safety Agency (SPSA) or within-FMA communities.

Reporting Cycle

Annual

Assessment Cycle

5-Year



Category	Year of Measurement										Current Status	Target		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
Number of Areas Identified and Requested by SPSA	0	0	0	0	Assessment Year						Assessment Year	0	N/A	
Number of Areas Actioned	0	0	0	0									0	N/A
% Areas Actioned	N/A	N/A	N/A	N/A									N/A	100%

Variance

Economic feasibility and merchantability are the key criteria when determining if fuel reduction projects can be undertaken. Operators will not be expected to harvest areas that do not meet these criteria.

- There were no requests for fuel reduction-type projects in 2019-2022 by the Saskatchewan Public Service Agency or the communities.

Comments

Indicator #20

Stakeholder and public engagement (Public Advisory Group meetings)

Status

On Target

Target #20

Organize a minimum of 2 public engagement meetings (e.g., PAG meetings) annually.

Reporting Cycle

Annual

Assessment Cycle

Annual



Category	Year of Measurement										Cumulative Average	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
PAG Meetings Held	2	1	2	2							1.5	2

Variance
Acceptable variance is -1 meeting.

- Only one PAG meeting was held in 2020 due to COVID-related cancellations. This meeting was held remotely on Oct. 22, 2020.
- In 2022, the spring field tour was held in the Beauval area on May 12th, and the fall meeting was held in Meadow Lake on October 27th.

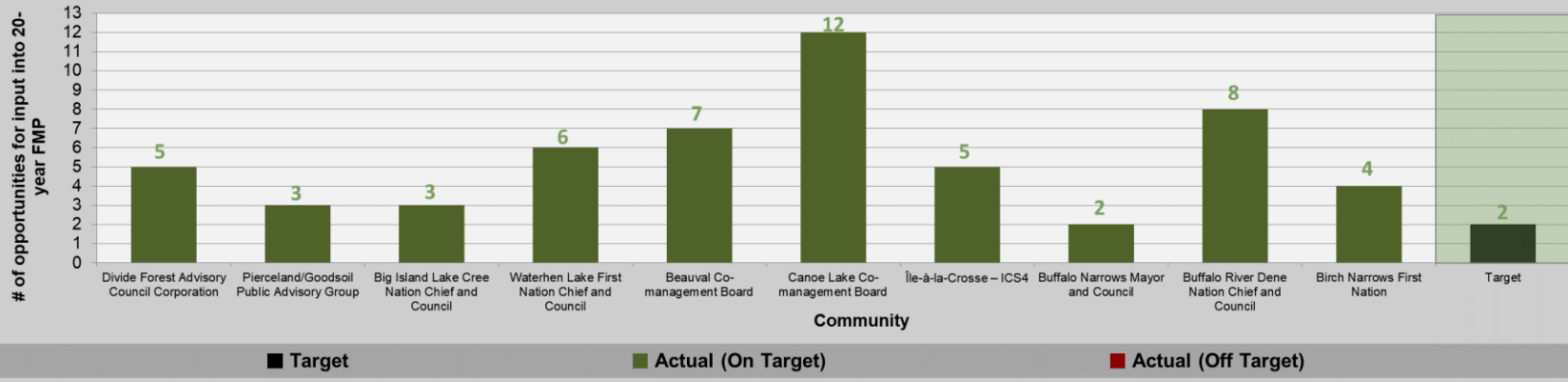
Comments

Indicator #21	Spatially identified non-timber resources and forest use activities										Status	On Target
Target #21	On an annual basis, acquire and input into GIS 100% of all known 'special places', non-timber resources and non-timber forest-use activities and produce a thematic map product which can be produced as a single theme or in combination with other map products.										Reporting Cycle	Annual
											Assessment Cycle	Annual
Category	Year of Measurement											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Number of New Additions	0	0	1	0								
Map Produced?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Variance	No acceptable variance.											
Comments	<ul style="list-style-type: none"> “Special Places” includes areas of public concern, rare wildlife, traditional use areas, unique landforms, visually sensitive areas, and archaeological/heritage sites. Mistik was not made aware of any new heritage sites in 2022. See attached Special Places map. 											

Indicator #22		Harvest operations are proportionally distributed across the FMA										Status		Not Assessed (Monitor)		
Target #22		Harvest area by species grouping and Planning Unit will not exceed 50% of the 10-year Forest Estate Modeling outputs in either of the first two 5-year periods.										Reporting Cycle		Annual		
												Assessment Cycle		5-Year		
Planning Unit	Species Group	Year of Measurement										5-Year Total	% of Target	Target (5-year)	Target (10-year)	
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028					
North	H/HS (ha)	0	0	0	0	Assessment Year						Assessment Year	0	0%	2,754	5,508
	SH (ha)	0	0	0	0								0	0%	414	828
	S-WS (ha)	0	0	0	0								0	0%	259	517
	S-Other (ha)	0	0	0	0								0	0%	2,430	4,859
West	H/HS (ha)	907	773	793	1,059								3,532	64%	5,537	11,073
	SH (ha)	18	41	30	13								101	32%	311	622
	S-WS (ha)	32	10	28	64								134	69%	194	388
	S-Other (ha)	70	146	130	147								147	14%	3,495	6,990
Central	H/HS (ha)	851	746	856	1,095								3,549	31%	11,551	23,101
	SH (ha)	69	21	51	57								198	18%	1,086	2,171
	S-WS (ha)	28	20	55	75								178	26%	677	1,353
	S-Other (ha)	138	78	191	195								602	8%	7,298	14,595
Divide	H/HS (ha)	707	520	618	696								2,540	68%	3,727	7,453
	SH (ha)	45	132	81	58								316	74%	427	854
	S-WS (ha)	115	4	49	45								213	48%	440	880
	S-Other (ha)	199	151	243	270								863	42%	2,045	4,089
L&M	H/HS (ha)	56	251	252	248						807	64%	1,254	2,507		
	SH (ha)	52	40	35	31						158	73%	216	432		
	S-WS (ha)	80	51	21	15						167	116%	144	287		
	S-Other (ha)	257	234	241	314						1,046	55%	1,890	3,779		
Variance		No acceptable variance.														
Comments		<ul style="list-style-type: none"> A map of the planning units can be found in Appendix A. 														

- Note that targets are based on model-derived volumes for each planning unit, not the total amount of Tactical Plan area for each species group, resulting in targets that are stricter in some cases than what is actually sustainable. Therefore, despite the proportionally large % of S-WS harvested in the L&M Planning Unit, it has been demonstrated to the MIT that harvest in this species group is nonetheless occurring within sustainable thresholds. Additional details have been provided in the Supplementary Data submission. Mistik will work with the MIT to refine the reporting of this indicator in order to ensure sustainability of harvest levels while accounting for operational realities.
- A revision to the FMP was approved April 1, 2023, with updated targets for this indicator to match the updated forest estate model. As per this revision, the first 5 years (2019/20 – 2023/24) will remain measured against the old targets, and the following 5 years (2024/25 – 2028/29) measured against the updated targets, with the 10-year target being the sum of these.

Indicator #23	Aboriginal community involvement in planning processes	Status	On Target (10/10)
Target #23	Provide a minimum of two opportunities annually for Indigenous communities to have input in Mistik's 20-Year Forest Management Plan processes and implementation. Provide notification to specific co-management/advisory boards annually if no harvesting is planned in their area. This would be used in the case where a group is inactive due to lack of forestry activity in their area and has chosen not to be in regular contact with Mistik/L&M.	Reporting Cycle	Annual
		Assessment Cycle	Annual



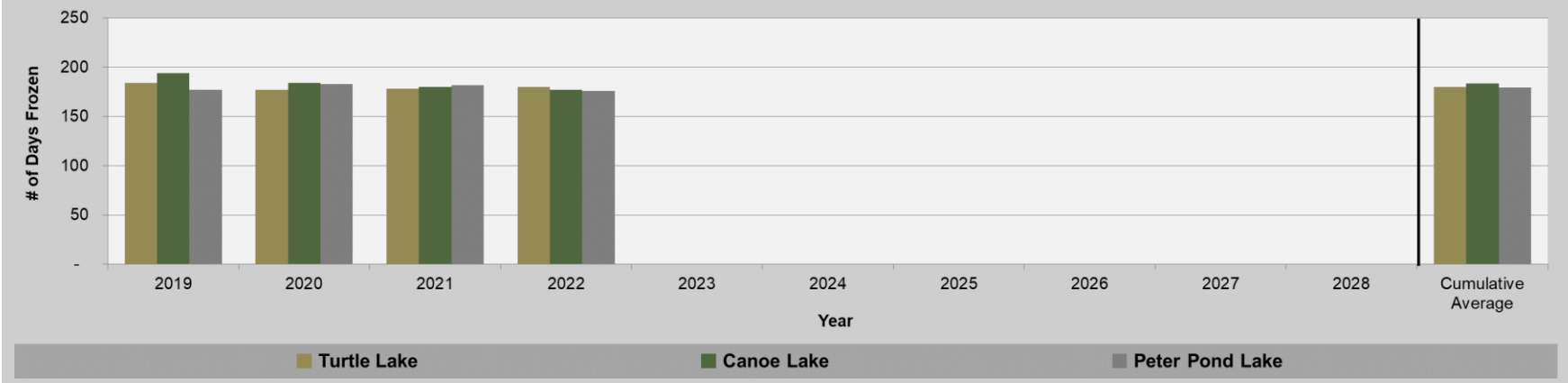
Number of Opportunities for Input, by Community	Year of Measurement											Current Status	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
Divide Forest Advisory Council Corporation	7	7	5	5								5	2
Pierceland/Goodsoil Public Advisory Group *	2	2	2	3								3	2
Big Island Lake Cree Nation Chief and Council	6	5	8	3								3	2
Waterhen Lake First Nation Chief and Council	2	3	5	6								6	2
Beauval Co-management Board	6	8	7	7								7	2
Canoe Lake Co-management Board	8	7	10	12								12	2
Île-à-la-Crosse – ICS4	4	5	7	5								5	2
Buffalo Narrows Mayor and Council	2	2	3	2								2	2
Buffalo River Dene Nation Chief and Council	4	3	5	8								8	2
Birch Narrows First Nation	1	1	7	4								4	2

Variance	No acceptable variance.
Comments	<ul style="list-style-type: none"> *The Pierceland/Goodsoil advisory group voluntarily has disbanded and representatives from the area attend the PAG and open houses held for operating plan review each fall. The number of opportunities for input for the Canoe Lake Co-management Board includes Canoe Lake Cree First Nation and the communities of Jans Bay, and Cole Bay who are also represented on the co-management board.

Indicator #24	Spatial Identification and protection of culturally significant Heritage and Indigenous sites										Status	Not Assessed (On Track)	
Target #24	On an annual basis, acquire and input into GIS 100% of all known locations of cultural, heritage or traditional Indigenous forest values and develop operating plans that protect these known sites of heritage, cultural and Indigenous forest values.										Reporting Cycle	Annual	
		Year of Measurement										Assessment Cycle	5-Year
Category	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
Number of New Additions	4	0	1	0	Assessment Year						Assessment Year		
Map Produced?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Variance	No acceptable variance.												
Comments	<ul style="list-style-type: none"> Note: Mistik will keep a spatial dataset of known special places; however, due to confidentiality issues, specific details on type may not be available to the general public. No new heritage sites were identified in 2022. See attached Special Places Map. 												

Indicator #25	Impacts of Climate Change on the Mistik FMP Area	Status	N/A
Target #25	1. The number of “days frozen” annual for three important lakes in the FMP area 2. Operational days lost due to “abnormal” weather/environmental conditions	Reporting Cycle	N/A
		Assessment Cycle	N/A

Part 1 – Annual Days Frozen (Selected Lakes)



Category	Year of Measurement										Cumulative Average
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Number of Days Frozen (Turtle Lake)	184	177	178	180							180
Number of Days Frozen (Canoe Lake)	194	184	180	177							184
Number of Days Frozen (Peter Pond Lake)	177	183	182	176							180

Variance N/A

Comments

- The three lakes chosen are all locally important for fishing/sustenance and recreation within the FMP area. Local people near each lake assist Mistik with monitoring ice conditions. The trend over time may show a decline in each lake’s total number of “frozen days” per year which has impacts to the local people.
- “Days frozen” begin when the entire lake is frozen and end when all the ice is gone.
- This indicator is voluntary monitoring commitment described in Mistik’s 2019 20-Year Forest Management Plan, Volume III, Section 3.8 related to a study focusing on the impacts of climate change on sustainable forest management on the Mistik FMP area¹. As such, there are no associated targets.

¹Andrews-Key, S. A. 2018. *Vulnerability and Adaptation to Climate Change in Sustainable Forest Management and the Forest Industry in Saskatchewan*. (Unpublished doctoral dissertation). University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

Indicator #25 Impacts of Climate Change on the Mistik FMP Area

Status N/A

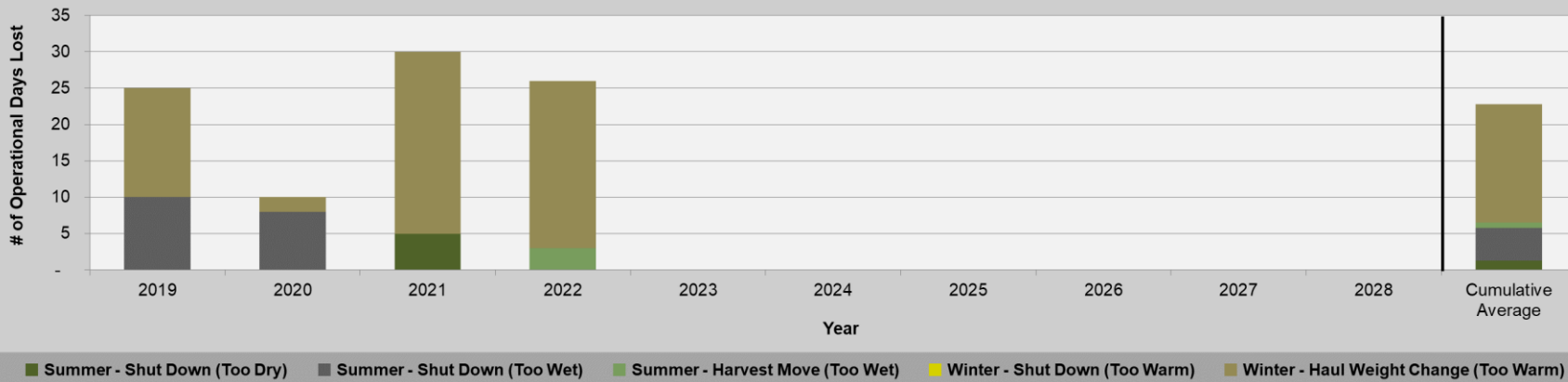
Target #25

1. The number of “days frozen” annual for three important lakes in the FMP area
2. Operational days lost due to “abnormal” weather/environmental conditions

Reporting Cycle N/A

Assessment Cycle N/A

Part 2 – Operational Days Lost due to Abnormal Environmental Conditions



Season	Category	Year of Measurement										Cumulative Average
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Summer	Harvest Shut Down (Too Dry)	0	0	5*	0							1
	Harvest Shut Down (Too Wet)	10	8	0	0							5
	Harvest Moved (Too Wet)	0	0	0	3							1
Winter	Harvest Shut Down (Too Warm)	0	0	0	0							0
	Haul Weight Change (Too Warm)	15	2	25	23							16
Total		25	10	30	26							23

Variance N/A

Comments

- Mistik monitors the following (number of days):
 - In Summer (Start-up until October 31):
 - Harvesting shut-downs due to extremely dry (high fire hazard) or extremely wet conditions.
 - Harvesting moves directly related to wet conditions.
 - In Winter (November 31 until February 28) – note that in the FMP, winter dates were defined as November 1 – March 31. Mistik does not consider warmer temperatures in March abnormal, and as such does not record these days.
 - Harvesting shut-downs due to warm temperatures.
 - Winter haul weight changes due to warm temperatures
- This indicator is voluntary monitoring commitment described in Mistik's 2019 20-Year Forest Management Plan, Volume III, Section 3.8 related to a study focusing on the impacts of climate change on sustainable forest management on the Mistik FMP area¹. As such, there are no associated targets.

* There were an additional 16 days in July with bunching and skidding limited to night shift due to fire risk.

¹Andrews-Key, S. A. 2018. *Vulnerability and Adaptation to Climate Change in Sustainable Forest Management and the Forest Industry in Saskatchewan*. (Unpublished doctoral dissertation). University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

Indicator #26a	Contributions to Co-management Boards									Status	Not Assessed (On Track)
Target #26a	On an annual basis, contribute financially to co-management boards according to the terms and conditions of co-management agreements.									Reporting Cycle	Annual
										Assessment Cycle	5-Year
Category	Year of Measurement										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Contributions Met?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Variance	Acceptable variance is 20% of the 5-year target, based on the terms of the agreement.										
Comments	<ul style="list-style-type: none"> As part of Mistik's annual financial audit, an assessment is made on co-management fee payments. The assessment is done to determine if the payment amounts were correctly calculated based on the fee payment schedule. 										

Indicator #26b

% of total annual vendor / contractor payments made to local businesses

Status

Not Assessed (On Track)

Target #26b

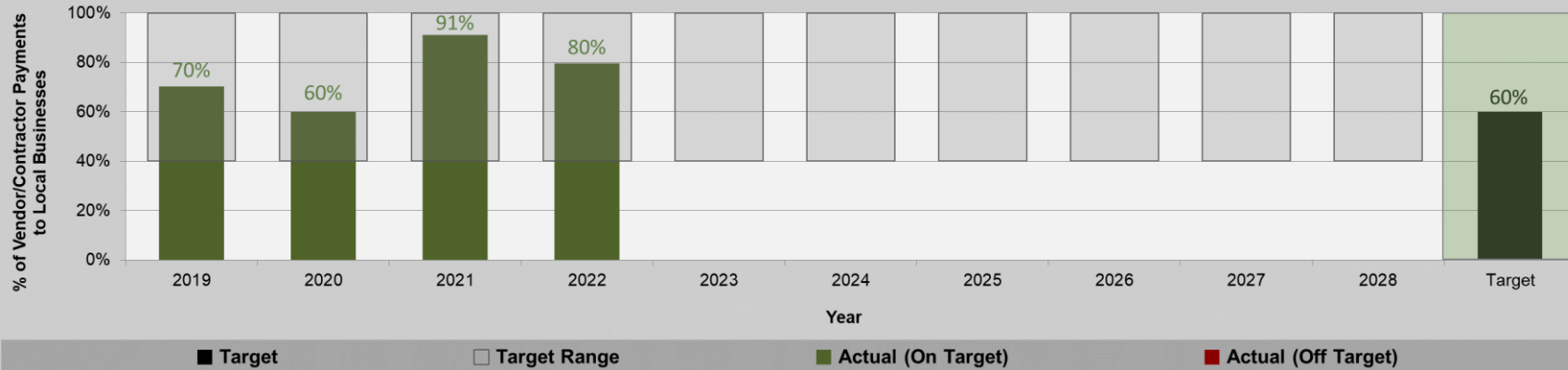
On an annual basis, 60% of total annual vendor/contractor payments made by Mistik & L&M will be to businesses from local communities in, and adjacent to, the FMA area.

Reporting Cycle

Annual

Assessment Cycle

5-Year



Category	Year of Measurement										Current Status	Target	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
% Vendor Payments to Local Businesses	70.2%	60.0%	91.0%	79.6%	Assessment Year						Assessment Year	79.6%	60%

Variance

Acceptable variance is 20% of total annual vendor/contractor payments (acceptable range: 40% - 100%).

- The following communities are considered "local": Michel Village, St. Georges Hill, Dillon, Buffalo Narrows, Canoe Lake, Jan's Bay, Cole Bay, Beauval, Île-à-la-Crosse, Waterhen, Meadow Lake, Glaslyn (L&M), and Spiritwood (L&M).

Comments

Indicator #26c

Percent of 'within-FMA area' communities represented in the workforce

Status

Not Assessed (On Track)

Target #26c

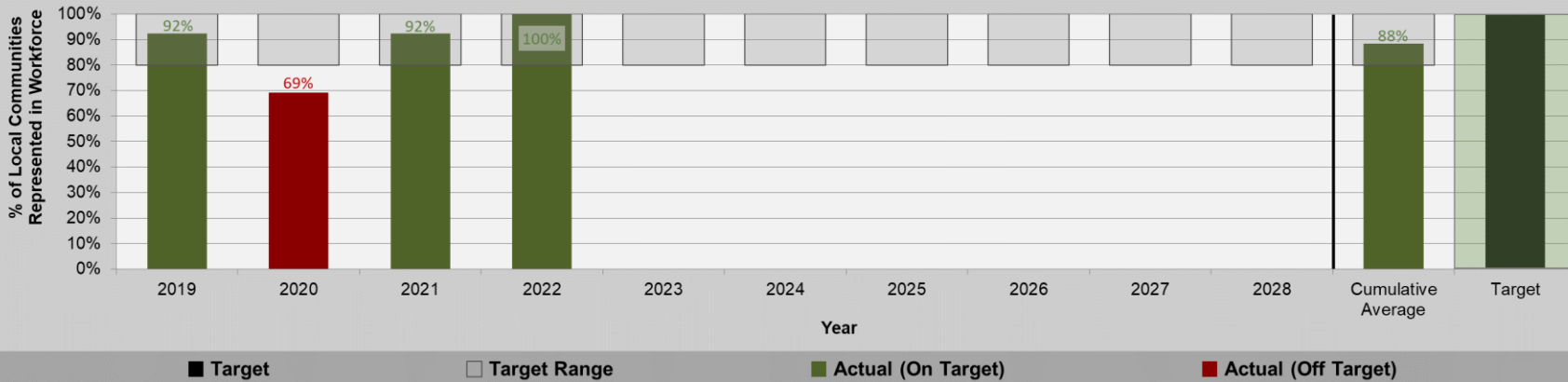
100% of 'within-FMA area' communities shall be represented in the L&M and Mistik-related workforce.

Reporting Cycle

Annual

Assessment Cycle

5-Year



Category	Year of Measurement										Cumulative Average	Target	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
% of Local Communities Represented in Workforce	92%	69%	92%	100%	Assessment Year						Assessment Year	88%	100%

Variance

Acceptable variance is 20% (acceptable range is 80% - 100% of 'within-FMA area' communities).

Comments

- The following communities are considered "local": Michel Village, St. Georges Hill, Dillon, Buffalo Narrows, Canoe Lake, Jan's Bay, Cole Bay, Beauval, Île-à-la-Crosse, Waterhen, Meadow Lake, Glaslyn (L&M), and Spiritwood (L&M).
- All 13 communities were represented in 2022.

Indicator #27

Stakeholder Engagement

Status

On Target

Target #27

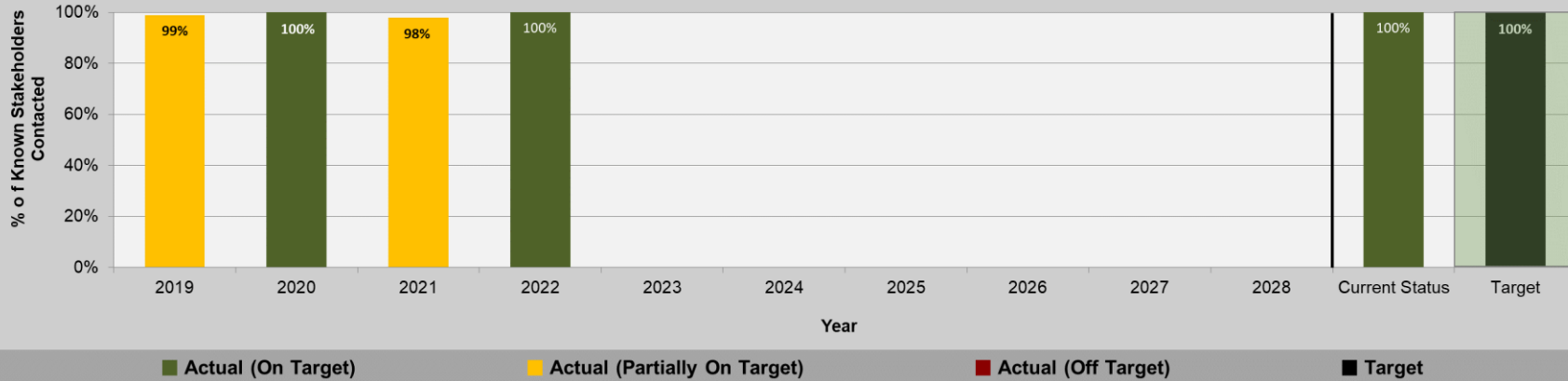
Send letters annually to 100% of known “within-FMP area” stakeholders in areas where harvesting is proposed for the upcoming operating year. The letters will notify the stakeholder of Mistik/L&M plans to operate in their area and provide the opportunity for the individual to have input in planning process.

Reporting Cycle

Annual

Assessment Cycle

Annual



Category	Year of Measurement										Current Status	Target
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
# of Known Stakeholders	108	117	122	111							111	N/A
# with Contact Initiated by Letter	102	117	118	106							106	N/A
# with Contact Initiated by Other Means	5	0	2	5							5	N/A
% of Known Stakeholders Contacted	99%	100%	98%	100%							100%	100%

Variance

Comments

No acceptable variance.

- It should be noted that letters represent only a small portion of the ways Mistik engages local stakeholders.
- Throughout each operating year, a number of new stakeholders are added. An example is when an existing business is purchased by someone new. This transaction may take place outside of the timeframe when the operating plan is being developed (i.e., not in the fall), so an operating plan engagement letter is not sent at that time. Mistik contacts new stakeholders as we are made aware of them and reviews plans for the current/upcoming operating year. New stakeholders receive engagement letters for the next operating plan and going forward from that point.

5 FMP STANDARD REPORTING REQUIREMENTS

Reporting requirements, in addition to the indicators above, are outlined in the *Saskatchewan Environmental Code – Forest Management Planning Standard* (Section 1-54).

5.1 MANAGEMENT IMPLEMENTATION TEAM (MIT)

The MIT met February and March of 2022 to begin completed the process of amending the FMP to gain alignment with the Range Plan for Woodland Caribou in Saskatchewan (SK2 West Caribou Administration Unit) in May 2023. The MIT will be engaged in the presentation of the final 2022-23 annual report in May 2024. Going forward, the MIT will be engaged as often as necessary with respect to implementation of the forest management plan and annual reports.

5.2 ANNUAL REPORT CONTENT

5.2.1 VOIT Tracking and Monitoring

VOIT updates in this annual report include an assessment of each target and notes on deviations and why they are occurring. Supporting data is either provided in this document or to the ministry separately (for confirmation/analysis). In some cases, the data is confidential (financial or stakeholder-related) and therefore not all background data is included in this document.

Mechanisms employed in Mistik monitoring processes include several systems:

- The environmental management system (EMS) and certification processes include standard operating procedures, annual staff and contractor training, a self-inspection program and report, and an external audit. The EMS also includes procedures for regular (typically daily) monitoring of various operational activities and administrative processes.
- There are several databases that are maintained that contribute to VOIT monitoring including GIS and associated data, tracking of silviculture and indicator-related information, stakeholder commitments, operating plan approval and amendment conditions, watercourse crossing activity and other certification, operational and planning-related data. Some of this information is provided to the ministry at various required intervals (e.g., annual data submission, monthly stakeholder commitments, etc.).

- Stakeholder and public engagement records are maintained at Mistik. As many of these contain confidential information, they are not included in this document. The records are made available to the ministry and external certification auditors. A summary of public concerns can be found in Appendix A. Mistik posts an advertisement in the local newspaper each year during operating plan development (fall) inviting the public to have input in the planning process. Mistik also has ongoing, regular engagement with stakeholders throughout the operating year.
- External certification audit results are provided to Mistik and can also be found on the Mistik website.

5.2.2 FMP Registry

The status of each of Mistik’s 2019 20-Year FMP Commitments is as follows.

Mistik 2019 20-Year Forest Management Plan Commitments (Volume III Registry Items)			
Commitment	Measurement Criteria	Schedule for Completion	Annual Update
Public Involvement (Public Engagement Process)			
Mistik will update the Mistik Register of Public Issues and Concerns on an annual basis	Evidence of the review process and publicly available Register	Annual implementation and reporting (August 31)	Registry has been updated. There were no public complaints made to Mistik during 2022/23. Register of public concerns can be found in Section A4.
Non-Timber Values			
Identify visually sensitive areas (VSA) and maintain specified visual quality objectives (VQO).	Evidence in the annual report of the identification of visually sensitive areas and specified visual quality objectives	Annual implementation and reporting (August 31)	VSA are inspected based on established VQO's during harvest operations, as part of the annual external audit and the EMS self-inspection process.
Maintain database of watercourse crossings	Mistik/L&M GIS layer and operating plans maps to illustrate location, type, and size of crossing	GIS layer and maps to be updated annually.	Mistik's GIS is updated on a regular basis as watercourse crossings are installed and removed. Data is provided to the ministry annually in the operating plan and under the Forest Data Submission Standard.

Mistik 2019 20-Year Forest Management Plan Commitments (Volume III Registry Items)			
Commitment	Measurement Criteria	Schedule for Completion	Annual Update
Natural Disturbance			
With respect to an incipient outbreak of an invasive insect, Mistik will collaborate with the Ministry of Environment in mapping, monitoring, and assisting in facilitating a control program	Resources allocated to mapping, monitoring, and assisting with a control program	As required.	There have been no reported invasive insect outbreaks on the Mistik or L&M FMA in 2022/23
Conformance with the Tactical Plan			
With respect to independent operators, Mistik will collaborate with Saskatchewan Ministry of Environment to obtain annual records.	Independent operator "report" (geospatial and attribute data) provided to Mistik by the ministry on an annual basis. Independent operator harvest area records retained in Mistik's GIS system.	Annual implementation and reporting (August 31).	Independent operator report for 2022/23 was provided to Mistik on February 24, 2024.

Additionally, the status of Mistik's 2019 FMP approval conditions, is as follows.

Mistik 2019 20-Year Forest Management Plan Approval Conditions	
Condition	Current Status
(a) Proceed with the development in accordance with the FMP	Implementation of the FMP began effective April 1, 2019.
(b) Provide notification of any changes	No notifications of changes have been submitted to the ministry as of the submission of this annual report.
(c) Follow the requirements of <i>The Forest Resources Management Act</i> , other laws, and the Saskatchewan Environmental Code	Results are reported annually and can be found in Section 5.2.4.

Mistik 2019 20-Year Forest Management Plan Approval Conditions	
Condition	Current Status
(d) Adapt the FMP based on the direction provided by the Range Plan for Woodland Caribou in Saskatchewan	The plan amendment was submitted to the ministry for review in January 2023 and was approved effective April 1, 2023.
(e) Adapt Silvicultural Ground Rules as better knowledge becomes available	This was done as part of the amendment submitted to the ministry in January 2023.
(f) Complete a study to assess average historical fire-cycle on the Mistik Management Ltd. and L&M Wood Products (2018) Limited Partnership FMA areas within seven years of this approval	Mistik has been working on this in 2023-24.
(g) Complete a study to assess species specific softwood sawlog degrade factors on the Mistik Management Ltd. and L&M Wood Products (2018) Limited Partnership FMA areas within seven years of this approval	This study has not been initiated yet. It is Mistik’s understanding that a study may be initiated by the province for all large-volume licensees.

5.2.3 Silviculture Effectiveness Monitoring

Status of regenerated areas. All renewal activity and regeneration survey data are provided to the ministry annually through the Forest Data Submission Standard process. See also Target #9 (“Post-Harvest Areas are Successfully Regenerated”), as well as Silviculture Effectiveness Indicators #1-3, located in Appendix A.

Areas where strategies and implementation techniques are inadequate or need improvement. Mistik and L&M have a very high success rate of harvested blocks achieving required Free to Grow status (see Target #9 Post Harvest Areas are Successfully Regenerated). Strategies to improve the regeneration in any “not sufficiently regenerating” (NSR) areas are provided in Mistik’s annual operating plans. Currently all NSR areas are due to fires that occurred in 2015 and 2021. These The 2015 fire areas have had field inspections and are showing good signs of natural regeneration of both hardwood and softwood in the burned areas. The 2021 fire areas are showing good regeneration of hardwood and moderate regeneration of softwood. Mistik has some white spruce planting planned for 2024

in the Helene Fire (2021). They are scheduled for a Free-to Grow re-survey in 2029. There are no indications that Mistik or L&M should change the methods used for regenerating harvested areas at this time.

Polygons are on the yield trajectories that are identified in the associated SGR.

Silviculture effectiveness indicators can be found in Appendix Section A5. These indicators measured observed Free-to-Grow surveys against thresholds identified in Table 14-2 of the Mistik 2019 20-Year Forest Management Plan – Silviculture Ground Rules. These silviculture indicators show that the regenerating mixedwood areas surveyed had both hardwood and softwood densities well above the targets set in the SGRs (Silviculture Effectiveness Indicators #1 and #2). Furthermore, both softwood and hardwood heights in all regenerating areas surveyed were well above the thresholds determined in the SGRs (Silviculture Effectiveness Indicators #3 and #4). It can be determined based on these indicators that the areas surveyed were either consistent with, or exceeding, the trajectories assumed in the Silviculture Ground Rules.

Assumptions in the forest estate modelling. The Silviculture Ground Rules provide assumptions and thresholds for regenerating stand performance used in the Forest Estate Modelling. Performance relative to these thresholds can be found in Appendix Section A5 (see section iii. above for more information). Additionally, FMP Indicators #5, #6, and #9 provide further verification of Forest Estate Modelling assumptions, including whether a.) the softwood component of regenerating stands is maintained, b.) regenerating area is projected to meet targets for future forest composition, and c.) regenerating area meets stocking requirements.

Renewal tracking log. Mistik tracks renewal using several tools including the GIS system and regeneration survey database. All renewal activity and survey data are provided to the ministry annually through the Forest Data Submission Standard process. The data provided includes year of harvest, size of area harvested, renewal treatment applied (planting, leave for natural, site preparation, etc.), and regeneration survey results. NSR area renewal strategies are addressed in Mistik's annual operating plans.

Pre-harvest cover species group and projected SGR classification for all blocks with a Free-to-Grow survey are also provided in the Supplementary Data submission for Indicator #6.

5.2.4 Operational Implementation of the FMP

The following table summarizes non-compliances in 2022/23. Note that Mistik inspections may include items not in compliance with internal administrative processes.

Mistik 2022-2023 Annual Report – Non-Compliances									
Target #/Activity	Mistik Inspection Data			Ministry Identified Non-Compliances (Enforcement Action Taken)					
	# of Inspections	# In Compliance	Not in Compliance	Total Items Non-Compliant	No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Stop Work Order	Administrative Penalty
Target #14 (Utilization)	9	9	0	0	0	0	0	0	0
Target #16 (Harvesting)	230	224	6	5	0	0	4	0	1
Target #17 (Crossings)	39	38	1	1	0	1	0	0	0
Other - Camps*	Incl. with #16	N/A	N/A	0	0	0	0	0	0
Other - EMS	9	9	0	N/A	N/A	N/A	N/A	N/A	N/A
Other - Roads*	Incl. with #14	N/A	N/A	1	0	0	1	0	0
Total	287	280	7	7	0	1	5	0	1

*Ministry data has included any non-compliance items in the "VOIT#16 Harvest" category

Non-compliances are either identified through a ministry inspection, or they are self-reported by Mistik to the ministry upon discovery. The following actions were taken to address these non-compliances.

In 2022/23, the ministry identified five non-compliances related to harvest operations (VOIT #16 – Harvesting Compliance).

- A notice of violation was issued to NorthWind for constructing a spur road in a previous year harvest block without proper approval to continue operations in the block. The road was promptly reclaimed and a review meeting was held with the contractor to remind them that all activities require approval, including those related to the previous year's operations.
- A notice of violation was issued to Mistik when a section of reclaimed road was opened when constructing the connecting Class 3 road for active harvest operations. The cat operator did not have a GPS enabled device. The next day the Cat operator had a GPS enabled device with pinned stop locations. Mistik supervisor will verify Cat operators have GPS location devices to ensure they are operating where approved. The trespassed class 4 road is now reclaimed.
- A notice of violation was issued to Mistik for a calculation for block boundary deviation that was not done correctly. Mistik has created a better procedure for calculating boundary deviation and it is now done for all blocks.
- A notice of violation was issued to Mistik for exceeding the allowable timeframe for burning slash piles in two blocks. The piles were burned in the next burning season and reporting to the ministry was completed.
- An administrative penalty was issued to Mistik for the contractor not following a stakeholder commitment related to the avoidance of a bait site during harvest. Mistik paid the penalty and had several additional meetings with the affected stakeholder.

One non-compliance was found related to watercourse crossings (#17 crossing activity compliance).

- A voluntary compliance opportunity was issued to Mistik for crossings that were noted to be plugged by beaver activity. Upon inspection, the culverts were noted to be inadequate/not functioning correctly. The water adjacent to the road right of way was drained to minimize any further erosion. Culverts were reinstalled, site was cleaned up, and ongoing monitoring of the site is happening.

No non-compliances were found related to utilization in 2022/23.

APPENDIX A: SUPPORTING DATA

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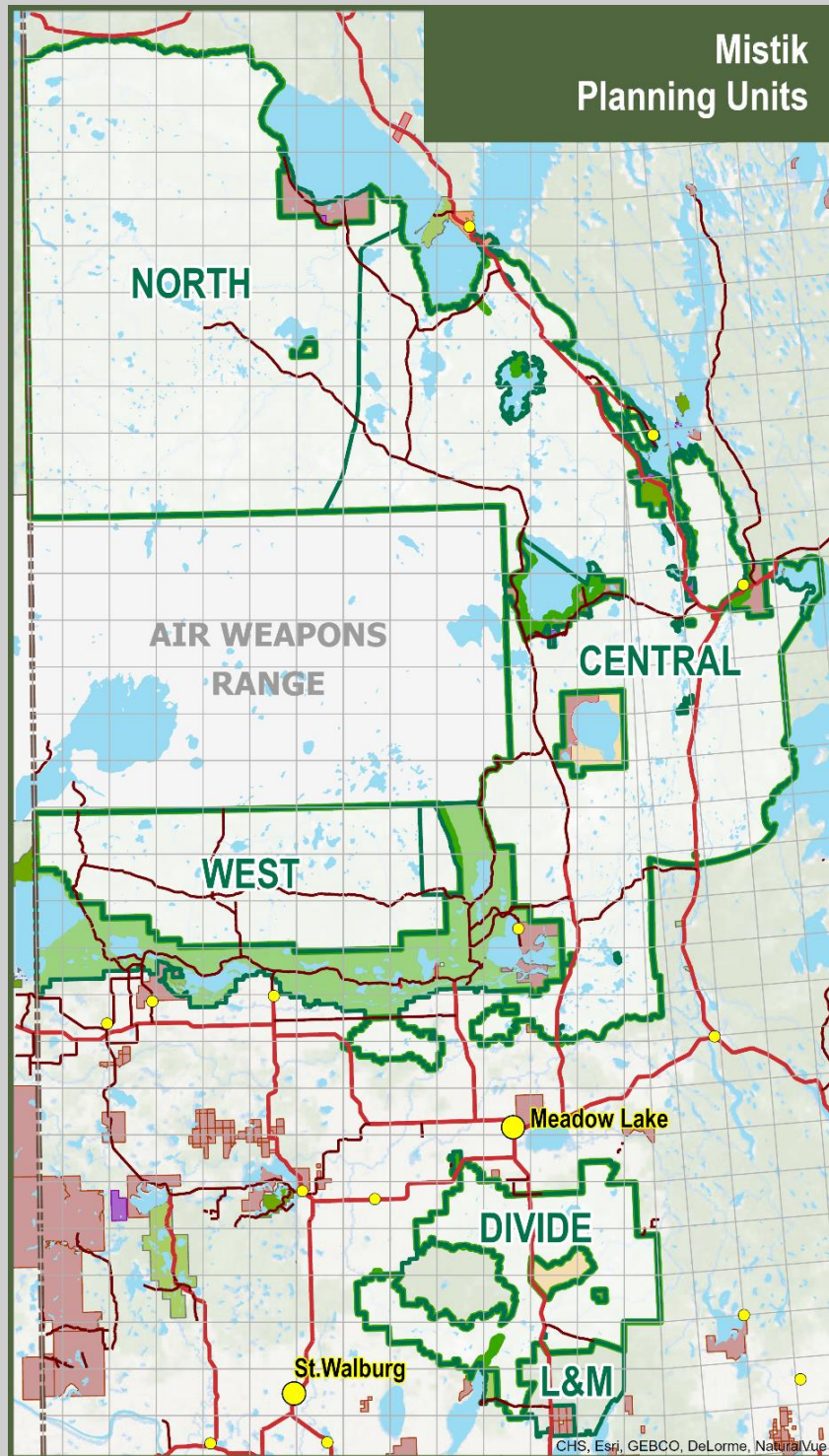
A1. HARVESTED BLOCK SUMMARY

The following table lists the harvested blocks included in this report.

Mistik 2022-2023 Annual Report – Harvested Blocks					
Opening Number	Operating Year	Area (ha)	Opening Number	Operating Year	Area (ha)
01012013	2022/23	49.4	04017010	2022/23	108.7
01012027	2022/23	55.9	04023018	2022/23	88.3
01012037	2022/23	125.5	04037053	2022/23	38.3
01013057	2022/23	66.0	04040007	2022/23	49.4
01013058	2022/23	61.8	04040013	2022/23	301.5
01014061	2022/23	74.6	07014003	2022/23	143.4
01017040	2022/23	345.0	07015018	2022/23	49.8
01022034	2022/23	134.4	08005002	2022/23	199.2
01034013	2022/23	51.5	08009018	2022/23	138.7
01047003	2022/23	73.0	08010016	2022/23	68.4
01055087	2022/23	43.9	08011007	2022/23	71.0
02016052	2022/23	99.2	08018012	2022/23	53.4
02023022	2022/23	77.3	12013023	2022/23	218.0
02032005	2022/23	77.9	12017004	2022/23	80.9
02035001	2022/23	98.5	85002002	2022/23	44.8
03004004	2022/23	31.4	85002004	2022/23	181.7
03004005	2022/23	44.4	85004004	2022/23	121.6
03004006	2022/23	126.1	85004069	2022/23	103.3
03011002	2022/23	44.0	85006082	2022/23	44.7
03011006	2022/23	402.2	85009058	2022/23	113.7
04010057	2022/23	117.0			
Total					4,417.8

A2. PLANNING UNITS (MAP)

Planning Units



A3. MANAGEMENT UNITS (MAP)

Management Units

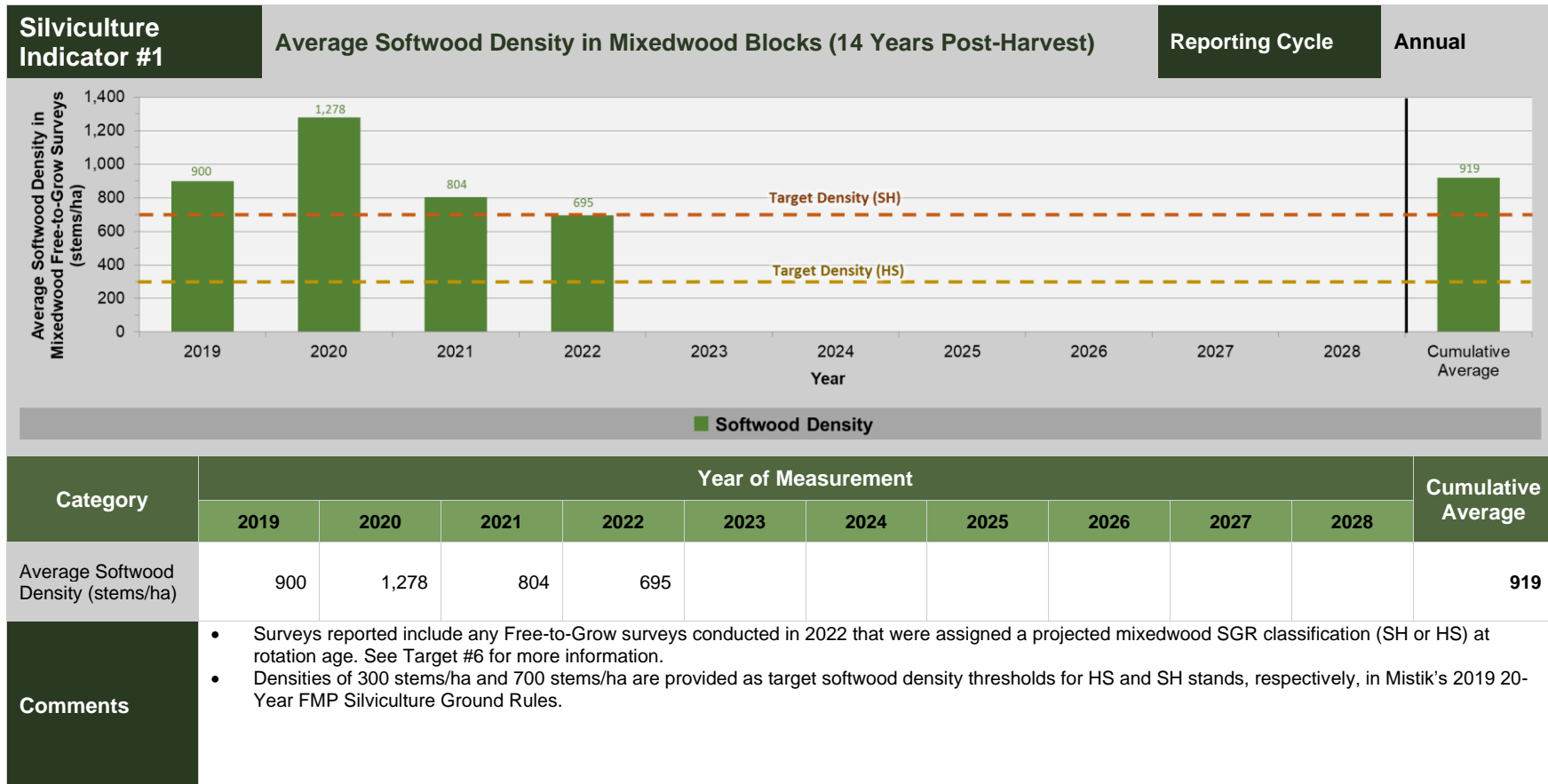


A4. REGISTER OF PUBLIC CONCERNS

Mistik 2019 20-Year Forest Management Plan							
Register of Issues and Concerns related to the Mistik or L&M FMA							
No.	Name and Affiliation	Community Affiliation	Forum and Date	Issue Raised	Mistik Response and Proposed Action Plan	Completion Date of Proposed Action	Other Comments

**Note: There were no new additions to the register of public concerns in 2021*

A5. SILVICULTURE EFFECTIVENESS INDICATORS

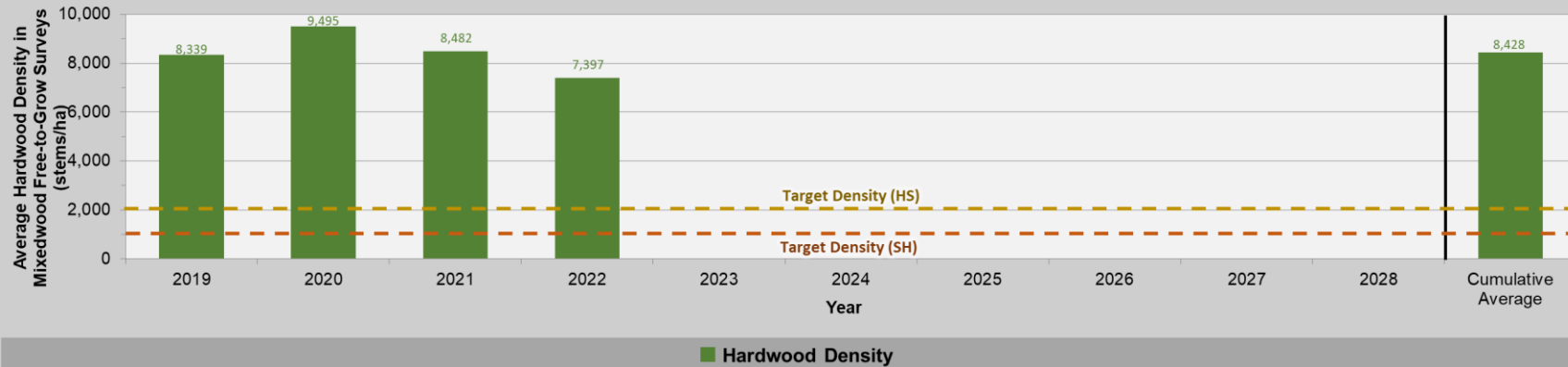


Silviculture Indicator #2

Average Hardwood Density in Mixedwood Blocks (14 Years Post-Harvest)

Reporting Cycle

Annual



Category	Year of Measurement										Cumulative Average	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Average Hardwood Density (stems/ha)	8,339	9,495	8,482	7,397								8,428
Comments	<ul style="list-style-type: none"> Surveys reported include any Free-to-Grow surveys conducted in 2022 that were assigned a projected mixedwood SGR classification (SH or HS) at rotation age. See Target #6 for more information. Densities of 1,000 stems/ha and 2,000 stems/ha are provided as target hardwood density thresholds for SH and HS stands, respectively, in Mistik's 2019 20-Year FMP Silviculture Ground Rules. 											

Silviculture Indicator #3

Average Softwood Tree Heights (14 Years Post-Harvest)

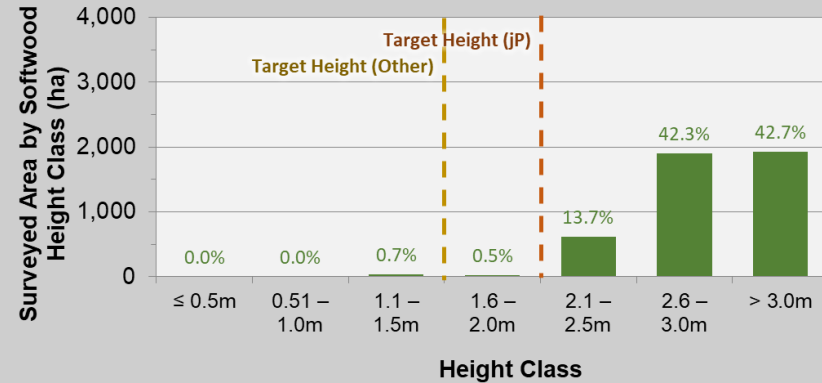
Reporting Cycle

Annual

Average Softwood Height



Area by Softwood Height Class



■ Average Softwood Height

■ Area

Softwood Height Class	Year of Measurement										Cumulative Average
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
% Area ≤ 0.5m	0%	0%	0%	0%							0.0%
% Area 0.51 – 1.0m	0%	0%	0%	0%							0.0%
% Area 1.1 – 1.5m	0%	0.5%	2.4%	0%							0.7%
% Area 1.6 – 2.0m	0.8%	0%	0%	1.8%							0.5%
% Area 2.1 – 2.5m	13.8%	24.9%	6.5%	4.7%							13.7%
% Area 2.6 – 3.0m	57.1%	26.4%	43.3%	39.3%							42.3%
% Area > 3.0m	28.4%	48.3%	47.8%	54.2%							42.7%
Area-Weighted Average Height (m)	3.2	3.7	3.6	3.4							3.5

Comments

- Softwood heights refer to the average height of the dominant softwood species within a surveyed area.
- Heights of 2m and 1.5m are provided as target heights for Jack Pine and other softwood species, respectively, in Mistik's 2019 20-Year FMP Silviculture Ground Rules.

Silviculture Indicator #4

Average Hardwood Tree Heights (14 Years Post-Harvest)

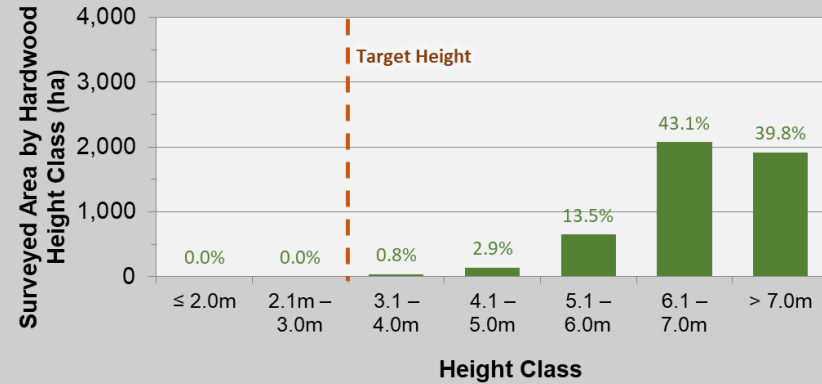
Reporting Cycle

Annual

Average Hardwood Height



Area by Hardwood Height Class



■ Average Hardwood Height

■ Area

Hardwood Height Class	Year of Measurement										Cumulative Average
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
% Area ≤ 2.0m	0%	0%	0%	0%							0%
% Area 2.1 – 3.0m	0%	0%	0%	0%							0%
% Area 3.1 – 4.0m	0%	0%	0%	1.4%							0.8%
% Area 4.1 – 5.0m	1.6%	2.0%	0.8%	11.2%							2.9%
% Area 5.1 – 6.0m	14.7%	12.3%	12.7%	14.5%							13.5%
% Area 6.1 – 7.0m	39.4%	55.8%	36.1%	43.0%							43.1%
% Area > 7.0m	44.4%	29.9%	50.5%	29.9%							39.8%
Area-Weighted Average Height (m)	7.1	7.0	7.1	6.7							7.0

Comments

- Hardwood heights refer to the average height of the dominant hardwood species within a surveyed area.
- A height of 3m is provided as a target for hardwood species in Mistik's 2019 20-Year FMP Silviculture Ground Rules.

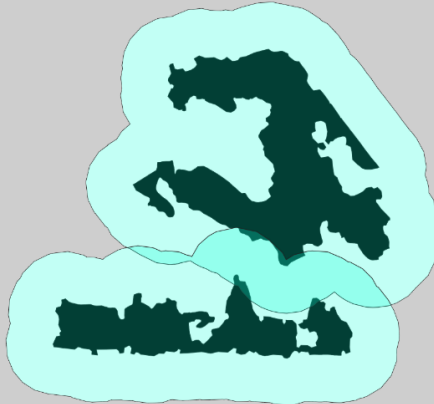
A6. HARVEST EVENTS (SUMMARIES)

The tables below indicate the status of harvest events on the Mistik FMA as of the 2022/23 operating year. Events are only considered “completed” if all harvesting, silviculture, and reclamation activities have been completed. Six events were considered “complete” in 2022/23.

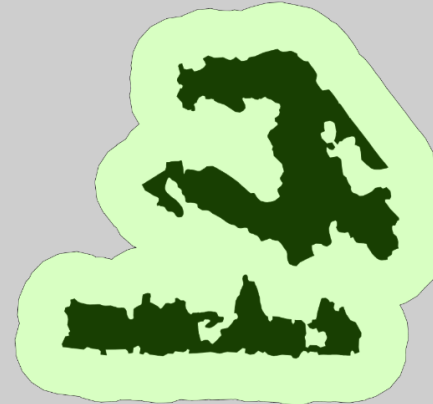
The following figure illustrates the process used to generate the boundaries of harvest events and retention.

Harvest Events – Process

The process to determine harvest “events” is as follows:



Step 1: Cutblocks (black) that are harvested within the given 10-year period are buffered outwards by 250m (blue).



Step 2: Buffers are merged (green).



Step 3: Resultant polygon (green) is buffered inwards by 250m (orange).



Step 4: Resulting polygon (orange) is considered the event boundary.

Harvest Event Retention – Process

The process to determine retention within harvest events is as follows:



Harvest cut block (grey) boundaries are generated manually using high-resolution photography to complete cutover updates after harvest. Event boundaries (red) are generated using the buffering rules as per the FMP standard (described above). Polygons of insular (green) and proximal (purple) retention are generated manually by reviewing cutover update photography, pre-harvest photography, SFVI inventory, merchantability layers, and other spatial data as required using GIS software.

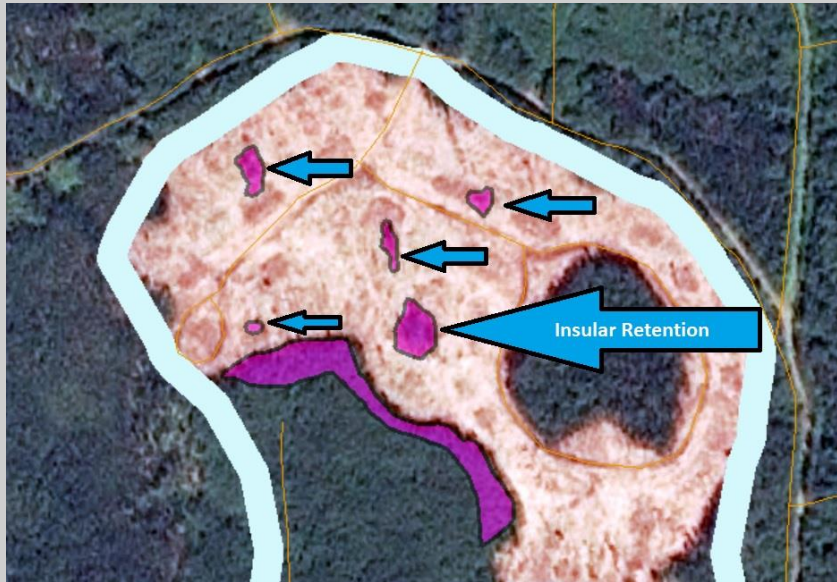
“Retention” for this process is defined as un-harvested area that meets the following criteria:

- a.) Within the harvest event boundary (red), both inside and outside of cut block boundaries (grey).
- b.) Contains standing timber that is reasonably representative of that harvested within the surrounding cut block(s).
- c.) Is otherwise harvestable based on ground conditions, topography, and any other operational factors (e.g., is not overly wet, steep, etc.).
- d.) Meets all other requirements for retention as per Mistik’s 2019 Forest Management Plan and all other operational requirements.

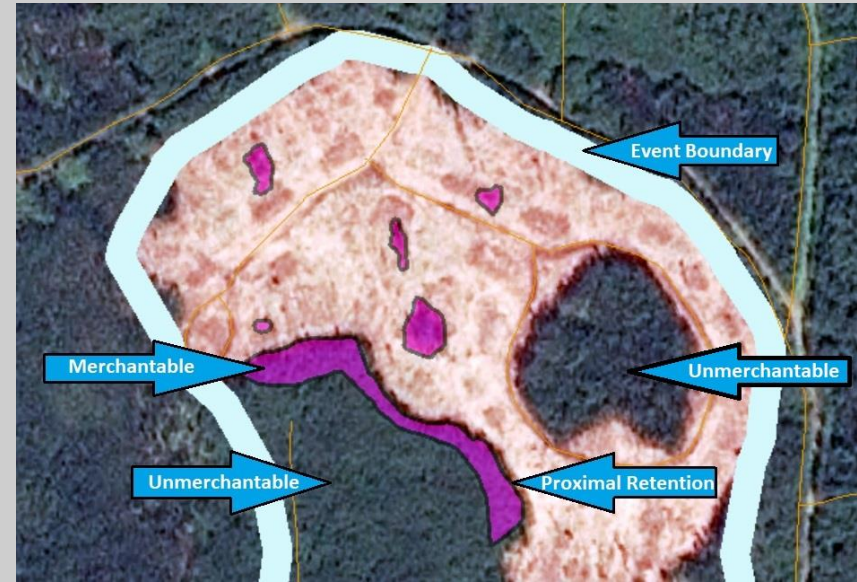
“Insular” retention is defined as those patches within a harvest event that also fall within a harvested cut block boundary.

“Proximal” retention is defined as those patches that are adjacent to and/or not within a harvested cut block boundary.

Example of insular retention:



Example of proximal retention:



Note that while this process is completed manually for harvest events in the 2022/23 timber year, Mistik is currently developing methodology to complete this retention delineation in a partially or fully automated manner, using updated inventory data.

Additionally, the following tables summarize the number of completed events, and details of each event, including in-progress events. Note that these are updated on an annual basis based on actual harvest boundaries and observed activities, and that all harvested areas reported only include area operated under Mistik’s 2019 Forest Management Plan (i.e., harvested in the 2019/20 operating year or later).

Mistik 2019-2028 Harvest Events (Summary)		
Year	Events Completed (#)	% Events Completed in 10 Years or Less
2019	0	N/A
2020	3	100%
2021	6	100%
2022	6	100%
2023		
2024		
2025		
2026		
2027		
2028		
Total	12	100%

Mistik 2019-2028 Harvest Events											
Event No.	General Area	Status	OP Year Event Started	OP Year Event Completed	Total Years Open	Area Harvested* to Date (ha)	Planned (T1/T2) Harvest Area (ha)	Completed Events			
								Total Area (ha)	Harvested Area (ha)	Total Retention %	Insular Retention %
TA058	Rat Lake	Closed	2017/18	2020/21	3**	1,663.7	1,900.1	2,296.3	1,663.7	4.8%	1.5%
TA249	Booth Bay Road	Closed	2019/20	2020/21	1	60.3	67.6	100.7	60.3	7.9%	1.2%
TA252	Booth Bay Road	Closed	2019/20	2020/21	1	16.9	18.5	23.6	16.9	6.9%	1.4%
TA276	Keeley River Crossing	Closed	2019/20	2021/22	2	134.2	173.4	223.6	134.2	5.1%	1.8%
TA282	Beauval Pastures	Closed	2019/20	2021/22	2	189.6	229.0	352.7	189.6	8.0%	4.1%
TA002	Helene West	Closed	2020/21	2021/22	1	53.5	76.1	93.6	53.5	3.8%	1.1%
TA055	Lavalle	Closed	2020/21	2021/22	1	84.4	84.2	91.8	84.4	6.9%	3.6%
TA150	Musk Creek	Closed	2020/21	2021/22	1	38.7	52.4	56.2	38.7	5.4%	2.0%
TA271	Pringle Lake	Closed	2020/21	2021/22	1	83.1	98.8	117.2	83.1	5.2%	0.6%
TA115a	9 Mile Pine	Closed	2019/20	2022/23	3	996.0	1,236.1	1,382.8	996.0	12.4%	2.4%
TA030	Divide South	Closed	2021/22	2022/23	1	43.5	44.0	60.5	43.5	15.1%	4.3%
TA107	Waterhen Cut-Across	Closed	2022/23	2022/23	1	88.3	108.2	101.1	88.3	14.3%	2.5%
TA274	Pringle Lake	Closed	2022/23	2022/23	1	53.4	67.8	66.2	53.4	11.7%	2.8%
TA296	Canoe Lake West	Closed	2022/23	2022/23	1	199.2	214.2	228.3	199.2	9.9%	9.3%
TA901	Sulby Creek South	Closed	2022/23	2022/23	1	73.0	0.0	95.6	73.0	19.6%	1.7%
TA005	Helene South	Open	2019/20	TBD	TBD	571.8	2,711.9	TBD	TBD	TBD	TBD
TA026	Burness East	Open	2019/20	TBD	TBD	1,250.9	9,055.7	TBD	TBD	TBD	TBD
TA039	Scorcher West	Open	2019/20	TBD	TBD	717.0	1,447.4	TBD	TBD	TBD	TBD
TA042	Divide/L&M	Open	2019/20	TBD	TBD	1,962.1	28,213.0	TBD	TBD	TBD	TBD
TA108	Gravel Ridge	Open	2019/20	TBD	TBD	438.9	3,921.3	TBD	TBD	TBD	TBD

Mistik 2019-2028 Harvest Events											
Event No.	General Area	Status	OP Year Event Started	OP Year Event Completed	Total Years Open	Area Harvested* to Date (ha)	Planned (T1/T2) Harvest Area (ha)	Completed Events			
								Total Area (ha)	Harvested Area (ha)	Total Retention %	Insular Retention %
TA118	Gold Lake	Open	2019/20	TBD	TBD	992.3	8,127.1	TBD	TBD	TBD	TBD
TA151	Horseshoe Lake	Open	2019/20	TBD	TBD	360.1	6,498.3	TBD	TBD	TBD	TBD
TA158	Musk Creek	Open	2019/20	TBD	TBD	105.7	385.1	TBD	TBD	TBD	TBD
TA162	Martineau South	Open	2019/20	TBD	TBD	11.9	20.7	TBD	TBD	TBD	TBD
TA168	Martineau South	Open	2019/20	TBD	TBD	527.0	1,411.0	TBD	TBD	TBD	TBD
TA177	Mallard	Open	2019/20	TBD	TBD	395.4	4,556.4	TBD	TBD	TBD	TBD
TA209	Low Creek	Open	2019/20	TBD	TBD	1,810.3	3,471.7	TBD	TBD	TBD	TBD
TA004	Moose Country	Open	2020/21	TBD	TBD	11.1	776.2	TBD	TBD	TBD	TBD
TA007	Helene North	Open	2020/21	TBD	TBD	71.8	1,348.9	TBD	TBD	TBD	TBD
TA022	Divide South	Open	2020/21	TBD	TBD	275.2	2,954.5	TBD	TBD	TBD	TBD
TA025	Divide South	Open	2020/21	TBD	TBD	254.7	830.1	TBD	TBD	TBD	TBD
TA129	Waterhen Cut-Across	Open	2020/21	TBD	TBD	59.0	968.4	TBD	TBD	TBD	TBD
TA141	Porcupine Lake	Open	2020/21	TBD	TBD	545.7	1,632.1	TBD	TBD	TBD	TBD
TA237	McCallum Lake	Open	2020/21	TBD	TBD	155.7	1,455.6	TBD	TBD	TBD	TBD
TA260	Beauval Mistletoe	Open	2020/21	TBD	TBD	351.3	4,735.2	TBD	TBD	TBD	TBD
TA262	Keeley Portage	Open	2020/21	TBD	TBD	161.9	4,158.6	TBD	TBD	TBD	TBD
TA263	Booth Bay Road	Open	2020/21	TBD	TBD	65.9	228.9	TBD	TBD	TBD	TBD
TA044	Old Scorcher North	Open	2021/22	TBD	TBD	170.8	856.2	TBD	TBD	TBD	TBD

Mistik 2019-2028 Harvest Events											
Event No.	General Area	Status	OP Year Event Started	OP Year Event Completed	Total Years Open	Area Harvested* to Date (ha)	Planned (T1/T2) Harvest Area (ha)	Completed Events			
								Total Area (ha)	Harvested Area (ha)	Total Retention %	Insular Retention %
TA050	Hunting Lake North	Open	2021/22	TBD	TBD	246.6	1,678.8	TBD	TBD	TBD	TBD
TA128	Green Grass Lake	Open	2021/22	TBD	TBD	50.9	563.1	TBD	TBD	TBD	TBD
TA149	Cold Lake	Open	2021/22	TBD	TBD	206.8	346.6	TBD	TBD	TBD	TBD
TA245	Gold Creek	Open	2021/22	TBD	TBD	101.3	153.2	TBD	TBD	TBD	TBD
TA254	Booth Bay	Open	2021/22	TBD	TBD	210.9	494.5	TBD	TBD	TBD	TBD
TA273	Beauval Mistletoe	Open	2021/22	TBD	TBD	88.6	491.1	TBD	TBD	TBD	TBD
TA311	Grubb Lake	Open	2021/22	TBD	TBD	70.8	533.0	TBD	TBD	TBD	TBD
TA011	Helene North	Open	2022/23	TBD	TBD	22.9	136.9	TBD	TBD	TBD	TBD
TA133	Maynard	Open	2022/23	TBD	TBD	176.4	4,464.6	TBD	TBD	TBD	TBD
TA218	Jumbo North	Open	2022/23	TBD	TBD	108.7	1,072.3	TBD	TBD	TBD	TBD

Notes:

- Area harvested refers only to blocks harvested in the 2019-2020 operating year or later (Harvest under the current tactical plan from 2017 and 2018 has been included in event TA058, however this is an exception and normally only blocks harvested in the 2019/20 operating year or later are considered).
- In some cases, the cutblocks within an event may be completed however reclamation/renewal may be outstanding.
- Events labelled as “a/b/c/etc.” (e.g., TA115a) are split from the original planned event (TA115). Events starting with 9xx (e.g., TA901) did not originally exist in the tactical plan and consist partially or completely of non-tactical area.

A7. HARVEST EVENTS (MAPS)

Maps are provided below for the following events completed in 2022/2023:

- TA115a
- TA030
- TA107
- TA274
- TA296
- TA901



HARVEST EVENT MAP

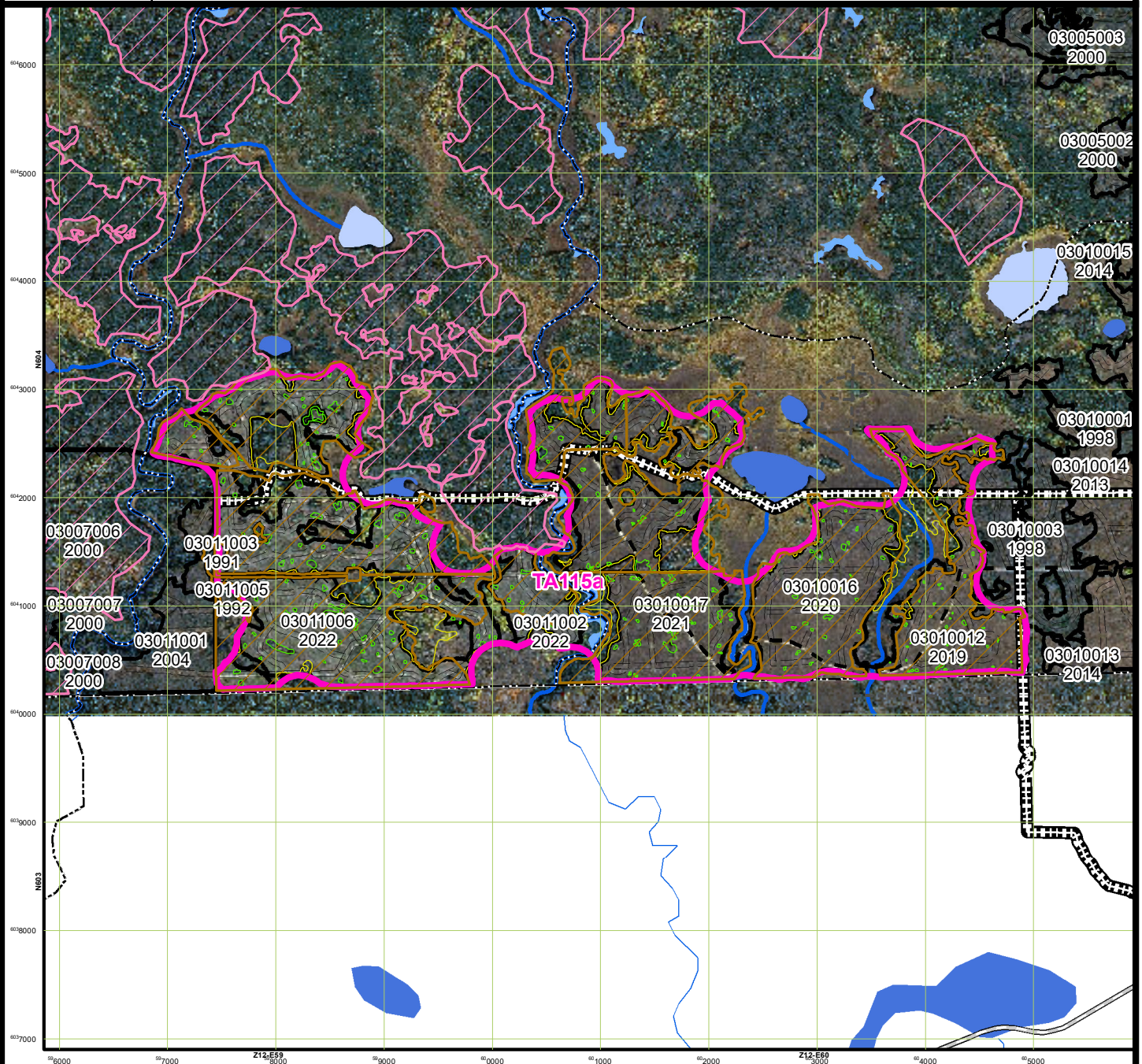
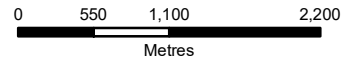
EVENT NUMBER: TA115a



Map Version: 1.00
Map Date: April 16, 2024
Map Production: Silvacom Ltd.
Silvacom Ref: F-265
Map File: ...maps\HarvestEventMap.mxd



1:55,000



Features of Interest

- Harvest Events
- Harvested Blocks
- Insular Retention
- Proximal Retention

Tactical Plan

- T1
- T2

Roads

- Paved Road
- Gravel Road
- Class 1 (FRR)
- Class 2 (IBR)
- Class 3 (Bush Road)
- Class 4 (Bush Road)
- Non-Mistik
- Oil / Gas
- 3rd Party
- Trail

Water

- Lake / River
- River
- Perennial
- Intermittent
- Indefinite
- Flooded Land
- Aquatic Regime

THIS MAP WAS DEVELOPED USING AVAILABLE INFORMATION AND MAY NOT ACCURATELY REPRESENT THE LOCATION, DEFINITION OR DISTRIBUTION OF LAND BASE FEATURES.

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HARVEST EVENT MAP

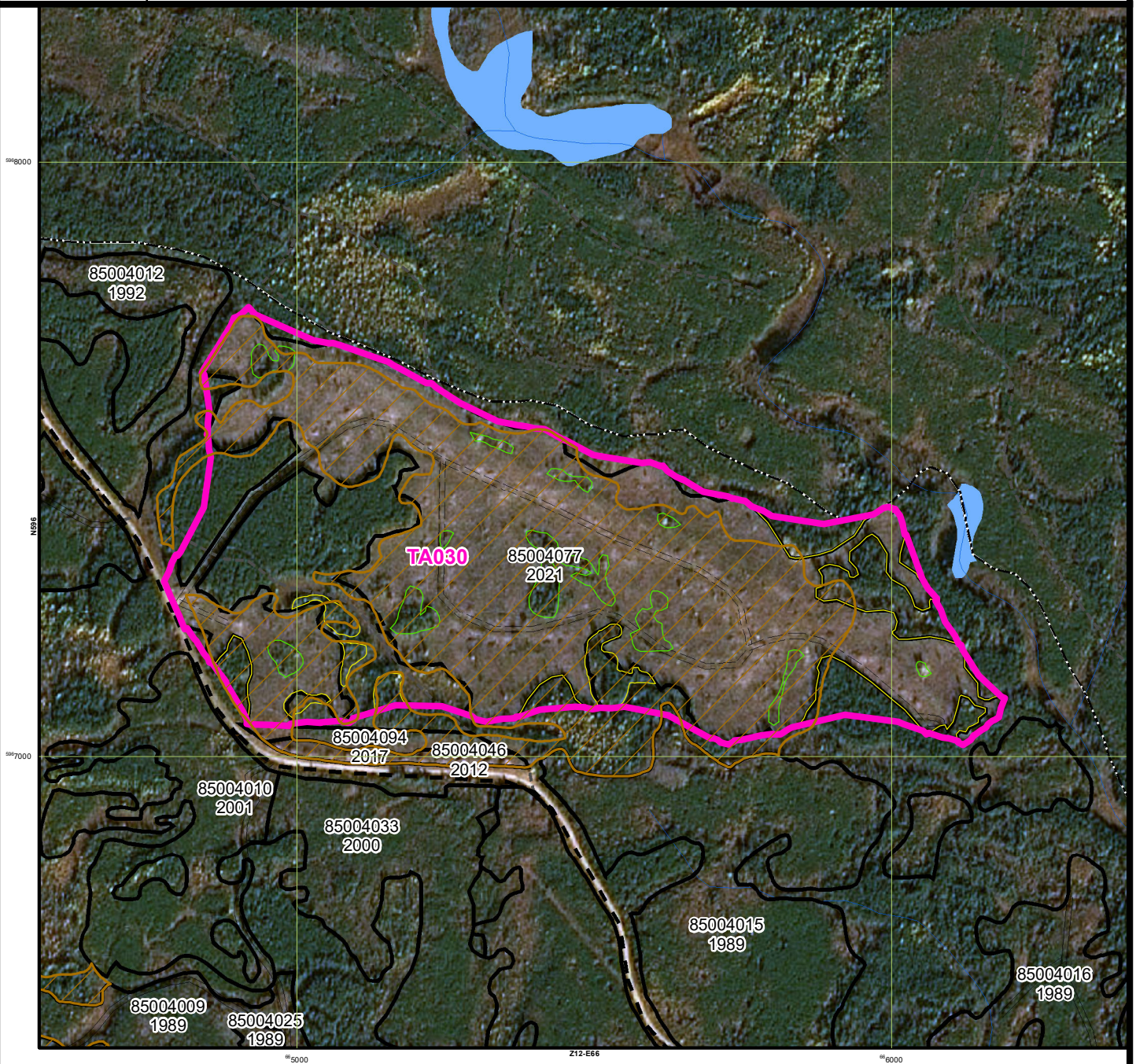
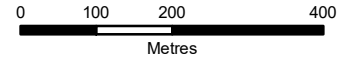
EVENT NUMBER: TA030



Map Version: 1.00
 Map Date: April 16, 2024
 Map Production: Silvacom Ltd.
 Silvacom Ref: F-265
 Map File: ...maps\HarvestEventMap.mxd



1:10,000



Features of Interest

- Harvest Events
- Harvested Blocks
- Insular Retention
- Proximal Retention

Tactical Plan

- T1
- T2

Roads

- Paved Road
- Gravel Road
- Class 1 (FRR)
- Class 2 (IBR)
- Class 3 (Bush Road)
- Class 4 (Bush Road)
- Non-Mistik
- Oil / Gas
- 3rd Party
- Trail

Water

- Lake / River
- River
- Perennial
- Intermittent
- Indefinite
- Flooded Land
- Aquatic Regime

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HARVEST EVENT MAP

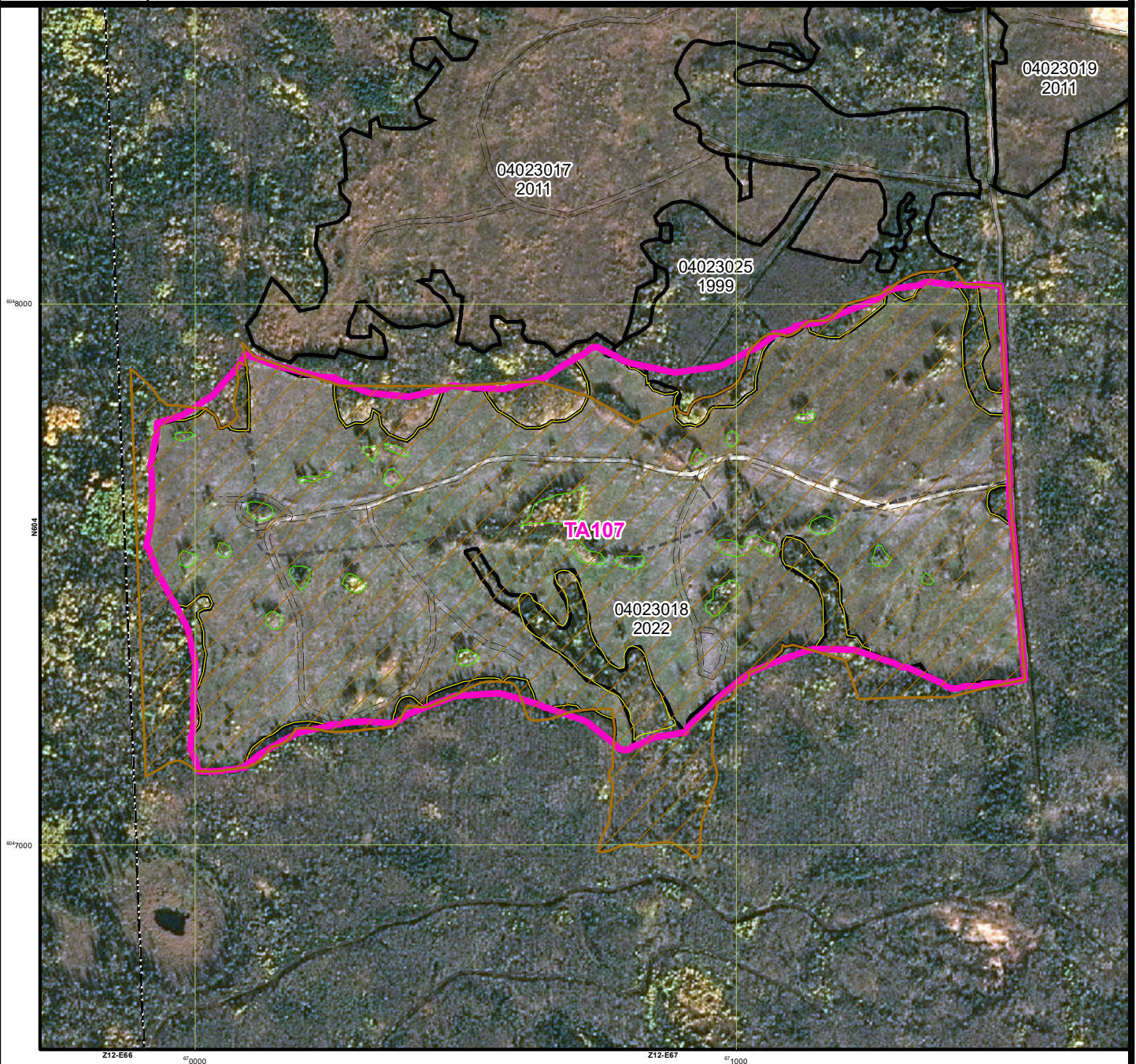
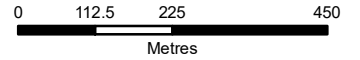
EVENT NUMBER: TA107



Map Version: 1.00
 Map Date: April 16, 2024
 Map Production: Silvaicom Ltd.
 Silvaicom Ref: F-266
 Map File: ...maps\HarvestEventMap.mxd



1:11,000



Features of Interest

- Harvest Events
- Harvested Blocks
- Insular Retention
- Proximal Retention

Tactical Plan

- T1
- T2

Roads

- Paved Road
- Gravel Road
- Class 1 (FRR)
- Class 2 (IBR)
- Class 3 (Bush Road)
- Class 4 (Bush Road)
- Non-Mistik
- Oil / Gas
- 3rd Party
- Trail

Water

- Lake / River
- River
- Perennial
- Intermittent
- Indefinite
- Flooded Land
- Aquatic Regime

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HARVEST EVENT MAP

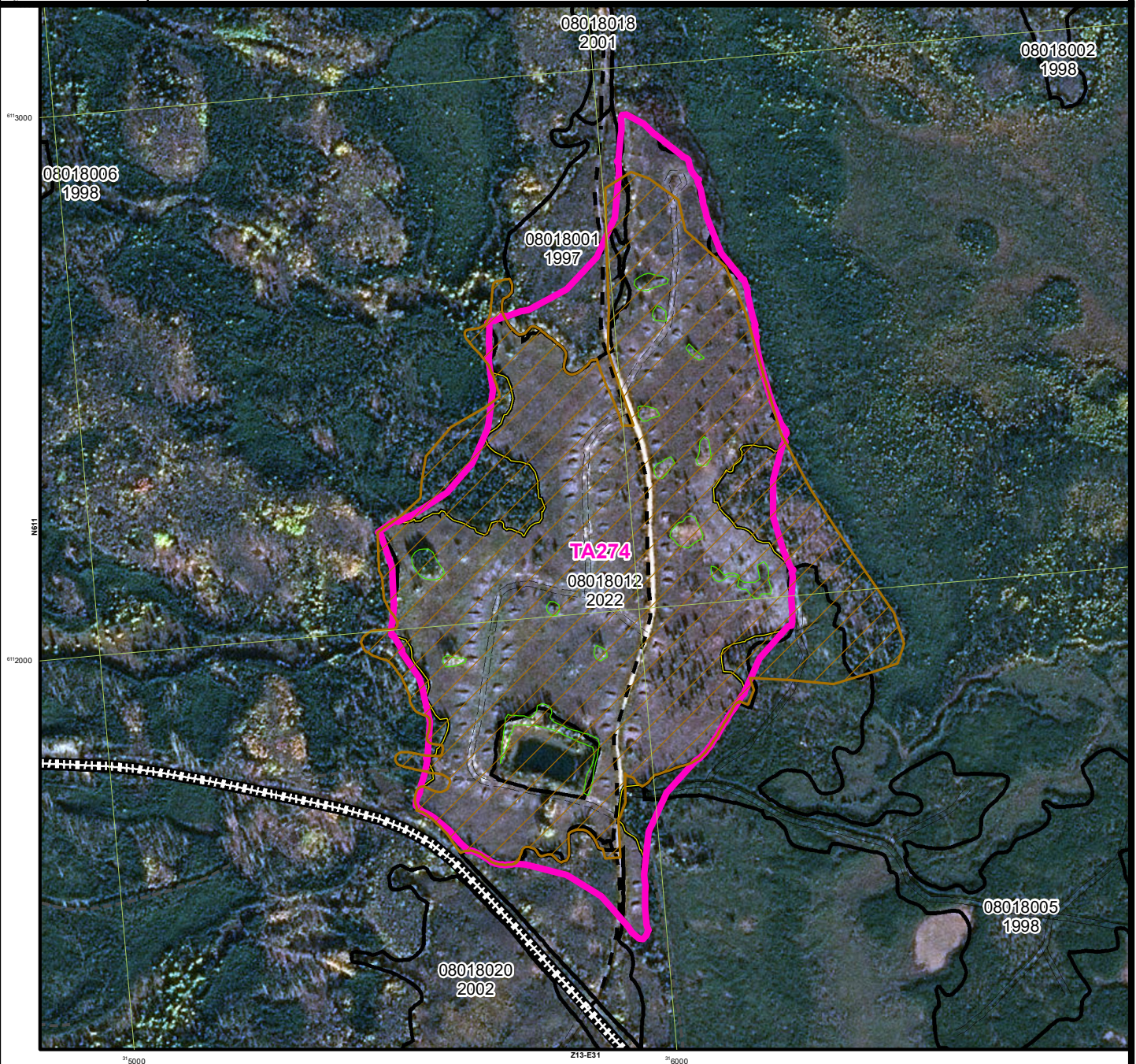
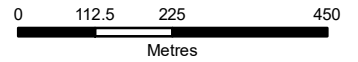
EVENT NUMBER: TA274



Map Version: 1.00
 Map Date: April 16, 2024
 Map Production: Silvacon Ltd.
 Silvacon Ref: F-266
 Map File: ..\maps\HarvestEventMap.mxd



1:11,000



Features of Interest

- Harvest Events
- Harvested Blocks
- Insular Retention
- Proximal Retention

Tactical Plan

- T1
- T2

Roads

- Paved Road
- Gravel Road
- Class 1 (FRR)
- Class 2 (IBR)
- Class 3 (Bush Road)
- Class 4 (Bush Road)
- Non-Mistik
- Oil / Gas
- 3rd Party
- Trail

Water

- Lake / River
- River
- Perennial
- Intermittent
- Indefinite
- Flooded Land
- Aquatic Regime

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HARVEST EVENT MAP

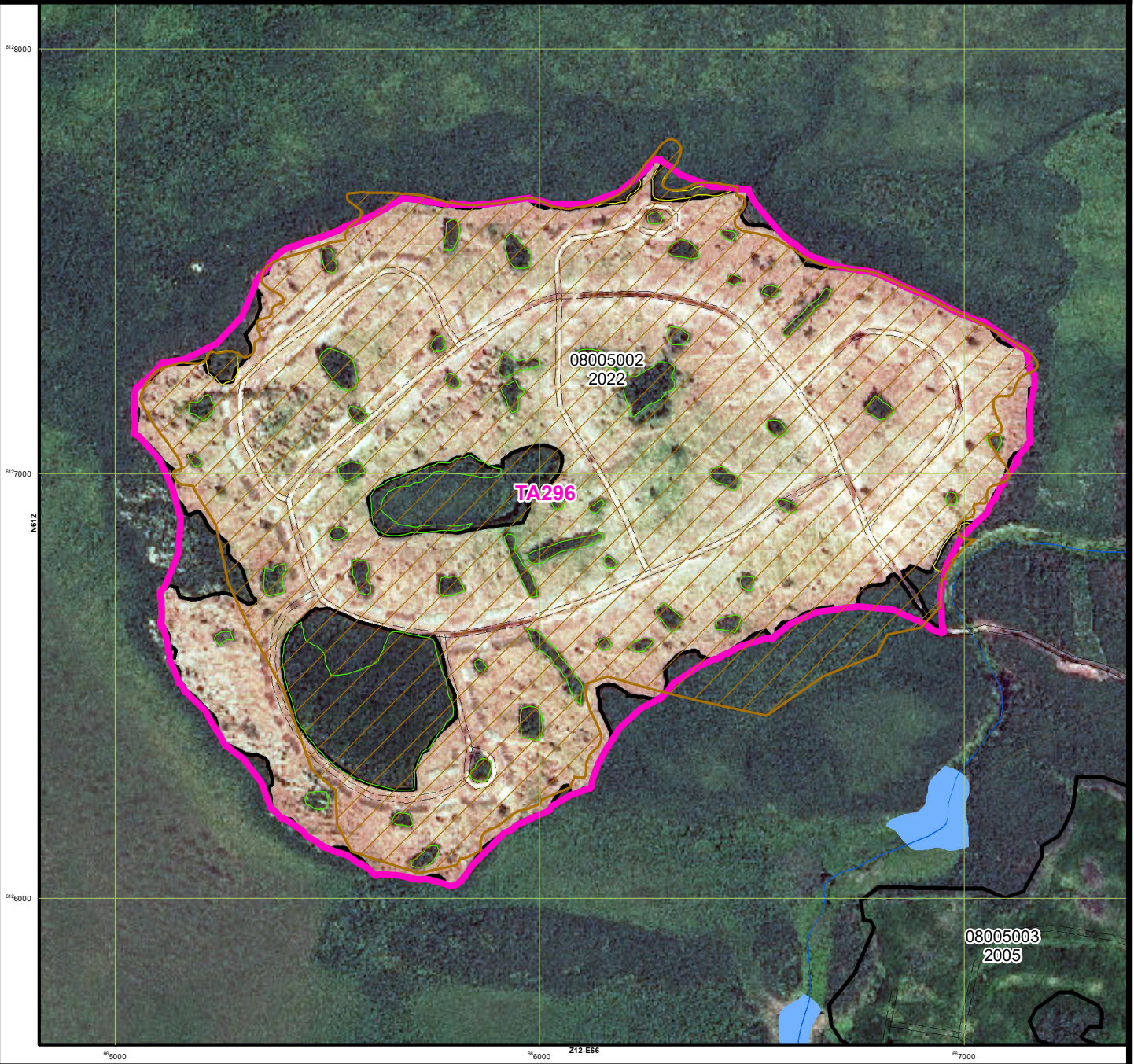
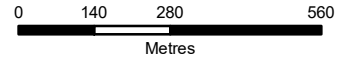
EVENT NUMBER: TA296



Map Version: 1.00
 Map Date: April 16, 2024
 Map Production: Silvacom Ltd.
 Silvacom Ref: F-266
 Map File: ...maps\HarvestEventMap.mxd



1:14,000



Features of Interest

- Harvest Events
- Harvested Blocks
- Insular Retention
- Proximal Retention

Tactical Plan

- T1
- T2

Roads

- Paved Road
- Gravel Road
- Class 1 (FRR)
- Class 2 (IBR)
- Class 3 (Bush Road)
- Class 4 (Bush Road)
- Non-Mistik
- Oil / Gas
- 3rd Party
- Trail

Water

- Lake / River
- River
- Perennial
- Intermittent
- Indefinite
- Flooded Land
- Aquatic Regime

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HARVEST EVENT MAP

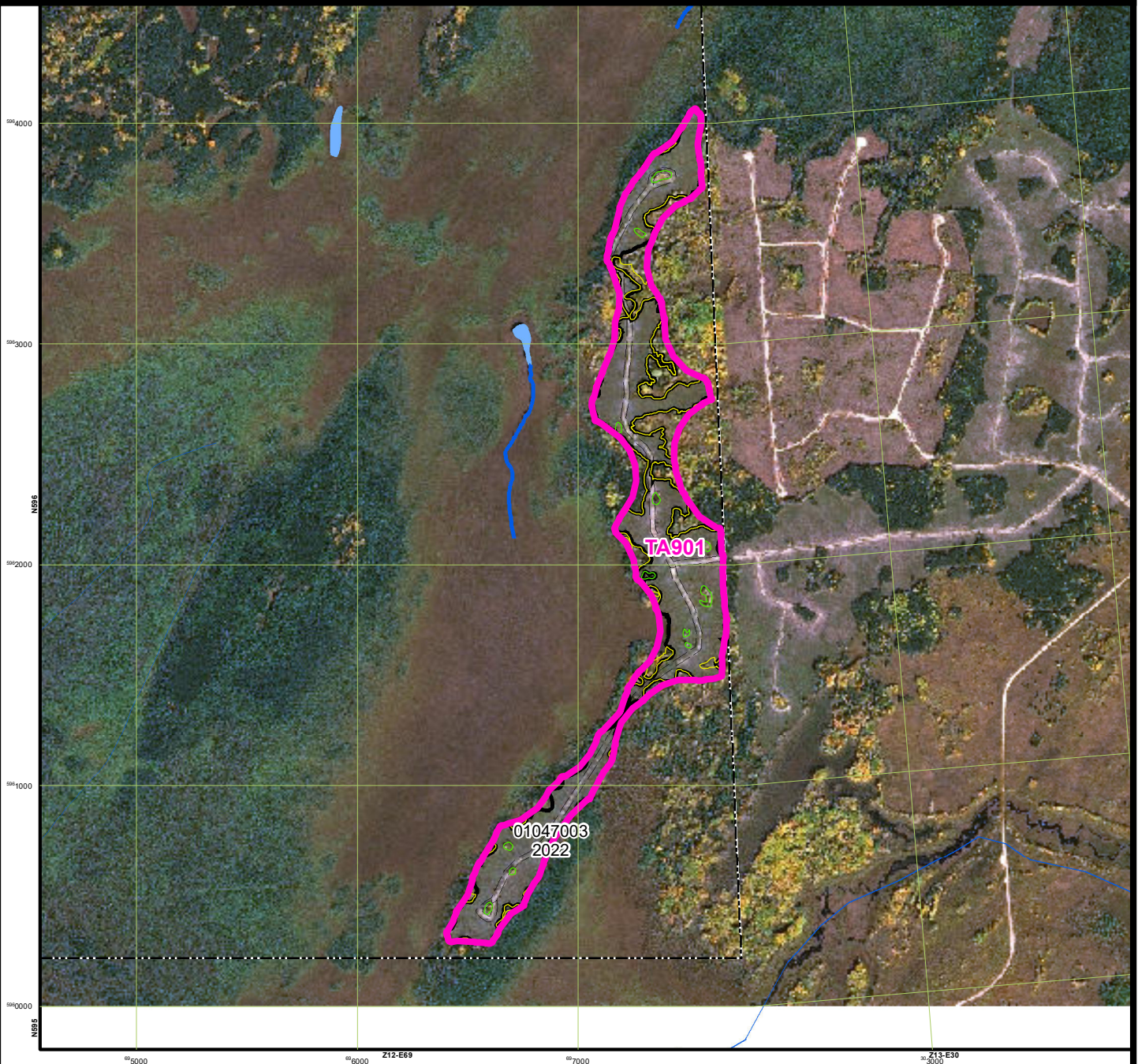
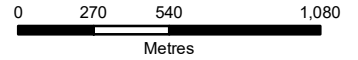
EVENT NUMBER: TA901



Map Version: 1.00
 Map Date: April 16, 2024
 Map Production: Silva.com Ltd.
 Silva.com Ref: F-265
 Map File: ...maps\HarvestEventMap.mxd



1:27,000



Features of Interest

- Harvest Events
- Harvested Blocks
- Insular Retention
- Proximal Retention

Tactical Plan

- T1
- T2

Roads

- Paved Road
- Gravel Road
- Class 1 (FRR)
- Class 2 (IBR)
- Class 3 (Bush Road)
- Class 4 (Bush Road)
- Non-Mistik
- Oil / Gas
- 3rd Party
- Trail

Water

- Lake / River
- River
- Perennial
- Intermittent
- Indefinite
- Flooded Land
- Aquatic Regime

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